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университет имени Н.Э. Баумана  
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**И.Н. Маторина, С.Г. Шайнога, И.И. Голосовская**

**ENGLISH FOR INDUSTRIAL ENGINEERING  
АНГЛИЙСКИЙ ЯЗЫК ДЛЯ СТУДЕНТОВ ИНЖЕНЕРНЫХ  
СПЕЦИАЛЬНОСТЕЙ**

**Учебно-методическое пособие  
для студентов 1 курса инженерных специальностей**

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И.Н. Маторина, С.Г. Шайнога, И.И. Голосовская

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Ц27 Учебно-методическое пособие предназначено для аудиторной, внеаудиторной и самостоятельной работы студентов первого курса технических вузов. Пособие состоит из шести модулей, глоссария и пяти приложений, содержащих справочную и методическую информацию. Каждый из модулей включает аутентичные англоязычные материалы по актуальным общетехническим и общенаучным темам, а также множество интерактивных заданий, направленных на развитие критического мышления. В основу заданий по чтению, говорению, письму положен практико-ориентированный метод обучения, который способствуют формированию деловой межкультурной коммуникативной компетентности будущих специалистов.

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## **ПРЕДИСЛОВИЕ**

Учебно-методическое пособие предназначено для студентов 1 курса технических вузов и является первой частью базового двухгодичного курса по английскому языку для студентов инженерных специальностей по направлениям подготовки 01.03.02 «Прикладная математика и информатика», 01.03.04 «Прикладная математика», 02.03.01 «Математика и компьютерные науки», 09.03.01 «Информатика и вычислительная техника», 09.03.02 «Информационные системы и технологии», 09.03.03 «Прикладная информатика», 09.03.04 «Программная инженерия», 11.03.03 «Конструирование и технология электронных средств», 12.03.02 «Оптотехника», 12.03.04 «Биотехнические системы и технологии», 12.03.05 «Лазерная техника и лазерные технологии», 28.03.02 «Наноинженерия» и по специальностям 10.05.01 «Компьютерная безопасность», 10.05.03 «Информационная безопасность автоматизированных систем», 10.05.07 -, 11.05.01 «Радиоэлектронные системы и комплексы», 12.05.01 «Электронные и оптико-электронные приборы и системы специального назначения», 24.05.06 «Системы управления летательными аппаратами», 40.05.03 «Судебная экспертиза».

**Цель изучения учебно-методического пособия –** развить сформированные на предшествующих этапах обучения языковые и речевые компетенции с целью создания и/или укрепления базы для успешного овладения английским языком для профессионального взаимодействия и в межличностной межкультурной коммуникации.

Кроме вышеприведенной цели работа с учебным пособием в ходе профессионально ориентированной подготовки призвана способствовать овладению обучаемыми социолингвистическим компонентом, который направлен на ознакомление изучающих язык социокультурными особенностями стран изучаемого языка.

Изучение дисциплины подразумевает наличие знаний, формируемых в

рамках школьных курсов английского языка.

В пособии реализуется компетентностный подход, отраженный в рабочей программе дисциплины и в фонде оценочных средств в рамках Основной профессиональной образовательной программы.

**Планируемые результаты обучения.** После прохождения курса студенты овладеют:

- лексическими и грамматическими языковыми средствами в общепрофессиональной и общен научной областях;
- навыками просмотрового, ознакомительного, поискового, изучающего чтения;
- навыками подготовленного и неподготовленного монологического высказывания и участия в дискуссиях;
- навыками письма в виде сообщения, доклада, заметки, конспекта, краткого изложения прочитанного или услышанного;
- основными способами познания для самостоятельного приобретения нужных знаний;
- навыком выполнения практических заданий, основанных на реальных ситуациях профессионального иноязычного общения;
- навыком аудирования;
- навыками самостоятельного поиска информации и развитию навыков аналитической работы с текстами.

**Практическая значимость** предлагаемого учебно-методического пособия состоит в реализации главной задачи дисциплины «Иностранный (английский) язык»- которая заключается в формировании у студентов способности осуществлять деловую коммуникацию и межличностное взаимодействие в устной и письменной формах на английском языке.

Продолжением данной дисциплины являются дисциплины образовательной программы, предназначенные для профессионально-ориентированного обучения для студентов 3 курса по специальности.

Учебно-методическое пособие состоит из 6 модулей, охватывающих 6

общетехнических и общен научных тем: *Higher Education, Ecological Problems and Solutions, Electricity and Sources of Power, Communication Technologies, Smart Technologies, Space Technologies*. В основу положен тематический принцип. Каждый из модулей включает аутентичные англоязычные материалы по современным темам. В материалах для чтения включены тексты разных жанров: технические статьи, журнальные, научно-популярные статьи.

В данном курсе представлен обширный материал для самообучения, что расширяет возможности обучающихся углубленно заниматься английским языком. Каждый модуль включает задания базового и продвинутого уровней сложности.

### **Структура курса и методика проработки и освоения модулей.**

Основной вид учебной деятельности – семинарское занятие. Все материалы для изучения основных систем языка (лексики, грамматики), а также развития языковых навыков (чтения, аудирования, говорения и письма) подаются по принципу от простого к сложному.

Особое внимание в данном пособии уделяется навыку чтения, так как оно способствует развитию других видов коммуникативной деятельности. (говорение, письмо). **Reading** - это большой раздел, состоящий из трех текстов, лексических упражнений, заданий для обсуждений и дискуссий по темам текстов, когда помимо тренировки навыка чтения, с помощью интересных материалов для чтения происходит изучение целевой лексики и грамматики в контексте материалов для чтения.

Раздел **Vocabulary** представляет ряд упражнений на освоение лексики по теме модуля. Данные упражнения расширяют контекст использования активной лексики, содержат тестовые задания (готовят к написанию рубежного теста), а также задания на составление примеров или использование новых слов в упражнениях продуктивного характера. Упражнения представлены в парадигме от контролируемых к более свободным и продуктивным видам заданий: поиск активных слов в

примерах, составление сочетаний и фраз, упражнения на запоминание, далее творческие задания на применение и самостоятельное использование лексики -составление примеров, пересказы и устные высказывания с использованием активной лексики.

В разделе **Grammar** грамматические структуры представлены в контексте материалов для чтения. Грамматический материал, в большинстве своем, представлен в таблицах и подается методом направляемых открытий. Правила представлены на английском языке, когда внимание сосредоточено не на языковых единицах, а на возможности использования знания английского языка для других практических целей, в данном случае для изучения грамматики. Упражнения продвинутого уровня помечены звездочкой. Дополнительный материал по грамматическим темам представлен в разделе **Independent Further Study**. Грамматический справочник также представлен на русском языке в Приложении №3, а грамматические термины в Глоссарии грамматических терминов.

Задания на тренировку и проверку навыков **аудирования** даны в виде гиперссылок на первоначальные источники в интернете и предназначены как для аудиторной, так и для самостоятельной работы. Представлены задания на извлечение необходимой информации и понимание основного содержания, с извлечением основной информации. Они также дополняют модули комплексом упражнений на освоение и закрепление лексического и грамматического материала, способствуя повышению мотивации в работе с аутентичной речью носителей языка.

В разделе **Speaking and Discussion** даны темы для дополнительных дискуссий в продвинутых группах, которые также можно использовать для устных высказываний при проведении занятий рубежного контроля.

В пособии реализуется метод активного обучения, преобладают продуктивные виды заданий: от ознакомления и запоминания к анализу и самостоятельному и креативному использованию знаний. Учебные материалы в большинстве своем имеют направленность на большую

вовлеченность студентов посредством использования заданий на развитие критического мышления: проблемное содержание текстов, введение лексики и грамматики через способ Guided discovery - индуктивный метод, когда студенты учатся догадываться о значении новых слов в контексте, а также пробуют сами сформулировать грамматические правила, используя примеры и ‘подсказки’. В помощь студентам в приложении дан грамматический справочник на русском языке. С этой целью раздел грамматики обеспечивает обилие как проверочных, так и коммуникативных упражнений, с тем, чтобы преодолеть разрыв между знанием грамматических структур и их использованием. Разнообразные коммуникативные задания в каждом учебном модуле предоставляют возможности для мотивации студентов, делая их главными действующими лицами в учебном процессе, активно взаимодействующими друг с другом и преподавателем. .

Письменные задания направлены на подготовку студентов к овладению академическим письмом на старших курсах.

В конце каждого модуля предлагается тест, аналогичный тестам рубежного контроля по дисциплине, для самопроверки результатов обучения.

Авторы выражают благодарность рецензентам, коллегам и студентам МГТУ им. Н.Э. Баумана за тщательное рецензирование, рекомендации и ценные замечания.

### **Условные обозначения и сокращения**

a.m.	ante meridiem — лат. до полудня	m	metre — метр; mile — миля;
adj	adjective — прилагательное	minute	— минута
adv	adverb — наречие	m.p.h.	miles per hour — миль в
appx.	appendix — приложение	mm	millimetre — миллиметр
deg.	degree — градус	n	noun — местоимение
e.g.	exempli gratia — лат.	p.	page — страница
		P. I	Participle I — причастие I

например	P. II Participle II—причастие II
etc. et cetera — лат. и т.д.	p.m. post meridiem — лат. после полудня
f.p.s. feet per second — футов в секунду	pl. plural — множественное число
Fahr. (F) Fahrenheit — шкала Фаренгейта	sing. singular — единственное число
ft. foot; feet — фут(ы)	sq. square — квадратный
gr gram(me) — грамм	smth. something — что-то
h (hr) hour — час	smb. somebody — кто-то
i.e. id est — лат. то есть	t. temperature — температура;
* знак означает упражнение повышенной сложности для углубленного изучения материала	ton — тонна
	v verb — глагол
	vs versus — лат. против
	v.v. vice versa — лат. наоборот
	w watt — ватт

## Введение

Изучение английского языка в техническом вузе сегодня занимает особое место, так как английский язык является языком международного общения в современном мире. Студентам технических специальностей необходимо знание английского языка для изучения актуальной информации по специальности и общения с коллегами разных национальностей. Данный курс английского языка для студентов 1-2 курсов технических вузов, построенный на коммуникативно-контекстной методике, призван не только способствовать формированию иноязычной коммуникативной компетенции, но также научить студентов самостоятельно работать с информацией, приобретать знания в различных областях, используя знание английского языка и критически их осмысливать. Данное учебно-методическое пособие разработано, прежде всего, для аудиторной работы в МГТУ им. Н.Э.

Баумана, но также может использоваться для самостоятельного изучения и совершенствования знания современного английского языка общетехнической и общенациональной тематики. Большое внимание в данном учебно-методическом пособии уделяется формированию навыков самостоятельного поиска информации, аналитической работы с текстами, изучению лексики и грамматики в процессе выполнения практических заданий.

Учебно-методическое пособие предназначено для продолжающих изучение английского языка и опирается на знания, полученные в средней школе. Наряду с обучением основным системам языка и языковым умениям (лексика, грамматика, чтение, аудирование и говорение), данное пособие предназначено для развития аналитического подхода к изучаемым явлениям, так как лексика и грамматика вводятся методом индуктивного обучения, когда предлагается определить значение новых лексических единиц в контексте или сформулировать грамматические правила самим в процессе выполнения ряда заданий. При использовании данных подходов приобретаются важные навыки профессионального использования английского языка и происходит приобщение к самостоятельной учебно-исследовательской работе над языком, которая пригодится в дальнейшей профессиональной деятельности.

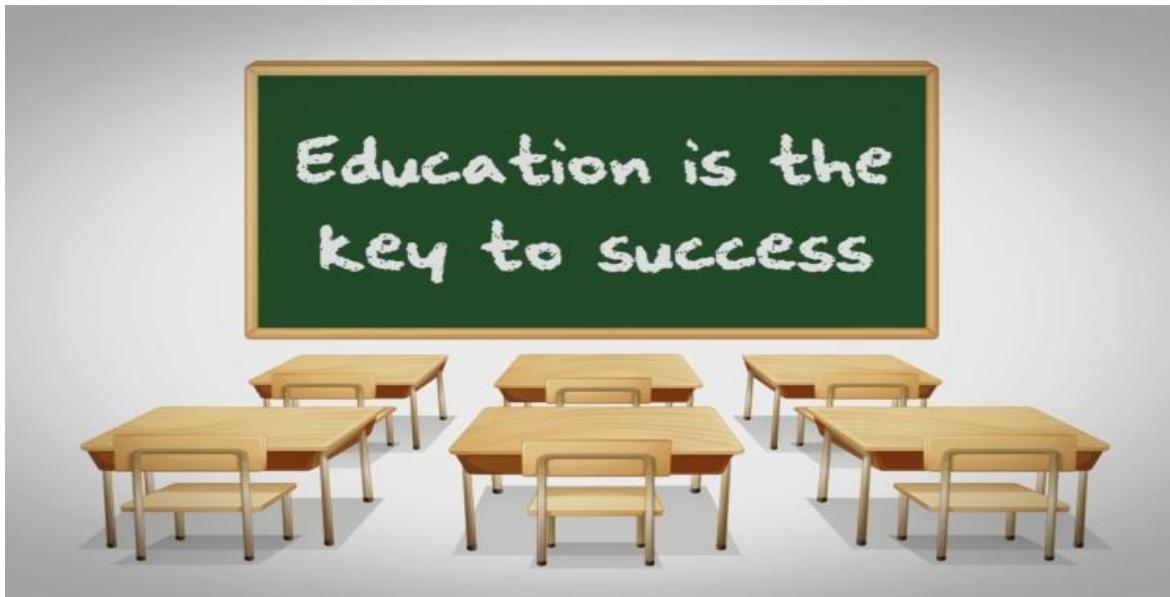
Учебное пособие содержит полный объем инструментов для формирования коммуникативных компетенций, но успех зависит от вашей мотивации и трудоспособности. Желаем успеха!

## **MODULE 1**

### **HIGHER EDUCATION**

---

“Learning is a treasure that will follow its owner everywhere.” - *A Chinese proverb*



#### **Learning points for Module 1:**

##### **Reading:**

Text A. More Opportunities with Higher Education

Text B. My University

Text C. Everything You Might Want to Know About the University Of Cambridge

**Vocabulary in context:** Collocations/ Giving definitions/ Synonyms

**Grammar:** Present Tenses/Passive Present Tense Forms

**Speaking:** University education pros and cons

**Skills:** Preparing and delivering talks

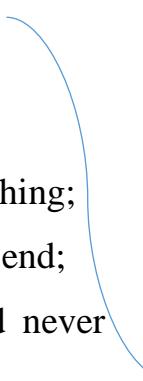
##### **Learning aims:**

- to practise reading and speaking about university education;
- to learn and practise active vocabulary related to the topic of the module;
- to learn and practise active and passive present tense forms;
- to learn and practise the skill of preparing a talk.

## **Lead-in**

*Match two parts of quotes by famous people about education. Choose two which you fully agree with and explain why.*

### **WORDS OF WISDOM**

- 
- 1. Anyone who stops learning
  - 2. Anyone who keeps learning
  - 3. The greatest thing in life is
  - 4. We cannot teach people anything;
  - 5. Learning isn't a means to an end;
  - 6. Learn as though you would never  
be able to master it;
  - 7. Repetition is
  - 8. There is no royal
  - 9. Education is not the filling of a  
pail,
  - 10. True education means
- a. to keep your mind young.
  - b. fostering the ability to be interested in  
something.
  - c. the mother of knowledge.
  - d. stays young.
  - e. road to learning.
  - f. is old, whether at twenty or eighty.
  - g. it is an end in itself.
  - h. hold it as though you would be in fear of  
losing it.
  - i. we can only help them discover it within  
themselves.
  - j. but it is the lighting of a fire.

## **READING**

### **Part 1**

- 1. What are the benefits of a university education? In groups of 3-5 discuss your ideas and make a list of your points.**

*Example: University education opens up some amazing doors and opportunities for the career as an engineer.*

- 2. Read the text about the advantages of higher education and fill in the gaps**

*with the words from the list below. Use a dictionary if necessary.*

1	2	3-4	5
graduate	effective way	preserved	postgraduate
opportunities	well-paid job	introduced	professional
wide range	experience	highly	development
	ability	qualified	degree
	subjects	up to date	
		competence	

### Text 1A

#### MORE OPPORTUNITIES WITH HIGHER EDUCATION

- (1) As economy and workplaces are becoming more competitive<sup>1</sup>, higher education gives a \_\_\_\_\_ of options in life. Being a university \_\_\_\_\_ today doesn't open the doors to many rewarding<sup>2</sup> careers automatically as it did in the past, but it provides a springboard for more \_\_\_\_\_ and better career options.
- (2) Apart from better prospects of finding a \_\_\_\_\_ in the future, university graduates acquire<sup>3</sup> the \_\_\_\_\_ to self-study, to think analytically, to complete a task from start to finish, to understand complex \_\_\_\_\_ and communicate them in an \_\_\_\_\_, and other vital skills. Additionally, they get the chance of learning from knowledgeable and intelligent people. Besides, the \_\_\_\_\_ of going to university is completely different from school and is the one that people never forget.
- (3) Higher education is important not only for an individual, but also for the country as it provides this country with \_\_\_\_\_ specialists and ensures<sup>4</sup> its future progress. Education is the process where culture is \_\_\_\_\_, knowledge and skills are developed, values<sup>5</sup> are formed, and information is exchanged.
- (4) The system of higher education is constantly being developed to meet the requirements<sup>6</sup> of modern industrial and business organizations. Styles and methods of instruction, teaching materials, professional \_\_\_\_\_ of teachers are

continuously brought \_\_\_\_\_ and improved. New systems of education are \_\_\_\_\_, e.g. e-learning, or online education, that involves<sup>7</sup> using the Internet and communicating with teachers online.

(5) However, learning does not end when you get a \_\_\_\_\_. You can progress to study for a second degree or do a \_\_\_\_\_ course. The skills and knowledge acquired at university will allow you to continue \_\_\_\_\_ all your life.

### Vocabulary notes for text 1A

<sup>1</sup> competitive конкурентоспособный

<sup>2</sup> rewarding приносящий удовлетворение

<sup>3</sup> acquire приобретать, получать

<sup>4</sup> ensure(s) обеспечивать, гарантировать

<sup>5</sup> value(s) ценность, значение

<sup>6</sup> to meet the requirements отвечать требованиям

<sup>7</sup> involve включать в себя

**Note** the use of **one** in the sentence from the text:

*The experience of going to university is completely different from school and is the **one** that people never forget.*

It does not mean number 1 here, but is used to avoid repeating the word ‘experience’.

*I have three pens – a red **one** and two blue **ones**.*

*The teacher explains all the rules, especially the **ones** we don’t understand.*

**3. Read the text again and write a list of the benefits that higher education might provide.**

**Example:** Higher education is a way to success.

**4. After reading discussion. Work in small groups answer the questions below.**

**Summarise your ideas. Begin your answers with one of the introductory**

**phrases: I think; In my point of view; In my opinion; I believe; I don’t agree.**

1. Do you agree with the ideas from the text? Why? Why not? 2. Which of them

do you personally think are the most important ones? 3. What arguments would you make to a person who thinks that: a. higher education is no longer necessary to find a good job; b. getting a university degree is a waste of time and money.

## READING

### Part 2

**5. Work in small groups and brainstorm what you know about the history and significant stages of the development of the university you are studying at. What is your university famous for? What are the achievements of its alumni<sup>1</sup>?**

*Example: My university is one of the oldest technical universities in Russia.*

**6. Read the text and write a list of top ten facts about BMSTU.**

### Text 1B

#### MY UNIVERSITY



#### Part 1. GENERAL INFORMATION

(1) Bauman Moscow State University (BMSTU) is one of the oldest and biggest technical universities in our country. It was established in 1830 as Moscow Craft School and in 1868 reorganised into Imperial Moscow Technical School (IMTS). The

main purpose of IMTS was to “educate construction engineers, mechanical engineers and industrial technologists”. IMTS was considered the best engineering educational institution in Russia. A lot of outstanding scientists taught at IMTS, such as N. Zhukovskiy, P. Chebychev, S. Chaplygin, A. Yershov, D. Sovetkin, F. Dmitriev, A. Letnikov, and A. Gavrilenko.

(2) In the 20th century it was renamed to Moscow Higher Technical School (MHTS). It was respected for the quality of its teaching and research. A lot of progressive ideas and unique inventions were created here: a Russia`s first gas mask, a helicopter, a gas-turbine locomotive, an electronic computer, the world`s first kinescope, a jet liner, a nuclear power plant, and a lunar exploration vehicle. Its pedagogical and academic progress is strongly associated with the names of

well-known Russian scientists who graduated from MHTS. The list includes Andrey Tupolev and Sergey Korolev, aircraft and rocket designers, Nicholay Dollezhal, a designer of nuclear stations, Alexander Tselikov, a prominent metallurgist, Sergey Lebedev, a chief designer of the first Soviet computer and many others. In 1989 BMSTU became Russia's first technical university and it has been consistently rated among the top higher education institutions in Russia since then. Nearly 200.000 highly qualified specialists in different fields of national industry and economy have graduated from BMSTU including government officials, chief designers, CEOs of big enterprises, and cosmonauts.

(3) Today, BMSTU is a large research and educational institution. Its 19 faculties train about 20000 future specialists in mechanical engineering, electronics and laser technology, power engineering, biomedical technologies, engineering business and management, computer sciences, control systems, etc. Comprehensive<sup>2</sup> engineering education is provided through lectures, seminars, workshops, hands-on field and laboratory work, research and online learning. Students develop knowledge and transferable skills<sup>3</sup> to prepare them for their future jobs. BMSTU graduates are greatly sought after by employers.

(4) The university is equipped with research centers and modern laboratories where students can engage with<sup>4</sup> academics at the forefront of cutting-edge<sup>5</sup> research. Its teachers and students take part in conversion programmes defining the priorities for new areas of development. BMSTU cooperates with a number of industrial, educational and cultural institutions.

***7. Read part 2 of Text B about student life at BMSTU and find the answers to the following questions.***

1. What type of classes do students have and how is their studying organised? 2. How is students' progress assessed? 3. What other activities can university students participate in? 4. How long does the course of study last and what degrees can the graduates of BMSTU get? 5. What career opportunities do BMSTU graduates have?

## **Part 2. ACADEMIC LIFE AT BMSTU**

(1) Full-time students are required to attend regular lectures and seminars in different subjects depending on their field of study. Lectures are given by experts in their field. Students' academic achievements are assessed<sup>6</sup> by regular progress tests and exams. Undergraduates complete assignments<sup>7</sup> and have supervised homework sessions. All the students are offered access to many extracurricular activities<sup>8</sup>, which include sports, music, art and hands-on experience in engineering. Undergraduates have at least two compulsory hours of sport per week. Students from outside Moscow are provided with on-campus accommodation within short distance from the University.

(2) The course of study lasts from four to six years depending on the academic degree (bachelor's, specialist's, or master's degrees). In their first and second-years the students learn a broad range of subjects, such as mathematics, physics, chemistry, descriptive geometry, materials engineering etc. In senior years, they study more specialised subjects according to their specific course. At the end of each semester students have exams. The final year is dedicated to the preparation of a degree project ('diploma' in Russian). It is carried out under the supervision<sup>9</sup> of an individual tutor<sup>10</sup> and is presented to the State Examination Board. On completing the course of studies graduates can progress to a postgraduate course.

### **Vocabulary notes for Text 1B**

<sup>1</sup>alumni

выпускники

<sup>2</sup>comprehensive

всесторонний

<sup>3</sup>transferable skill

переносимый навык

<sup>4</sup>engage with

взаимодействовать

<sup>5</sup>cutting-edge

самый современный

<sup>6</sup>to assess academic achievements

оценивать успеваемость

<sup>7</sup>to complete assignments

выполнять задания

<sup>8</sup>extracurricular activities

внеаудиторные занятия

<sup>9</sup>supervision

руководство

**8. Reread Text 1B and write your own list of 10-15 words or phrases which you want to focus on. Work with a dictionary and write your own notes for each word from your list: a translation into Russian, an English definition, a part of speech, typical collocations or 2-3 examples with each word. Compare your lists in groups and check if your groupmates know the words from your list. Share your notes with other students if necessary.**

*Example: to master (v) – овладеть чем-либо, освоить.*

*To master - to acquire complete knowledge or skill.*

*To master a technique. She lived in Italy for a few years but never quite mastered Italian.*

**9. Work in groups and talk about your student life using the following questions.**

1. How many lectures do you have every day? What lectures do you have on Monday and Friday?
2. Do you live far from the university? How long does it take you to get to the university?
3. How much time do you spend on self-studying every day? What can you do to improve your time efficiency?
4. What courses are you doing as a first-year student?
5. What specialised courses will be offered by your faculty in the third and fourth years?
6. What degree are you studying for?
7. What field of engineering are you in and what has influenced your choice?
8. Do you think that being a BMSTU student is challenging? Why?

## **READING**

### **Part 3**

**10. Write eight-ten questions you would like to ask about Cambridge University.**

*Example: How old is Cambridge University?*

**11. Read text 1C and check if your questions are answered.**

### **Text 1C**

## **EVERYTHING YOU MIGHT WANT TO KNOW ABOUT THE**

## UNIVERSITY OF CAMBRIDGE



Oxford and Cambridge are the most famous universities in Britain. They are also the oldest English universities and **are regarded** (1) as being academically **superior** (2) to

other universities. They both have a long and eventful<sup>1</sup> history of their own.

Cambridge is well known as the world's third-oldest surviving university. It grew out of an association of scholars who left the University of Oxford after a dispute<sup>2</sup> with the town's people. The University of Cambridge was founded in 1209 and granted a royal charter by King Henry III in 1231.

Nowadays the University of Cambridge is one of the world's leading universities, providing a challenging, flexible, and individual learning experience. Consistently<sup>3</sup> rated among the top in national and international league tables, the University is globally respected for the quality of teaching and research.

### The University and Colleges

Cambridge is a 'collegiate' university, which means it **comprises** (3) University faculties and departments in different academic subjects, and a number of Colleges. As well as being a member of the University and an academic **faculty/department** (4), students also belong to a smaller College community and this system offers a huge amount of individual pastoral<sup>5</sup> and academic support for each student. The university is made up of 31 self-governing colleges to which the students and academics **are attached** (5).

The colleges, in association with the subject departments, organize the teaching of students. Each college enrolls students, who usually live and study within their colleges. Students at each college study a whole range of different subjects. So, in one college there will be students studying law, geography, medicine, and engineering, as well as all the other subjects offered within the university. Each

student follows their own particular course of study but the college system allows students studying different subjects to meet and mix with each other and to share ideas. Below is a summary of the key functions of the University (through its faculties and departments) and the Colleges, to show how they fit together.

*The University:* determines course content, organises lectures, seminars, practicals and projects, sets and marks examinations, **awards degrees** (6). *The Colleges:* admit **undergraduate students** (7), organise small-group teaching (supervisions), offer **accommodation** (8), places to eat and recreational<sup>6</sup> **facilities** (9), provide pastoral and academic care.

The partnership between the University and the Colleges is one of the greatest strengths<sup>7</sup>, it provides superb facilities, contact with the very best minds, and **personal supervision** (10) and support to help develop its students' academic interests. Each supervision requires students to prepare work in advance. The supervisions are generally more academically challenging than a lecture because students are expected to orally communicate, raise issues, defend, analyse and criticise the ideas of others as well as their own in discussion with their supervisor and the other students attending the supervision.

## **University**

In the last few years the total **enrolment** (11) for the University of Cambridge stood at about 20, 000 students a year – with figures expected to be largely the same next few years. The university offers more than 65 subjects within its 30 **undergraduate courses** (12). Most of the courses cover the subject area broadly to start with before allowing students to choose from a range of **specialisms** (13). This can offer much greater flexibility<sup>8</sup> than more narrowly focused courses elsewhere.

**Instruction** (14) is provided by **experts** (15) in their field through a combination of lectures, practicals (where relevant), seminars, and regular small-group **tuition** (16) known as 'supervision'. These allow students **to explore** (17) course material in much greater depth, **investigate** (18) new approaches, receive regular

**feedback** (19) and clarify anything they are unsure about.

### **Vocabulary notes for Text 1C**

<sup>1</sup> eventful	богатый событиями
<sup>2</sup> dispute	разногласия
<sup>3</sup> consistently	постоянно, последовательно
<sup>4</sup> pastoral	наставнический
<sup>5</sup> recreational	для проведения досуга, рекреационные
<sup>6</sup> strengths	сильные стороны
<sup>7</sup> flexibility	гибкость

#### **12. Match the words in bold from the text with the phrases below.**

**Example:** are regarded – are thought of in a specific way (1-c)

- a. examine, study
- b. divisions of university dealing with a specific area of study
- c. are thought of in a specific way
- d. gives academic ranks after completion of a university course, e.g. a degree in computing
- e. a study into a subject or problem
- f. a place, amenity or piece of equipment provided for a particular purpose
- g. observation and direction of somebody's work
- h. university students who have not yet taken a first degree
- i. consists of, is made up of
- j. the act of being registered as a member of
- k. teaching or instruction of individual pupils or small groups
- l. a series of lectures or lessons in a particular subject leading to the first degree
- m. teaching, education (mass noun)
- n. information about a person's performance of a task which is used as a basis for improvement

- o. higher in rank or quality
- p. an area of study that someone concentrates on or is an expert in
- q. joined or connected to something
- r. a person who is deeply knowledgeable in a particular area
- s. a room or building in which someone may live or stay

**13. Read Text 1 C again and find the answers to the following questions.**

1. What are Oxford and Cambridge universities famous for? 2. What do you think “a challenging, flexible and individual learning experience” means? 3. What does “a collegiate university” mean? 4. How many colleges are there at Cambridge? 5. What is the university in charge of? 6. What are the colleges responsible for? 7. What kinds of students are there at any college at Cambridge? 8. In what way is instruction provided at Cambridge? 9. Why is a tutorial more academically challenging than a standard lecture? 10. What issues are generally discussed at supervisions? 11. What subjects are offered within one college? 12. What advantages does small group tuition offer?

**14. You have read about BMSTU and Cambridge University. Using this information and information from other sources, if necessary, fill in the table below. Compare these two universities.**

Category	BMSTU	Cambridge
history	founded in 1830	founded in 1209
structure		
buildings/accommodation/facilities		
courses/subjects		
teachers		
students		
research		
ranking		

alumni		
anything else?		

**15.** Write a list of some famous universities you would like to learn about. Find information about one these universities and prepare to tell your groupmates about the university of your choice. Go to appendix 1 to learn more about how to make a presentation.

## VOCABULARY

### Module 1 Word List

Essential vocabulary	
1. ability (n)	31. seminar (n)
2. accommodation(n)	32. take (v) a course
3. advanced (adj)	33. undergraduate (n)
4. assess (v)	34. well-equipped (adj) laboratory (n) workshop (n)
5. attend (v) (lectures)	<b>Additional vocabulary</b>
6. bachelor's degree	1. access (v, n)
7. be (v) good at	2. affect (v) something or somebody
8. bring (v) up to date	3. at present/today (adv)
9. competence (n)	4. benefit (v, n)
10. complete (v) assignments	5. consider (v)
11. conduct (v) research (n)	6. enable (v)
12. define (v) priorities (n)	7. especially (adv)
13. department (n)	8. facility(n)
14. develop (v)	9. feedback (n)
15. enroll (v)	10. further (adj)
16. ensure (v)	11. have internship (n)
17. experience (n)	12. instruction (n)
18. faculty (n)	13. investigate (v)

19. get (v) a degree	14. junior (adj)
20. graduate (n)	15. a means (n) of
21. higher education (n)	16. mean (v)
22. highly qualified (adj)	17. a number (n) of
23. improve (v)	18. prepare (v)
24. knowledge and skills (n)	19. quality (n)
25. master's degree	20. receive (v)
26. meet (v) the requirements	21. remain (v)
27. opportunity(n)	22. senior (adj)
28. postgraduate (n)	23. supervision (n)
29. provide (v) something	24. thorough (adj)
30. a range (n) of	25. tuition (n)

**16. What are the most effective strategies to learn new English words, in your opinion? Read vocabulary learning tips below. How many of them did you think of?**

### Learning Tips

- ✓ Use a vocabulary notebook or cards to record and review vocabulary. (It usually takes from 5 to 15 reviews or uses of a single word to commit the word to memory).
- ✓ Look away from the notebook when reviewing; do not just read it.
- ✓ Say the word and meanings aloud.
- ✓ Practice with a partner.
- ✓ Think of different categories to place the words in.
- ✓ Use the words in new sentences or short stories related to your own experiences

### Practice

*The following words and phrases are from Module 1 texts. Try to*

*memorise them using the tips above.*

department	up to date	accommodation
improve	degree project	carry out
enrolment	investigate	extracurricular activities

**17. With a partner, discuss the meaning of the following words and word collocations. Use a dictionary if necessary. Remember how they were used in reading materials for Module 1 and make your own examples with these words.**

*Example: Students can choose from a wide range of options.*

1. a wide range of options
2. rewarding careers
3. the significance of something
4. better career options
5. acquire a skill or knowledge
6. the experience of doing something
7. to create opportunities
8. complex subjects
9. in an effective way
10. to meet the requirements
11. to provide somebody with something
12. to be brought up to date
13. to improve the overall quality
14. an ability to do something
15. to be regarded as
16. to be assessed by
17. to get a degree
18. the quality of teaching
19. to award degrees
20. undergraduate students
21. graduates/postgraduates
22. accommodation and other facilities
23. the enrolment for
24. to receive feedback
25. to investigate new approaches
26. to explore course material

**18. Match the words with their definitions. Write the words on cards and practise giving their definitions. Work in groups and take turns to choose a card and give a sentence example with the word on the card.**

*Example: to affect - to produce an effect or change (a-b)*

**A.**

- |                |   |
|----------------|---|
| 1. to affect   | a. to change into something bigger or more advanced |
| 2. to consider | b. to produce an effect or change                   |
| 3. quality     | c. to continue to be in the same state or condition |
| 4. thorough    | d. to think about or have an opinion                |
| 5. to develop  | e. to make something possible                       |
| 6. to remain   | f. to be given something                            |
| 7. at present  | g. a characteristic or property                     |
| 8. to receive  | h. right now, currently                             |
| 9. to enable   | i. perfect, complete, accurate                      |

**B.**

- |                 |  |
|-----------------|--|
| 1. to provide   | a. to make certain that something will happen        |
| 2. to ensure    | b. more or additional                                |
| 3. to prepare   | c. to have a meaning                                 |
| 4. especially   | d. an amount of something                            |
| 5. a number of  | e. to give something or make it available to someone |
| 6. further      | f. to make something better                          |
| 7. to mean      | g. a method (way) of doing something                 |
| 8. to improve   | h. to make plans or arrangements                     |
| 9. a means (of) | i. exceptionally, particularly                       |

**19. Use the word given in the brackets to form a word which fits in the gap.**

**Example:** Education is free of charge for most of the students at our university.  
(educate)

- A.** 1. The company offers many opportunities for professional \_\_\_\_\_. (develop)  
2. The company will realise the project if they collect the \_\_\_\_\_ sum of money.

(require) 3. There has been a definite \_\_\_\_\_ in his English since he started practising regularly. (improve) 4. Life \_\_\_\_\_ in Europe increased greatly in the 20<sup>th</sup> century. (expect) 5. The fire caused \_\_\_\_\_ damage to the church. (consider) 6. Children need lots of \_\_\_\_\_ from their parents. (encourage) 7. One in five \_\_\_\_\_ uses a candidate \_\_\_\_\_ centre as a means of selecting staff. (employ, assess) 8. I could never play team sport: I lack the \_\_\_\_\_ spirit. (compete) 9. The \_\_\_\_\_ came to the conclusion that human error was the main cause of the accident. (investigate) 10. He has got this job \_\_\_\_\_ by chance. (complete)

**B.** 11. The company wants to speed up its \_\_\_\_\_ of new technology. (adopt) 12. There is a \_\_\_\_\_ towards increased emigration from the zones of war conflicts. (tend) 13. A lot of \_\_\_\_\_ work still needs to be done. (prepare) 14. She is still \_\_\_\_\_ on her parents. (depend) 15. To \_\_\_\_\_ learning English each class is no larger than 12-14 students. (facility) 16. There is a free helpline for young people \_\_\_\_\_ by cancer. (affect) 17. The university recent accreditation has helped to increase their undergraduate student \_\_\_\_\_. (enroll) 18. The \_\_\_\_\_ of medical care is one of the ways to attract more \_\_\_\_\_. (provide, apply) 19. He specializes in the history of polar \_\_\_\_\_. (explore) 20. Good education is essential for having a \_\_\_\_\_ career. (reward)

#### **20. Choose the correct word.**

**A.** 1. Many companies were badly *affected/effected* by the crisis. 2. Knowledge in the field of computing is *depending/developing* very rapidly. 3. We offer a course for students wishing to *improve/approve* their English. 4. The only *means/meaning* of communication for the deaf (people who cannot hear) is sign language. 5. The decision will *be able/enable* the project to make progress. 6. If you don't pass the test you will *remain/receive* in the same group. 7. Technology may *proclaim/provide* solutions to a lot of problems. 8. If you need *further/farther* details visit our website. 9. Practice is *especially /essentially* important for learning a language. 10. The rector is going to *consist/consider* your application (a formal demand) personally.

B. 11. After completing their first degree the students can *consider/compare* doing a master's degree course. 12. Only very rich families can *afford/affect* to send their sons and daughters to Oxford and Cambridge. 13. Most of the students of Cambridge are *further/former* pupils from public schools. 14. This dictionary will *ensure/enable* you to understand English words. 15. It only *remains/receives* for me to say that I do not understand this system of education. 16. Their university is going *thorough/through* a difficult period. 17. Your teachers will *play a part/take into consideration the fact* that you are the best student in your group. 18. Some words of this difficult text can have several *means/meanings*. 19. The fact that a number of qualified teachers have left this college will seriously *effect/affect* the quality of teaching. 20. Our school *produces/provides* new uniforms for all the pupils.



**21. Rewrite each sentence below replacing one of the words by the word in the brackets so that the new sentence will have the same meaning as the first one. Translate the sentences into Russian if necessary.**

**Example:** Technology will give solutions to a lot of problems (*provide*).

Technology will provide solutions to a lot of problems.

1. The committee will study your report and give their recommendations. (consider)
2. The report says that the amount of students is increasing. (number)
3. Many countries were seriously hit by the economic crisis. (affect)
4. Not long ago the only method of communication over long distances was by mail. (means)
5. A group of scientists are making plans for the mission to Mars. (prepare)
6. New universities should demonstrate that they ensure a high standard of education. (provide)
7. It must be taken into consideration that the quality of education is getting better. (improve)
8. Distance learning gives people a chance to have an individual plan of studying the subject that interests them. (enable)
9. High school students choose the main subject and do several courses in this subject. (a number of)
10. The supervision program guarantees

that students receive individual support from an expert in their field of research. (ensure)

**22. Fill in the gaps with the words from the table.**

especially/ means/ affect/ develop/ provide/ improve/ consider/ ensure / enable/ further
---

1. Poverty can \_\_\_\_\_ anyone, regardless of age, race, gender or social background.
2. If computers are so popular, perhaps we should \_\_\_\_\_ buying one for the use of our guests.
3. If you want to \_\_\_\_\_ your English speaking skills you need to practise regularly.
4. Continuously improving your skill set will \_\_\_\_\_ you to perform better at work.
5. They \_\_\_\_\_ information such as reviews and user ratings.
6. Good restaurants use fresh ingredients in their recipes to \_\_\_\_\_ quality.
7. Nobody has the right to hurt other people, \_\_\_\_\_ a defenseless woman.
8. \_\_\_\_\_ education is the education for people who have left school but who are not at a university.
9. Let the speaker illustrate what he \_\_\_\_\_ with more examples.
10. Our aim is to \_\_\_\_\_ the quality of education at our university.



**23. Write one paragraph on one of the following topics using as many words from Module 1 Word list as you can.**

1. Higher education in the USA.
2. Higher education in Great Britain.
3. Why I have decided to go to MSTU named after Bauman.
4. Distant learning education system.
5. The advantages and disadvantages of higher education in Russia.

**24. Summarise the text below in English using some words from vocabulary section.**

Современная система высшего образования постоянно развивается, отвечая требованиям промышленных и коммерческих организаций. Стиль и методы

обучения, а также учебные материалы должны постоянно обновляться и совершенствоваться. Внедряются новые системы образования, например, онлайн-образование. Обучение не заканчивается, когда вы получаете диплом. Вы можете продолжить образование и получить научную степень. Поступая в университет, первокурсники и второкурсники получают глубокие знания по фундаментальным наукам. На третьем курсе студенты изучают основным предметы по специальности. Университет оснащен исследовательскими центрами и современными лабораториями, где преподаватели, студенты, аспиранты принимают участие в исследовательских программах, определяющих приоритеты для новых направлений развития. Образование — это процесс сохранения культуры, развития знаний и навыков, формирования ценностей и обмена информацией.

## SPEAKING AND DISCUSSION



**25. Work in pairs and discuss the following questions.  
Summarise your partner's answers.**

### STUDENT A's QUESTIONS

1. How can we improve the quality of education?
2. What are the qualities of a good education?
3. What do you think the key skills you will need in the future are?
4. What motivates young people to learn and develop their skills?
5. Does students' progress need to be assessed?

### STUDENT B's QUESTIONS

1. What is the purpose of education?
2. Which subjects do you think are going to be the most useful for your future?
3. Do you think homework assignments are necessary for effective learning?
4. What can you do to learn more effectively?
5. What motivates more: good or bad marks? Why?

## MORE QUESTIONS FOR DISCUSSION

1. What is the most important role of a modern teacher?
2. Do you think standardised testing is the most effective way to assess learning?
3. What was your most enjoyable experience in your own education?
4. What do you like and what do you dislike about homework?
5. How has the development of technology affected learning?
6. Will technology replace teachers in class in the future?
7. Which subject(s) should be taught at school/university but they aren't at the moment? Why do you think so?
8. Do you think that the way we are currently educating children prepares them well for the needs of the 21st century?

## GRAMMAR

### PRESENT TENSE FORMS



#### Lead-in

*In groups fill in the table using the highlighted verb forms. Explain their meaning, or translate the sentences into Russian.*

1. As economy and workplaces are becoming more competitive, higher education gives a wide range of options in life.
2. Education is the process through which culture is preserved, knowledge and skills are developed, values are formed, and information is exchanged.
3. The system of higher education is constantly being developed.
4. Nearly 200.000 professionals have graduated from BMSTU.
5. Our university has been renamed a few times since 1830.
6. The colleges organise the teaching of students.

Tense Form	Example
Present Simple	organise
Present Simple Passive	
Present Continuous	

Present Continuous Passive	
Present Perfect	
Present Perfect Passive	

## **PRESENT SIMPLE**

## Meaning

**26. Find out about the main uses of the Present Simple Tense matching the example sentences (1-3) with the uses (a-c)**

- |  |   |
|--|---|
| 1. Ice melts at 0 degrees.                               | <i>a. repeated habitual actions</i>                                 |
| 2. I get up early.                                       | <i>b. reviews/sports</i><br><i>commentaries/dramatic narratives</i> |
| 3. The hero escapes when his car<br>crashes into a tree. | <i>c. general facts or laws of nature</i>                           |

## Form

+ ? -

I <b>am</b> a student	<b>Are</b> you a student?	I <b>am not</b> a student.
I live in Moscow.	<b>Do</b> you live in Moscow?	I <b>don't</b> live in Moscow.
He lives in Moscow.	<b>Does</b> he live in Moscow?	He <b>doesn't</b> live in Moscow.

**27. Put the verbs in brackets into the Present Simple Tense. Then put the sentences into negative(-) and interrogative(?) forms.**

*Example: E-learning (be) a method of study that (involve) using the Internet.*

*E-learning is a method of study that involves using the Internet.*

*Is e-learning a method of study?/ It is not a universal method of study.*

*Does it involve using the Internet?/ It doesn't involve using the Post.*



1. Distance learning (be) very popular among working professionals. 2. While learning, they (remain) at their jobs. 3. At the same time they (continue) their education. 4. They (e-mail) their work to their tutors. 5. Distance (be) no problem on the Internet. 6. People (do) different courses on the Internet from home. 7. They (concentrate) on their special interests. 8. They (take) courses in different subjects. 9. Online education (involve) live webinars. 10. More and more people (take up) e-learning.

**STUDY NOTE.** We use the **Present Simple Tense:**

1. for regular actions and routines, often with a time expression (see below);

*I work from 9.00-5.00.*

2. for permanent situations;

*British people like animals.*

3. for general truths and laws of nature;

*It is cold in winter in Moscow.*

4. for fixed timetables;

*The first lecture starts at 8.30.*

5. in film reviews or plot summaries.

*The new episode is extremely dramatic.*

**28. Read the following sentences and explain the meaning of the Present Simple Tense.**

**Example:** *I get up early on Mondays and Wednesdays. (regular action, a routine)*

1. The sun always sets in the west. 2. She never tells the truth. 3. The banks close at 3 p.m. most days. 4. Our teacher is from the USA, I think. 5. Our first lecture starts at 8.30 a.m. 6. There is a wonderful beach not far from here. 7. In the second chapter the main character makes an important discovery. 8. Money does not make people happy automatically. 9. What time do you get up every day? 10. This new film is about a young man who looks for his missing girlfriend.

**STUDY NOTE. Time expressions/adverbs of frequency often used with the**

## Present Simple:

- *never, rarely, hardly ever, seldom, occasionally, sometimes, frequently, often, usually, always...* (usually used before the main verb or after auxiliary/modal verbs)
- *every day / week / month / year, etc., in the morning, in the afternoon, etc., on Monday/Tuesday, etc., once/twice a day / week / month, etc.* ( usually used at the end or at the beginning of the sentence)

### **29. Study the sentences and decide if the position of the adverb is right or wrong.**

**Example:** *I play usually tennis on Sundays. (wrong) → I usually play tennis on Sundays.*

1. We read **seldom** English magazines.
2. We **seldom** have evening classes.
3. We **always** help each other.
4. I make mistakes **sometimes**.
5. She **never** is late.
6. Do you speak French **often**?
7. They **rarely** do experiments.
8. He **never** is on time.
9. He asks questions **hardly ever**.
10. **Every day** I take a bus to go to university.

### **30. Put the verbs in brackets into the Present Simple Tense. Explain the meaning of the tense forms.**

1. On weekdays the seminars \_\_\_\_\_ (start) at 8.30.
2. They usually \_\_\_\_\_ (go out) on Saturday night.
3. Nobody here \_\_\_\_\_ (know) Arabic.
- Most of us \_\_\_\_\_ (speak) English.
4. The ball \_\_\_\_\_ (hit) the net, and he \_\_\_\_\_ (lose) the point.
5. She rarely \_\_\_\_\_ (go) to the cinema but she sometimes \_\_\_\_\_ (go) to the theatre.
6. They usually \_\_\_\_\_ (not show) rock concerts on television.
7. The sun\_\_\_\_\_ (rise) in the east and \_\_\_\_\_ (set) in the west.
8. Our lectures never \_\_\_\_\_(finish) earlier than 7 p.m.
9. We (not have) any lessons on Sundays.
10. He (be)\_\_\_\_ one the best students in our group.

### **31. Ask questions to the following sentences using the verbs given in the brackets.**

**Example:** *He (be) a student of BMSTU. → Is he a student of BMSTU?*

*I (know) English. → Do you know any foreign languages other than English?*

1. You (live) in a city or in the country? 2. You (play) any sports? 3. How often you (go) to the gym? 4. Your best friend (like) doing the same things as you do? 5. How long it (take) you to get to university? 6. What foreign languages you (speak), if any? 7. You (study) for a Bachelor's degree? 8. BMSTU (be) the Russian top technical university? 9. You (have) any lectures on Saturdays? 10. Online learning (be) popular at your university?



**32. In groups ask and answer the questions in Exercise 31. Think of your own questions to help you get to know your groupmates better.**

## **PRESENT CONTINUOUS**

### **Meaning**

**33. Find out about the main uses of the Present Continuous Tense matching the sentences (1-4) with the uses (a-d).**

- |   |   |
|---|---|
| 1. I am working from home this month.                   | a. fixed arrangements in the near future                            |
| 2. The students are having a short break at the moment. | b. repeated actions with ‘always’ expressing annoyance or criticism |
| 3. I am meeting my colleagues at the airport tonight.   | c. temporary situations   |
| 4. You are always interrupting me!                      | d. actions happening now  |

**STUY NOTE.** We use the **Present Continuous Tense** for:

- actions happening now;

*We are having a lesson now.*

- plans and arrangements in the future;

*They are leaving soon.*

- annoying or surprising habits with

- actions happening around the time of speaking;

*I am preparing for my exams.*

- temporary situations;

*I am learning English.*

always.

*She is always asking silly questions!*

**Time expressions** often used with Present Continuous:

*at present, at the moment, now, for the time being, today:* usually at the end of the sentence.

*still, currently, always:* usually before the main verb or after auxiliary/modal verbs.

## Form

**Present Continuous: present of to be + V-ing (Participle I)**

+

?

-

I am (I'm) having a lesson now.

Are you having a lesson?

I am not (I'm not) having a lesson.

He is (He's) answering the questions.

Is he answering the questions?

He is not (isn't) answering the questions.

**34. Rewrite the sentences in the Present Continuous Tense adding one of the time expressions from the table above. Then put them into negative and interrogative forms.**

1. She works as an administrator at the university.
2. She organises the timetables.
3. I work long hours.
4. He stays in this hotel.
5. We have evening classes.
6. They travel a lot.
7. She has an English class.
8. I play tennis.

**35. Put the verbs in the brackets into the Present Continuous Tense, then describe the photo.**

1. What these people (do)?

5. The teacher (not speak) at the moment.



2. They (have) a lecture.
3. The teacher (stand) in front of the class.
4. The teacher (explain) how to solve some difficult problems.
6. At the moment she (look) at the screen of her computer.
7. She (use) a mouse to navigate her computer.
8. The students (listen) and (take) notes.
9. They (look) at the screen.
10. Some of the students (get ready) to ask questions.

## PRESENT SIMPLE / PRESENT CONTINUOUS

**36. Complete the sentences with words from the box in the Present Simple or the Present Continuous tense form. Compare their meanings.**

work play hide wear study rain (2) come stay (2) buy call

1. Film stars usually \_\_\_\_\_ their clothes at expensive shops.
2. She \_\_\_\_\_ in an advertising agency presently, but she wants to become a model.
3. We \_\_\_\_\_ tennis every Friday.
4. Sorry. I can't join you. I \_\_\_\_\_ for my exam.
5. Take your umbrella. It \_\_\_\_\_ outside.
6. It often \_\_\_\_\_ in autumn in our city.
7. She seldom \_\_\_\_\_ home early.
8. Why \_\_\_\_\_ this coat? It's not cold today.
9. My boss always \_\_\_\_\_ at the Baltimore hotel when he is in London.
10. You can find Tom at the Ritz. He \_\_\_\_\_ there.
11. Show me what you \_\_\_\_\_ behind your back.
12. Listen, I think someone \_\_\_\_\_ us.

**STUDY NOTE.** We use the **Present Simple**, not **Present Continuous** with certain verbs that describe feelings, senses and perceptions, possession, ‘think and know’ words: *like, love, dislike, hate, prefer, need, want, appear, smell, taste, be, hear, seem, know, agree, disagree, believe, doubt, suppose, remember, forget, understand, belong, etc.*

We can use the verbs *be, appear, look, have, think, feel, see, taste, depend in*

the **Continuous Tense**, but with a change in meaning. Compare:

*I think you are absolutely right. (opinion)*

*I am thinking of doing a course in Architectural Design. (action)*

**37. Listen to the conversation of Neil and Catherine from BBC Learning English mini-lesson and write down the examples of the state verbs they discuss.**

<https://www.youtube.com/watch?v=3aQOLTfnAOc&feature=youtu.be>

**38. Complete the sentences putting the verbs in brackets into the Present Simple or the Present Continuous tense.**

1. Right now they (think) \_\_\_\_\_ of buying a new car. 2. He (think) \_\_\_\_\_ that speaking English is the best way to learn it. 3. It is hot in Moscow in July. And what the weather (be) \_\_\_\_\_ like in London? 4. I can't understand why he (be) \_\_\_\_\_ so naughty. He isn't usually like that. 5. This tea (taste) \_\_\_\_\_ strange. I won't drink it. 6. What are you doing? - I (taste) \_\_\_\_\_ strawberry. - Oh no. It can't be ripe! 7. My girlfriend (have) \_\_\_\_\_ beautiful eyes. 8. Rita (have) \_\_\_\_\_ a difficult time right now. 9. It (look)\_\_\_\_\_ as if it might rain. 10. Why you (look) \_\_\_\_\_ at me like that?

**39.\* Put the verbs into the correct form. Use either the Present Simple or the Present Continuous.**

1. Please don't make so much noise. I \_\_\_\_\_ (study). 2. How many languages\_\_\_\_\_ Ann \_\_\_\_\_ (speak)? 3. I \_\_\_\_\_ (not/belong) to this club.
4. Hurry up! The bus \_\_\_\_\_ (come). I \_\_\_\_\_ (not/want) to miss it. 5. The River Volga \_\_\_\_\_ (flow) into the Caspian Sea. 6. Pete \_\_\_\_\_ (be) very selfish today, he isn't usually like that. 7. It ever \_\_\_\_\_ (snow) in Italy? 8. Water \_\_\_\_\_ (freeze) at 0. 9. He always \_\_\_\_\_ (forget) my birthday! 10. He \_\_\_\_\_ (stay) with his brother at the moment, until he \_\_\_\_\_ (find)

somewhere to live. 11. Henry (understand) \_\_\_\_\_ Spanish well. 12. Lisa (believe) \_\_\_\_\_ you, but I know that you are lying.

## PRESENT PERFECT SIMPLE AND PRESENT PERFECT CONTINUOUS

### Meaning

#### 40. Match the sentences in the Present Perfect and Present Perfect Continuous Tenses (1-4) with the uses (a-d).

- |   |   |
|---|---|
| 1. I have been studying here for just a few weeks.        | a. recent events connected with now                     |
| 2. He has been living in Moscow for ten years.            | b. an experience or achievement in one's (present) life |
| 3. I have taken the medicine and I am feeling better now. | c. an activity which continues up to now                |
| 4. She has been to many different countries.              | d. stress on that something is repeated or short-term   |

### Form

#### Present Perfect Simple: have (has) + Participle II

+

I **have** (I've) **written** an essay.

?

Have you **written** an essay?

-

I **have not** (haven't) **written** an essay.

He **has** (He's) **done** his homework.

He **has not** (hasn't) **done** his homework.

**STUDY NOTE.** Regular verbs have identical past tense and past participle forms ending in **-ed**. Some irregular verbs also have identical past tense and past

participle forms, while other irregular verbs have past participles which are different from the past tense forms.

*Past tense: we lived, he brought, we drove.*

*Past participle: we have lived, he has brought, we have driven.*

**41. Complete the table with three forms of the following verbs.**

Infinitive	Past Tense	Participle II
to assess	assessed	assessed
to be	was/were	been
to bring		
to get		
to develop		
to meet		
to provide		
to take		
to learn		
to go		
to consider		
to mean		
to study		
to build		
to write		

**42. Underline the verb that is NOT a Past Participle.**

**Example:** done/ eaten/ see / slept

1. dreamt / known / left / throw; 2. show / read / been / heard; 3. won / hold / told / sold; 4. chosen / stolen / wake / given; 5. cost / put / had / learn; 6. burn / swum / drunk / begun; 7. kept / become / grew / caught; 8. fell / hurt / cut / know; 9. make / run / broken / come; 10. flown / gone / say / sent.

**43. Use the words to write sentences in positive (+), negative (-), or question (?) forms of the Present Perfect Tense. Add some of the time reference words from the list: already, just, ever, never, yet, today, this week/month, since, for.**

1. I /clean/ my shoes.
2. He /not do/ his homework.
3. They/buy/a new car?
4. I /have/dinner.
5. He /not finish/ his work.
6. They/solve/the problem?
7. I /send him/a message.
8. He /not wash/ the dishes.
9. They/get married?
10. She/pass/the exams.

**44. Put the verbs in brackets into the correct Present Perfect form: positive, interrogative or negative.**

1. I think I (see) \_\_\_\_\_ this film before.
2. Humans (not travel) yet \_\_\_\_\_ to Mars.
3. \_\_\_\_\_ you (read)\_\_\_\_\_ the book I gave you?
4. My cousin (grow)\_\_\_\_\_ since I saw him last time.
5. Sorry, I (not finish)\_\_\_\_\_ my work yet.
6. My roommate (not arrive)\_\_\_\_\_ yet.
7. \_\_\_\_\_ the rain (stop) \_\_\_\_\_ ?
8. Look, the car just (crash) \_\_\_\_\_ into the wall!

## Form

**Present Perfect Continuous: have (has) + been + Participle I**

+	?	-
I <b>have (I've) been</b> <b>writing</b> an essay.	<b>Have you been</b> <b>writing</b> an essay?	I <b>have not (haven't) been</b> <b>writing</b> an essay.
He <b>has (He's) been</b> <b>doing</b> his homework.	Has he been <b>doing</b> his homework?	He <b>has not (hasn't) been</b> <b>doing</b> his homework.

**45. Use the words to write sentences in positive (+), negative (-), or question (?) forms of the Present Perfect Continuous.**

**Example:** He / tell / everyone your secrets. (?) → Has he been telling everyone your secrets?

1. They / hike / across the hills today. (-)
2. The cat / sleep / on the sofa for hours.

(+) 3. Ann / cycle / to work to get fitter. (?) 4. He / prepare / for the seminar all day. (+) 5. Mike / write / any ‘Thank You’ letters. (-)

#### **46. Put the verbs in brackets into the correct Present Perfect Continuous form paying attention to its meaning.**

1. They (work) \_\_\_\_\_ in the garden all day.
2. I (expect) \_\_\_\_\_ his phone call since yesterday.
3. She (wait) \_\_\_\_\_ at the bus stop for ages.
4. How long \_\_\_\_\_ you (look for) a job?
5. Kate (walk) \_\_\_\_\_ to work to lose some weight.
6. He (play) \_\_\_\_\_ a new computer game for three hours already.
7. Mike (live) \_\_\_\_\_ in Moscow for a year.
8. She (write) \_\_\_\_\_ an essay for two hours.

#### **47. Guess what the people in the pictures have been doing.**

*Example:* The cooks have been learning how to make pasta.



**STUDY NOTE.** We use the **Present Perfect Simple Tense** to describe actions that took place within a period of time which is unfinished and/or have present relevance.

*I've had two meetings with my boss*

We use the **Present Perfect Continuous Tense** to describe an activity (state) when we focus on the activity itself, not on its completion.  
*She has been working hard.*

We use the **Present Perfect**

*this week.*

*I don't know the answer, I haven't  
read this article.*

**Continuous** to emphasise **how long**

something has taken.

*I've been waiting for ages.*

**Time expressions often used with  
the Present Perfect Simple:**

*Just, ever, never, already, yet, how  
long, so far, recently, today, this  
week/month, etc.*

**Time expressions often used with the  
Present Perfect Continuous:**

*how long, for, since, etc.*

**48. Match the two halves of the sentence. Identify verb tense forms and explain  
their meaning.**

- |                                       |  |
|---------------------------------------|--|
| 1. She's worked with children         | a. old photograph album the whole evening. |
| 2. I've been looking through my       | b. all her life.                           |
| 3. I haven't seen him                 | c. so the battery is dead now.             |
| 4. She's tired because she has        | d. much better lately.                     |
| 5. She's been looking                 | e. for ages.                               |
| 6. I don't need to buy her a present, | f. been playing tennis for three hours.    |
| 7. Kate's failed her test,            | g. Ron has already bought it.              |
| 8. I haven't charged my mobile        | h. so she has to retake it.                |

**49. Put the following sentences into the Present Perfect Tense Simple or the  
Present Perfect Continuous Tense. Explain your choice.**

**Example:** *I've passed my driving test! (result); I've been trying to pass my*

*driving test for ages! (the action is long and not completed)*

**A.** 1. I (wait) \_\_\_\_\_ for you for hours. 2. They (work) \_\_\_\_\_ hard over the last few weeks. 3. He (answer) \_\_\_\_\_ all the questions. 4. I (not be) \_\_\_\_\_ to Paris. 5. I (lose) \_\_\_\_\_ my keys. 6. He (not hear) \_\_\_\_\_ the news yet. 7. I (live) \_\_\_\_\_ here for two months. 8. Who (take) \_\_\_\_\_ my pen? 9. I (try) \_\_\_\_\_ to reach you for over an hour! 10. Kate (have) \_\_\_\_\_ bad headaches for months.

**B.** 1. I \_\_\_\_\_ (have) this dictionary for years. 2. It's the most exciting film I \_\_\_\_\_ (ever see). 3. He \_\_\_\_\_ (stand) in this queue for almost an hour. It is really long! 4. She \_\_\_\_\_ (fail) her exam in Computer Science. 5. It is dark in the room. The light bulb \_\_\_\_\_ (burn out). 6. They \_\_\_\_\_ (exercise) really hard for the last three months. 7. It is not surprising that they \_\_\_\_\_ (win) the competition. 8. I \_\_\_\_\_ (finish) work for the day. 9. I \_\_\_\_\_ (wait) for ages! Where you \_\_\_\_\_ (be)? 10. I can't find my glasses and I have no idea where I \_\_\_\_\_ (leave) them.

**50\*. Match the verb tense forms in the sentences (1-10) with the uses (a-j).**

- |  |   |
|--|---|
| 1. I've read 100 pages.  | a. actions within present time phase                                |
| 2. I've written a song today.                                    | b. completed action or result                                       |
| 3. He's been sitting in front of his computer since morning.     | c. in combination with superlative adjectives                       |
| 4. I've just finished some tests.                                | d. stress on that something is short-term                           |
| 5. Have you ever read a book in English?                         | e. after phrases such as 'It is the first/last time'                |
| 6. He's been an architect for five years.                        | f. personal experiences/changes which have happened                 |
| 7. She's been talking for hours!                                 | g. action started in the past and continuing up to the present      |
| 8. It's the third time he's called her this morning.             | h. actions that happened very recently                              |
| 9. He's been working on this project only for a couple of weeks. | i. actions that have continued from some time in the past until now |

10. It's the easiest subject I've ever studied.      j. actions that have continued from some time in the past until now

**51. In pairs act out the dialogues using the cues.**

**Example:** A: You look very tired! Have you been cleaning the house?

B: No, I haven't. I've been repairing my bike.

- |   |                            |
|---|----------------------------|
| a) hands dirty/work in the garden                 | e) fit/swim every day      |
| b) tanned/sunbathe                                | f) late/wait for the bus   |
| c) eyes red/cry                                   | g) hands dirty/repair bike |
| d) absent-minded/sleep badly in the last few days | h) tired/sleep too little  |

**52. Complete the sentences so that they will be true for you.**

- |                                    |   |
|------------------------------------|---|
| 1. I've written _____.             | 6. I haven't _____ this month.                              |
| 2. I've never _____.               | 7. I have been _____ for the last few hours (days, months). |
| 3. I've _____ since _____.         | 8. I haven't _____ yet.                                     |
| 4. I've been _____ this year.      |   |
| 5. I haven't been _____ this year. |   |

**53. Make questions using Present Tense forms. Ask and answer the questions in pairs.**

**Example:** 1. at our university/ how many / be / faculties /there? →

How many faculties are there at our university?

2. from / you / live / far / your university?
3. have / how many / every day / lessons / you?
4. use / what equipment / in the laboratories / you?
5. any / you / play/ musical instrument?
6. language courses / you / do / any / now?
7. you / by Leo Tolstoy/ “War and Piece” / read?

8. a good idea / it / to an English speaking country / to go / be / English / to learn?
9. how long / computer / you / learn / science?
10. do / you / special / anything / tonight?

## PASSIVE VOICE: PRESENT TENSE FORMS

### Lead-in

*Compare the sentences in columns A and B. What is the difference between them?*

A.

My mother teaches English at school.

They are discussing their project at the moment.

The lecturer has answered all the questions.

B.

English is taught in the first and second year.

The project is being discussed.

All the questions have been answered by the lecturer.

### Meaning

**STUDY NOTE.** The sentences in column **B** are the examples of **Passive Voice** forms. **Passive Voice** means that the subject of a sentence is not the **doer** of an action but **experiences the effect** of an action.

*The news programmes are watched by millions of people online.*

### We use the Passive Voice:

- when the action is more important than the doer:

*Exams are taken at the end of the term*

- when the doer of the action is not known or obvious:

*The criminal has been arrested.*

- to make sentences more formal or polite:

*Smoking is not allowed here.*

## Form

### Passive Voice: be + Participle II

+	?	-
The questions <b>are</b> <b>answered.</b> (Present Simple)	<b>Are</b> the questions <b>answered?</b> (Present Simple)	The questions <b>are not</b> <b>(aren't) answered.</b> (Present Simple)
The questions <b>are</b> <b>being answered.</b> (Present Continuous)	<b>Are</b> the questions <b>being answered?</b> (Present Continuous)	The questions <b>are not</b> <b>(aren't) being</b> <b>answered.</b> (Present Continuous)
The questions <b>have</b> <b>been answered.</b> (Present Perfect)	<b>Have</b> the questions <b>been answered?</b> (Present Perfect)	The questions <b>haven't</b> <b>been answered.</b> (Present Perfect)

**54. Put the following sentences into the Passive Voice in the Present Simple, Continuous or Perfect tenses, positive, negative and interrogative forms according to the model given above.**

1. I write lots of emails.
2. He fixes the problem.
3. They arrange a meeting.

**55. Turn the sentences into the Passive Voice. Explain their meaning or translate them into Russian.**

**Example:** *They are using new teaching methods here.* → *New teaching methods are being used here.*

1. Cambridge admits around 1,000 undergraduates from outside the UK each year.
2. The university encourages the students to get involved socially.
3. Cambridge undergraduates and graduates represent 140 different countries.
4. They have awarded the Nobel Prize to 109 affiliates of the University.
5. Cambridge has provided unforgettable learning experience for centuries.
6. People respect Cambridge for the quality of teaching.
7. University open days

offer us an opportunity to meet current students and staff. 8. We broaden our intellectual horizons when we learn. 9. A lot of staff are looking after the students' academic and personal welfare. 10. Students are constantly trying out new things.

**56\*. Fill in the correct tense. Use Active or Passive according to the context.**



1. Today is a special day: all the students (wear) gowns.
2. She is a new student here so she (feel) a little nervous today.
3. His understanding of the world (deepen) since he became a student.
4. A welcoming feel of a small town (combine) with the energy of a larger city in Cambridge.
5. More than 165 boat races between Oxford and Cambridge (take place) in 190 years.
6. Three shopping centres (locate) in the city's central streets.
7. A variety of cuisines from around the world (serve) by food shops, cafes and restaurants.
8. Lots of tourists (attract) by famous historical buildings, beautiful gardens and museums.
9. Punting in Cambridge (be) a popular way to access unique views of the most famous Colleges.
10. In the picture we can see a group of tourists who (enjoy) the sights while punting.



**57. Write 15-20 sentences about yourself using different Present tense forms. In pairs ask and answer questions about your friend's life using Present tense forms.**

*Example: I have never been to London. I'm writing an example now.*

*Have you seen Tarantino's new movie? Yes, I have/No, I haven't*

## **INDEPENDENT FURTHER STUDY**

### **COUNTABLE/UNCOUNTABLE NOUNS**

**58. Do you remember what the difference between countable and uncountable nouns is? Listen to the conversation between Neil and Catherine from BBC Learning English programme and write down the examples of countable and**

*uncountable nouns.*

<https://www.youtube.com/watch?v=4D6JErWRS9k>

**59. Complete the table with the words from the list below. Use a dictionary if necessary.**

behaviour, advice, scientist, gloves, group, government, sheep, hair, children, light, economics, accommodation, information, woman, glasses, crew, wood, physics, gymnastics, means, athletics, house, news, scissors, crowd, time, knowledge, beauty, language, binoculars, iron, justice, help, mathematics, university, jeans, clothes, freedom, education, love.

Uncountable nouns	behaviour, ...
Countable nouns	scientist, ...
Always in the plural	
Collective nouns (words such as family, team, audience)	
Words like <i>glass</i> or <i>experience</i> , that can be used as countable nouns with difference in meaning	

**60. Which nouns from the previous exercise can be used with the words in the table? Give three examples for each line. Use plural forms if necessary.**

much, little, a little, some, any, a lot	
many, few, a few, some, any, a lot	

**61. Complete the rules with words from the list above.**

a) We use \_\_\_\_\_ with uncountable nouns and the plural form of countable nouns.

b) We use \_\_\_\_\_ only with uncountable nouns.

c) We use \_\_\_\_\_ only with the plural form of countable nouns.

## 62. Fill in 'is' or 'are'.

1. Where \_\_\_\_\_ your binoculars? 2. Money \_\_\_\_\_ the root of all evil. 3. This information \_\_\_\_\_ outdated. 4. The student's knowledge \_\_\_\_\_ amazing. 5. My advice to you \_\_\_\_\_ to come on time. 6. This week there \_\_\_\_\_ athletics on TV every day. 7. The crew \_\_\_\_\_ already in the cockpit. 8. Mathematics \_\_\_\_\_ my favourite subject. 9. The glasses \_\_\_\_\_ in my bag. 10. Ann's hair \_\_\_\_\_ dark. 11. The lights \_\_\_\_\_ on. 12. My watch \_\_\_\_\_ accurate. 13. Time \_\_\_\_\_ up. 14. What kind of crowd \_\_\_\_\_ there ? 15. Economics \_\_\_\_\_ a popular discipline these days. 16. Could you tell me where the scissors \_\_\_\_\_? 17. My university group \_\_\_\_\_ all taking part in the competition. 18. Designer clothes \_\_\_\_\_ rather expensive. 19. A lot of experience \_\_\_\_\_ needed to do this job. 20. My experiences here \_\_\_\_\_ not all positive.

## CAUSATIVE FORMS

**Form: have (get) + object + past participle**

### Lead-in

**Match each sentence to the person (a or b) who would say it and answer the question: When do we use causative forms?**

1. I must type this contract.                  a. a businessman
2. I must have this contract typed    b. a secretary

**Causative Passive** is used to describe what we arrange for someone to do for us.

(1-b, 2-a)

**Compare the pairs of sentences and explain the difference in meaning.**

1. I must repair this computer. - I must have this computer repaired.
2. We'll redecorate our flat. - We'll have our flat redecorated.

**We use tense forms as following:**

*My grandfather **has** his blood pressure **checked** regularly.*

*I'm **having** my watch **repaired** at the moment.*

*He **has had** his hair **cut** at last.*

*I'd like **to have** my house **renovated** every five years*

**Note:** In informal language we can use **get** instead of **have**: *I've got my essay typed.*

### **63. Open the brackets. Match the questions and the answers.**

**Example:** To have your eyes tested you should go to the optician's.

- |   |                          |
|---|--------------------------|
| 1. Where should I go (take /picture)?             | a. to the cleaner's      |
| 2. Where should I go (tooth /fill)?               | b. to the photographer's |
| 3. Where should I go (overcoat /clean)?           | c. to the chemist's      |
| 4. Where should I go (hair/cut)?                  | d. the optician's        |
| 5. Where should I go (prescription /make up)?     | e. the hairdresser's     |
| 6. Where should I go (lenses/fit) for my glasses? | f. the dentist's         |

### **64. Complete the second sentence using the verb and any other words given.**

**Use the causative form with have.**

**Example:** They are washing my car. I am having my car washed.

1. Bricklayers are building a garage for our neighbours. Our neighbours \_\_\_\_\_ a garage/ *build*. 2. An electrician has installed a burglar alarm for us. We \_\_\_\_\_ an alarm / *install*. 3. Builders always check our roof after a storm. We \_\_\_\_\_ our roof/*check* after the storm. 4. Problems with wiring *appeared*. So I \_\_\_\_\_ new wiring, new sockets, new doorbell/ *install*. 5. The dentist removed my tooth yesterday. I \_\_\_\_\_ tooth / *remove*.

### **Interrogative and negative forms:**

*How often **do** you have your eyes tested?*

*I **don't** have my house cleaned. I do it myself.*

**65. Write questions in different tenses using Causative forms and give negative answers with the words below.**

- have/get the bike repaired
- have/get the paper published
- have/get parcel delivered
- have/get the website reconstructed

**66. Present Tenses Summary. Read the letter and use the verbs in brackets in the correct Present Tense form.**

Dear Kate,

I (1) \_\_\_\_\_ (write) to tell you how I (2) \_\_\_\_\_ (get on) in my first term at university. I (3) \_\_\_\_\_ really (enjoy) myself! Actually, I (4) \_\_\_\_\_ (study) quite hard as well, but at the moment I (5) \_\_\_\_\_ (spend) a lot of time just making friends. I still (6) \_\_\_\_\_ (stay) with my friend Sue, and I (7) \_\_\_\_\_ (look for) somewhere of my own to live. Only a few of the first-year students (8) \_\_\_\_\_ (live) in college here, and I (9) \_\_\_\_\_ (seem) to be spending a lot of time travelling backwards and forwards. I (10) \_\_\_\_\_ (go) to lectures every morning, and most afternoons. I (11) \_\_\_\_\_ (be) in the library now. In fact, I (12) \_\_\_\_\_ (write) this letter instead of an essay on ‘Hamlet’! And oh, I (13) \_\_\_\_\_ (think) I’ll buy some new clothes with the money you sent. Everything (14) \_\_\_\_\_ (cost) a lot here, and I (15) \_\_\_\_\_ (save) to buy a winter coat. It (16) \_\_\_\_\_ (get) really cold here in the evenings.  
I (17) \_\_\_\_\_ (be) not lonely. I already (18) \_\_\_\_\_ (get to know) lots of other students and sometimes we (19) \_\_\_\_\_ (have) quite a good time together! In my free time I also (20) \_\_\_\_\_ (learn) to drive.

See you soon,

Diana

**WORD ORDER**

**STUDY NOTE.** Simple positive sentences begin with a noun phrase called the **subject**. The subject is the person or thing that the sentence is about. This is

followed by a verb phrase (**predicate**) which tells you what the subject is doing or describes the subject's situation.

*The students (subject) are reading (predicate). The situation (subject) is very serious (predicate).*

The verb phrase may be followed by another noun phrase, which is called the **object** – the person or thing affected by the action or situation.

*Open your textbooks (object). Read the task (object).*

The verb phrase or the object can be followed by an adverb or a prepositional phrase, called an **adverb**, which tells how, when, or where the action happens. Sometimes adverbs can be used before the subject.

*We have three lectures on Monday (adverb). Today (adverb) we have no lectures.*

### **67. Put the words in order.**

1. subjects/six/in/study/undergraduates/the first term.
2. days/classes/have /they/four/on/each week.
3. on/and mathematical analysis/have/Monday/they/mathematics/.
4. a/home/day/is/Tuesday/free/for/study.
5. geometry/and/Wednesday/have/drawing/on/they.
6. science/study/computer/on/they/Thursday.
7. happens/on/programming/morning/Friday.
8. on/once/place/social/takes/science/a week/afternoon/Friday.
9. the curriculum/education/important/is/physical/an/of/part.
10. like/lessons/of/most/physical culture/particularly/the students.
11. 10-/or/coffee/have/15-minute/each/a/break/students/class/after.
12. can/also/lunch/have/they/a/canteen/in/student/in the afternoon.

### **68. What techniques do you think allow you to study more effectively? Read some tips for improving your learning and choose two or three approaches which you think are effective. Think of your own examples of how to use these**

*techniques and prepare to share your ideas in class.*

## **SEVEN APPROACHES TO LEARNING**

### 1. Learning can be an adventure.

It is difficult to learn when you are stressed or bored. Seek out ways of making your learning more fun.

### 2. Use many senses.

The more we use our senses of sight, hearing and touch the more opportunities we give the brain to take in information using our preferred sense. The use of several senses also gives the brain more connections and associations, making it easier to find information later, which assists memory and learning.

### 3. Identify what attracts you.

It is easier to learn by keeping desirable outcomes in mind than by forcing ourselves to study out of duty. Some aspects of study may be less attractive to you, such as writing essays, meeting deadlines or sitting exams, and, yet these also tend to bring the greatest satisfaction and rewards.

### 4. Use active learning.

We learn with deeper understanding when we are both actively and personally engaged.

- Juggling information
- Struggling to make sense
- Playing with different options
- Making decisions
- Linking information

### 5. Take responsibility for your learning.

Learn to be able to study in an independent way. It is generally your responsibility to catch up if you are not fully prepared in a certain area.

## 6. Trust in your intelligence



Even if you fear that you are not intelligent enough for university, bear in mind that intelligence can be developed and it is also a question of habit and practice.

## 7. Personalise your learning.

Each of us learn in an individual way, so recognize the many different elements that contribute to how you yourself learn best

### **CHECK YOURSELF**

#### **69. BMSTU in Facts and Figures Quiz. Choose the right answer.**

1. Moscow Craft (Vocational) School (the first name of BMSTU) was created in  
...

- A. 1725      B. 1830      C. 1868

2. BMSTU was renamed ...

- A. once      B. three times      C. more than five times

3. Moscow Higher Technical School named after Bauman became the first Russian Technical University in...

- A. 1953      B. 1989      C. 2005

4. Among the most prominent engineers who graduated from BMST is ...

- A. Pyotr Kapitsa      B. Nikolay Basov      C. Sergey Korolev

5. One of the inventions that was created by our university engineers is...

A. the first Russian helicopter    B. the first Russian computer    C. the first Russian laser

6. More than .... thousand of highly skilled specialists graduated from BMSTU.

- A. 100      B. 150      C. 200

7. There are ... faculties at BMSTU nowadays.

- A. 11    B. 15    C. 19

8. More than ... thousand undergraduate and postgraduate students are studying at

BMSTU.

A. 15 B. 20 C. 30

9. In 2030 BMSTU will celebrate its ... anniversary.

A. 100th B. 150th C. 200th

10. The course of studies lasts ... years for a bachelor's degree and about ... years for a master's degree.

A. 4/5 B. 3/5 C. 4/6

**70. Look at the sentences below and fill in the gaps using the appropriate word from A, B or C.**

1. He didn't get a good grade the first time he did his IELTS exam, so he decided to \_\_\_\_\_ it.

A. resit B. remake C. repair

2. People who attend university later in life are often called \_\_\_\_\_ students.

A. aged B. mature C. old

3. Although she had left school and was working, she went to evening classes at the local college of ..... education.

A. upper B. further C. higher

4. After he left school, he decided to go on to a \_\_\_\_\_ education and applied for a place at Edinburgh University.

A. further B. upper C. higher

5. He received a local government \_\_\_\_\_ to help him pay for his course.

A. fee B. fare C. grant

6. Education helps us to acquire knowledge and learn new \_\_\_\_\_ .

A. skills B. powers C. abilities

7. Although she already had a first degree from university, she decided that she wanted to work towards a \_\_\_\_\_ degree later in life.

A. second B. senior C. higher

8. We should make the best of every \_\_\_\_\_ to learn.

A. chance B. opportunity C. availability

9. Nowadays \_\_\_\_\_ education is promoted a lot in schools.

- A. body    B. health    C. well-being

10. A large number of parents are dissatisfied with the \_\_\_\_\_ education system, and put their children into private schools instead.

- A. government    B. secondary    C. state

11. Because so many students find exams stressful, some colleges offer a system of \_\_\_\_\_ assessment instead.

- A. continual    B. continuous    C. continuing

12. He has read a lot of books and \_\_\_\_\_ a lot of knowledge.

- A. acquired    B. won    C. achieved

13. At Oxford students have a \_\_\_\_\_ who they meet on a regular basis to discuss their work.

- A. teacher    B. tutor    C. lecturer

14. There were more than 50 students at Professor Bryant's \_\_\_\_\_ on city planning.

- A. lecture    B. laboratory    C. review

**71. Complete the passage with a suitable word or phrase from the box.**

Course, day-release, degree, discipline, enrolled, evening class, graduated, literacy, kindergarten, numeracy, on-line, passed, primary, qualifications, secondary, skills

## **EDUCATION**

When Michael was three years old, he started going to a local (1)\_\_\_\_\_, and two years later began attending his local (2)\_\_\_\_\_ school, where he learned basic (3)\_\_\_\_\_ such as (4)\_\_\_\_\_ and (5)\_\_\_\_\_. At the age of 11, he started at (6)\_\_\_\_\_ school. He wasn't a very keen pupil, and his teachers often complained that he lacked (7)\_\_\_\_\_. However, when he took his school-leaving exams, he (8)\_\_\_\_\_ them with good grades. When he left school at the age of 18, he decided he wanted to continue his studies. He found a university

which offered a full-time (9)\_\_\_\_\_ in Modern Art and Design, and (10)\_\_\_\_\_ on it a few days before his 19th birthday. For three years he worked hard, and (11)\_\_\_\_\_ with a (12)\_\_\_\_\_ in Modern Art and Design. After that, he did an (13)\_\_\_\_\_ course in Photography from a college in the US. The (14)\_\_\_\_\_ that he had gained, combined with his creative talents, impressed an advertising agency that he wanted to work for, and they offered him a job. The agency encouraged him to develop his passion for creativity, and while they weren't prepared to let him do a (15)\_\_\_\_\_ course, they paid for him to join an (16)\_\_\_\_\_ at his local College of Further Education.

**72. Put these expressions in the correct part of the table. Some of them can go in more than one box.**

*At the moment, occasionally, frequently, currently, at 9 p.m., this year, just, now, these days, from time to time, for ages, always, already, usually, since my birthday, for a long time, so far, rarely, on Mondays, nowadays, how long, today.*

Present Simple \_\_\_\_\_

Present Continuous \_\_\_\_\_

Present Perfect \_\_\_\_\_

Present Perfect Continuous \_\_\_\_\_

**73. Put the verbs in brackets into the correct present tense form.**

1. My sister (go) swimming once a week.
2. She just (find) a new job.
3. I (feel) slightly unwell today.
4. We (travel) recently.
5. They (arrive) already.
6. They (play) tennis every weekend.
7. You ever (be) to Sochi?
8. He (speak) English fluently.
9. She (work) as a consultant since she graduated.
10. They (do) a number of useful courses in the 1<sup>st</sup> year.
11. Every day our office (clean) by the cleaning crew.
12. Thousands of tourists (visit) Kamchatka every year.
13. The metal (corrode) by the saltwater.
14. A huge number of smartphones (sell) all over the world so far.
15. Sorry, I am busy at the

moment. I (do) my homework.

**74. Match the sentences (1-5) with the situations (a-e).**

- |   |   |
|---|---|
| 1. Have you been working in the lab without your laboratory coat again? | a. Someone giving an excuse why they can't help someone now.      |
| 2. I work in a lab.   | b. Someone saying how good they are.                              |
| 3. I am working in the lab.   | c. Someone explaining why they can't give a lecture the next day. |
| 4. I am working in the lab with my students at 10 o'clock.              | d. A professor to the student whose clothes are muddy.            |
| 5. I've never broken glassware in the lab for 20 years.                 | e. Someone talking about their job.                               |

**75. Answer the following questions. Consult Module 1 texts if necessary.**

1. What are the benefits of higher education? 2. Do you agree with the statement that education is the process through which culture is preserved? Explain why. 3. What opportunities do the graduates of BMSTU get? 4. What do you know about the faculties and departments of your university? 5. How is learning at BMSTU organised? 6. What do you remember about the history of Cambridge? 7. In what way is instruction provided at Cambridge? 8. What does “a collegiate university” speaking about Cambridge mean? 9. What is the role of ‘supervision’ at Cambridge? 10. What other famous universities in English-speaking countries can you name?

**MODULE 1 PROGRESS TEST**

**Vocabulary. Decide which answer a, b or c best fits each gap.**

The first public secondary schools started around the 1830s in the United States. Between 1910 and 1940 their number rapidly (1) \_\_\_\_\_, when the rise of large corporations and (2) \_\_\_\_\_ in factories (3) \_\_\_\_\_ skilled workers.

In order to meet this new job (4) \_\_\_\_\_ high schools were created, with a (5) \_\_\_\_\_ focused on practical job skills that would better prepare students for white collar or skilled blue-collar work. This (6) \_\_\_\_\_ beneficial for (7) \_\_\_\_\_ employers and employees, since the improved human capital lowered costs for the employer, while skilled employees (8) \_\_\_\_\_ higher wages. Secondary education has a longer history in Europe, where grammar schools or academies date from as early as the 6th century, in the form of public schools, fee-paying schools, or (9)\_\_\_\_\_ educational foundations, which themselves date even (10)\_\_\_\_\_ back.

- |                               |                         |                    |
|-------------------------------|-------------------------|--------------------|
| 1. a. grew                    | b. developed            | c. received        |
| 2. a. educational foundations | b. advancing technology | c. grammar schools |
| 3. a. attracted               | b. affected             | c. required        |
| 4. a. demand                  | b. affection            | c. advance         |
| 5. a. fee-paying              | b. curriculum           | c. benefit         |
| 6. a. dated                   | b. lowered              | c. proved          |
| 7. a. either                  | b. both                 | c. neither         |
| 8. a. required                | b. affected             | c. received        |
| 9. a. charitable              | b. free-paying          | c. beneficial      |
| 10. a. longer                 | b. further              | c. farther         |

**Grammar. Decide which answer A, B or C best fits each gap.**

Dear Boris,

I'm sorry I (1) \_\_\_\_\_ to you for so long, but I (2) \_\_\_\_\_ very busy lately.

All this month I (3) \_\_\_\_\_ exams, and I (4) \_\_\_\_\_ doing anything else but studying for ages.

Anyway, I (5)\_\_\_\_\_ all the exams and (6) \_\_\_\_\_ a student now and happy to study at the university of my dreams! As you can see from the letter, I (7) \_\_\_\_\_ my address and now I (8) \_\_\_\_\_ in St. Petersburg, one of the most beautiful cities in the world. There (9)\_\_\_\_\_ so many interesting places

to see!

Visit me in summer. I'll stay here until the middle of July. Write soon and tell me all about what you (10) \_\_\_\_\_ recently.

Best wishes,

Alexander

1	a	haven't written	b	don't write	c	aren't writing
2	a	have been	b	am	c	am being
3	a	have	b	have had	c	am having
4	a	haven't	b	haven't been	c	am not
5	a	passed	b	have passed	c	am passing
6	a	have been	b	am	c	am being
7	a	am changing	b	change	c	have changed
8	a	have lived	b	am living	c	lives
9	a	have been	b	is	c	are
10	a	do	b	are doing	c	have been doing

## MODULE 2

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### ECOLOGICAL PROBLEMS AND SOLUTIONS

“The Earth is what we all have in common.” - *Wendell Berry, a writer and an environmental activist.*



#### Learning points for Module 2:

##### **Reading:**

Text A. Environmental Issues

Text B. Air Pollution and Intelligence

Text C. Can Technology Help Us Save the Planet?

**Vocabulary in context:** Collocations/ Synonyms/ Dictionary skills/ Word quiz

**Grammar:** Past Tenses/ Passive Past Tense Forms

**Speaking:** Environmental Pollution Survey

**Listening:** Low Emission Zones

**Skills:** How to write a summary

##### **Learning aims:**

- to practise reading and speaking about pollution and how to deal with it;
- to learn and practise vocabulary related to the topic of the module;
- to learn and practise active and passive past tense forms;
- to learn to identify the main points in a text and summarise.

## **Lead-in**

***Which of the following options (a, b, or c) is correct?***

### **GOOD NEWS/BAD NEWS**

1. Polluted air is estimated to cause premature deaths of ... people a year worldwide.  
a) 7 million; b) 2 million; c) 10 million.
2. Currently there are over ... million cars in the world, by 2030 the number will rise to ...billion.  
a) 300/0.5; b) 500/1; c) 600/1,2.
3. Destroying forests causes ....  
a) flooding and drought; b) fires; c) earthquakes.
4. Nearly 2 billion Christmas cards posted in Britain every year use the equivalent of ... trees to produce them.  
a) 200,000; b) 50,000; c) 1 million.
5. The world's largest producer of carbon dioxide (CO<sub>2</sub>) is ....  
a) Russia; b) the USA; c) China.
6. The number of vehicles on the planet is increasing at the rate of one new car for ... babies born.  
a) every two; b) every ten; c) every 100.
7. Experts estimate that 1,000 times more energy than we need could be produced by ....  
a) wind; b) water; c) the sun.
8. In ... 100% of electricity is produced by water power.  
a) Canada; b) Norway; c) Switzerland.
9. Air pollution takes away at least ... years of a typical human life.  
a) 1-2; b) 2-3; c) 3-5.
10. .... is the worst type of pollution.

a) acidification (закисление) of the ocean; b) soil pollution; c) noise pollution.

## READING

### Part 1

#### 1. In groups ask and answer the questions below.

1. What do we mean by pollution? 2. What are the main types and effects of pollution? 3. Which of them are the biggest problems where you live?

#### 2. Read the text and find out which paragraph contains the information about the points given below and find the sentences which illustrate each point.

- the effects of pollution on our planet;
- steps to help reduce pollution;
- how people are affected by climate change;
- the effects of acid rains;
- the threat to wildlife.

### Text 2A

#### ENVIRONMENTAL ISSUES

(1) It is difficult to avoid environmental issues today. Every time we turn the television on or read the news, we come across ‘horror’ stories about how pollution is having an adverse<sup>1</sup> effect on our planet. For example, poisonous gases emitted<sup>2</sup> into the atmosphere through human activities destroy the ozone layer and contribute to the greenhouse effect, that warms the Earth’s surface<sup>3</sup>. According to the reports of climatologists, the amount of greenhouse\* gases in the atmosphere is possibly above the threshold<sup>4</sup> that can potentially cause climate change. Acid rains, which are also caused by harmful<sup>5</sup> emissions, are destroying forests. As more and more rainforests are destroyed, the threat<sup>6</sup> to wildlife increases. The number of endangered species<sup>7</sup> (species that are on the verge of extinction<sup>8</sup>) is growing.

(2) Climate change is not just a distant future threat. Every year a lot of people all over the world get affected by extreme weather and the damages inflicted by weather-related disasters have been unprecedented in recent years. These disasters take a heavier human toll<sup>9</sup> and come at a higher price. Over the last decade, 2.4 billion people have been affected by climate and weather-related disasters, compared to 1.7 billion in the previous decade. The cost of responding to these disasters rose tenfold. Destructive sudden heavy rains, intense tropical storms, repeated flooding and droughts<sup>10</sup> are likely to increase, as will the vulnerability<sup>11</sup> of local communities in the absence of strong concerted action.

(3) Environmental pollution caused by humans is a global problem and we should all do something to protect the environment. The most basic solution to air pollution, one of the most dangerous forms of pollution, is to move away from fossil fuels and replace them with alternative sources, such as solar, wind and geothermal energy. Producing clean energy is crucial. But equally important is to reduce our consumption of energy by adopting responsible habits and using more efficient devices. For a start, we should try to conserve fossil fuels such as oil and coal by turning down our central heating and air-conditioning when possible, or making less use of our cars. Secondly, since such everyday items as glass and paper can be recycled, we should try to re-use them rather than<sup>12</sup> throw them away, which increases waste generation. Thirdly, we can join Environmentalism, a social movement that addresses environmental issues through advocacy, education and activism. For example, governments should be persuaded<sup>13</sup> to adopt greener policies, such as subsidising public transport and protecting wildlife. Think globally, act locally!

*\*greenhouse gases – such as carbon dioxide, methane, water vapor, etc., which trap some of the Earth's outgoing energy, thus retaining heat in the atmosphere.*

### Vocabulary notes for text 2A

<sup>1</sup> adverse

неблагоприятный

<sup>2</sup>emitted

выделенные

<sup>3</sup> surface	поверхность
<sup>4</sup> threshold	порог, преддверие
<sup>5</sup> harmful	вредные
<sup>6</sup> threat	угроза
<sup>7</sup> endangered species	вымирающие виды
<sup>8</sup> on the verge of extinction	на грани вымирания
<sup>9</sup> human toll	человеческие потери
<sup>10</sup> flooding and droughts	затопление и засухи
<sup>11</sup> vulnerability	уязвимость
<sup>12</sup> rather than	вместо того чтобы
<sup>13</sup> persuade	убеждать, уговоривать

**3. Complete the sentences using these key words from the text.**

(§1) environmental issues, pollution, to destroy, the ozone layer, (to) contribute to, the greenhouse effect, threat, to cause, acid rain, rainforest(s), endangered species; (§2) disaster, to be affected by something, to increase

1. \_\_\_\_\_ is when the Earth's atmosphere becomes full of gases and some substances (вещества) which allow incoming sunlight to pass through but retain (удерживать) heat radiated back from the surface.
2. \_\_\_\_\_ means to break up or spoil completely, to put an end to.
3. \_\_\_\_\_ is to give something or to help make something happen.
4. \_\_\_\_\_ are harmful effects of human activity on the biophysical environment.
5. \_\_\_\_\_ is something that is a possible source of harm or danger.
6. \_\_\_\_\_ is introducing into the environment something dirty, unclean having a harmful effect.
7. \_\_\_\_\_ is the layer of air around the earth with high concentration of ozone.
8. \_\_\_\_\_ is to make something, especially something bad, happen.
9. \_\_\_\_\_ is a group of living organisms which is in danger of dying.

10. \_\_\_\_\_ is a situation that results in great harm or death.

11. \_\_\_\_\_ is a result of air pollution when gases (nitrogen oxides and sulphur dioxide) react with water in clouds.

12. \_\_\_\_\_ means to become larger in amount or size.

13. \_\_\_\_\_ means to be under the influence (влияние) of something or someone.

14. \_\_\_\_\_ is a dense forest rich in biodiversity found in tropical areas with heavy rainfall.

(§3) *environmental protection, fossil fuel, alternative energy, consumption, efficient, (to) conserve, waste, (to) join, (to) adopt*

15. \_\_\_\_\_ is the action of using up a resource.

16. \_\_\_\_\_ means to connect or link things together.

17. \_\_\_\_\_ is any source of energy other than fossil fuels.

18. \_\_\_\_\_ is unwanted or unusable material.

19. \_\_\_\_\_ means to choose to take up, follow, or use.

20. \_\_\_\_\_ means to protect from harm or destruction.

21. \_\_\_\_\_ is a practice of protecting the natural environment on individual, organizational or governmental levels, for the benefit of both the environment and humans.

22. \_\_\_\_\_ describes someone or something working in a well-organised or competent way, achieving maximum productivity.

23. \_\_\_\_\_ is a term used to describe energy sources like coal, oil and natural gas.

**4. Now read the text again and find the answers to the following questions.**

1. How is pollution affecting our planet? 2. What is ‘greenhouse effect’? 3. What causes the greenhouse effect? 4. What can potentially cause climate change? 5. What are the effects of acid rains? 6. What are the main facts which prove that the climate and pollution have been changing for the worse over the last years? 7. What actions can be taken to help reduce pollution? 8. What can individuals do to improve air quality?

**5. Complete the sentences using the information from the text.**

1. According to the text, pollution ...

- a) is damaging the planet; b) is not a major problem; c) is caused by the ozone layer.

2. Poisonous gases ...

- a) reduce global warming; b) affect the ozone layer; c) are a problem in all countries.

3. The greenhouse effect results in ...

- a) killing more animals; b) planting more trees; c) global warming.

4. What does acid rain do?

- a) it kills animals; b) it destroys forests; c) it kills people.

5. A lot of animals are threatened because ...

- a) hunters kill them; b) they are killed for food; c) their habitat is being destroyed.

6. To help the environment we should ...

- a) consume less energy; b) use renewable sources of energy; c) use more energy.

7. Which of the following items can we recycle?

- a) petrol; b) plastic; c) glass.

8. What do environmentalists do?

- a) they form governments; b) they recycle everyday items; c) they make governments help nature.

9. What do you think the expression "Think globally, act locally!" means?

- a) We should do something to reduce pollution; b) We should all stay at home; c) We can't reduce pollution.

10. What is the key message of this text?

a) It is too late to save our planet from pollution; b) The problem of pollution is not as bad as they say; c) We still have some time to do something to eliminate pollution.

**\*Summarise text 2A in 8-10 sentences. Use the questions from this task as a plan and paraphrase the key sentences from the text. Add an introductory sentence and a concluding sentence to your summary.**

**6. Mark the following statements as true (T), false (F), or not given (NG).**

1. Global warming is happening, and humans are the primary cause.
2. The majority of disasters are associated with weather.
3. The biggest threat to wildlife is climate change.
4. The number of climate related disasters will probably grow in the near future.
5. People should join their efforts to protect the environment.
6. Water pollution is the most dangerous form of pollution.
7. Pollution is global, and individuals cannot do anything to deal with it.
8. The author implies that the growing level of environmental concern in the society is certainly a plus.

**7. Post-Reading discussion. Discuss the following questions giving your own examples.**

1. What are greenhouse gases and why are they so bad for the environment? 2. What are climate-related disasters? Give some examples. 3. What are the main causes of these disasters? 4. What is the ozone layer destruction caused by? 5. How does acid rain affect wildlife? 5. Is there anything you personally can do to reduce pollution?

## **READING**

### **Part 2**

**8. In pairs / groups, discuss these words from the article. Try to explain their meaning or translate them into Russian. Use a dictionary if necessary.**

*Scientists / reduction / responsible / test scores / impact / exposure / performance*

/warning /the rest of the world /population /damage /equate /intelligence /shortcut.

**9. Read the headline. Guess if a-f below are true (T) or false (F).**

- a. Scientists say air pollution leads to big reductions in intelligence. **T/F**
- b. Scientists said pollution reduced language and arithmetic test scores. **T/F**
- c. About 91% of people live in areas with very polluted air. **T/F**
- d. Air pollution is the biggest cause of death worldwide. **T/F**
- e. Scientists said air pollution caused a loss of 10 years of education. **T/F**
- f. A researcher said there were plenty of shortcuts to solve this problem. **T/F**

**10. Now read the text and check if your answers were correct.**

**Text 2B**

## **AIR POLLUTION AND INTELLIGENCE**

(1) Scientists have revealed that air pollution may be responsible for a significant reduction<sup>1</sup> in intelligence. Research conducted for the World Health Organization (WHO) showed that air pollution was responsible for notable falls in student test scores in language and arithmetic. The study is called "The impact of exposure<sup>2</sup> to air pollution on cognitive performance". The study took place over a period of four years. Researchers analysed verbal and arithmetic tests taken by 20,000 people of all ages and came to the conclusion that polluted air might impede cognitive<sup>3</sup> ability as people become older.

(2) The researchers say their study is a warning to the rest of the world, especially to those who live in cities. The WHO says over 91 per cent of the world population live in areas with toxic air. Air pollution is currently the fourth highest cause of deaths worldwide. The researchers discovered that the longer people were exposed<sup>4</sup> to polluted air, the greater was the damage to their intelligence. They equated<sup>5</sup> the average impact of air pollution to losing a year of the person's education. For those aged over 60, this could be the equivalent of a few years of lost education. One of the researchers warned: "There is no shortcut<sup>6</sup> to solve this

issue. Governments really need to take concrete measures to reduce air pollution."

### Vocabulary notes for text 2B

<sup>1.</sup> reduction	снижение, уменьшение
<sup>2.</sup> exposure	незащищённость, воздействие
<sup>3.</sup> cognitive	познавательный, связанный с приобретением знаний
<sup>4.</sup> exposed	незащищенный, уязвимый
<sup>5.</sup> equated	приравняли
<sup>6.</sup> shortcut	путь напрямик

**11. Read the text again and match the words with their definitions using the context.**

#### § 1

- |                |   |
|----------------|---|
| 1. revealed    | a. the action of one object coming forcibly into contact with another                         |
| 2. significant | b. to slow the progress or make something worse   |
| 3. arithmetic  | c. made previously unknown or secret information known to others                              |
| 4. impact      | d. the area of mathematics dealing with adding, subtracting, dividing and multiplying numbers |
| 5. exposure    | e. great or important enough to be worthy of attention  |
| 6. cognitive   | f. the state of having no protection from something   |
| 7. impede      | g. involving intellectual activity, such as thinking, analysing, remembering, etc.            |

#### § 2

- |              |   |
|--------------|---|
| 8. toxic     | h. at the present time  |
| 9. currently | i. not protected and because of that being at risk of something |
| 10. exposed  | j. a quicker way of doing or achieving something                |
| 11. equated  | k. poisonous  |

- |                |  |
|----------------|--|
| 12. equivalent | l. specific, definite                              |
| 13. shortcut   | m. equal in value, amount, function, meaning, etc. |
| 14. concrete   | n. was the same or similar                         |

**12. Answer the questions.**

1. In what two subjects did the scientists say test scores fell due to air pollution?
2. How long was the study? 3. How old were the people who took part in the research? 4. What percentage of people in the world live in areas with toxic air according to the study? 5. What is currently the fourth highest cause of death worldwide? 6. What was the equivalent loss of the person's education caused by air pollution? 7. Who might lose several years of education because of air pollution? 8. What did a researcher say governments needed to do?

**13. In pairs ask and answer the following questions. Add two or three more questions to your list. Take notes. Summarise your partner's answers.**

STUDENT A's QUESTIONS	STUDENT B's QUESTIONS
<p>1. Did you like reading this article? Why/Why not?</p> <p>2. What is the air quality like where you live?</p> <p>3. What problems does air pollution cause?</p> <p>4. What causes air pollution?</p> <p>5. How worried are you about air pollution?</p>	<p>1. Did you like reading this article? Why/Why not?</p> <p>2. What do you think of when you hear the word 'pollution'?</p> <p>3. Would you move your house to avoid air pollution?</p> <p>4. Will air pollution get better or worse in the near future?</p> <p>5. What are governments doing about air pollution?</p>



**14. Retell Text 2B using the words below as clues.**

Revealed, significant, air pollution, responsible, notable falls, test scores, cognitive performance, took place, impede, cognitive ability, the rest of the

world, a warning, toxic air, worldwide, exposed to, polluted air, damage to, intelligence, equated, impact, equivalent, warn, shortcut, solve, issue, take measures, reduce pollution.

## READING

### Part 3

**15. Read the text and say if it answers the question in the title positively?**

#### Text 2C

#### CAN TECHNOLOGY HELP US SAVE THE PLANET?

Technology is fundamentally changing the way we live, work, relate to one another and to the external<sup>1</sup> world. The speed, breadth<sup>2</sup> and depth<sup>3</sup> of current breakthroughs have no historical precedent and are affecting almost every sector in every country. Now more than ever, the advent of new technology has the potential to transform environmental protection. It is time to focus on the solutions which we know exist or have the potential to be developed and this is where technology, along with behavioural<sup>4</sup> change, can help us reboot the health of our nature and planet.

#### AI to track wildlife



Artificial Intelligence (AI) is helping conservation efforts. In China, WWF and tech giant Intel are harnessing<sup>5</sup> the power of AI to help protect wild tigers and their habitats, while also protecting countless other species as a result, and also helping carbon storage, vital watersheds<sup>6</sup> and communities in the area.

The possibilities for technology partnerships to reboot nature are endless. The next step is to scale this work beyond a few test sites and to extend it to other places to protect the planet. More than technology, we need a fundamental shift in mindset<sup>7</sup> and understanding the role that nature and biodiversity play in our lives and businesses.

#### Supercomputers simulations for climate change investigation

New supercomputer simulations<sup>8</sup> by climate scientists on the Cori supercomputer at Berkeley Lab (the USA) were used to examine how warming caused by human activities might have impacted (могло повлиять) recent hurricanes and could affect similar storms in the future. One part of the study was to analyse the effects of climate change so far, and the second, to project into the future, to understand how various levels of global warming could change tropical cyclone intensity and rainfall. To reach their conclusions, the researchers modelled 15 historical tropical cyclones, or hurricanes, and simulated them in various past and projected future climate scenarios. They found that climate change intensified the amount of rainfall in recent hurricanes by 5 to 10 percent. They further found that if those hurricanes were to occur in a future world that is warmer than present, those storms would have even more rainfall and stronger winds.

High-performance computing systems are also used to predict earthquake damage to infrastructure. There is a lot of uncertainty in predicting future earthquake motions and what particular facilities would be subjected to. And you really need to understand those motions because, if you understand the input to the structure, you can then model the structural response and understand the potential for damage. New advanced machines will reduce the time for simulations and allow the researchers to look at different rupture<sup>9</sup> scenarios to fully understand the potential risk.

### **'Thank you' emails and pollution: what's the connection?**

Software to identify when a user has sent a potentially unnecessary email and prompt them to be more thoughtful has been created. We could significantly cut our carbon footprint if we stopped sending unnecessary 'thank you' emails, researchers said, calling on the public to 'think before you thank'. For example, Britons send more than 64 million unnecessary emails per day, a study found, with unactionable pleasantries<sup>10</sup> such as 'thank you' and 'thanks' topping the list of most common offenders. If each adult sent one less email a day, Britain could reduce its carbon output by 16,433 tons - equal to more than 81,000 flights from London to Madrid, the study found.

Does it mean that everybody should be ruder? Absolutely not. But if you send somebody a 'thanks' email, and they're only three metres away from you, it might be nice to just go over and say 'thank you very much'. Besides, most people would not mind not receiving a 'thank you' email if it helped the environment.

### Vocabulary notes for text 2C

<sup>1</sup> external	внешний
<sup>2</sup> breadth	ширина
<sup>3</sup> depth	глубина
<sup>4</sup> behavioral	поведенческий
<sup>5</sup> harnessing	задействование, использование
<sup>6</sup> watersheds	водораздел
<sup>7</sup> mindset	менталитет
<sup>8</sup> simulations	моделирование
<sup>9</sup> rupture (scenarios)	разрушительные (сценарии)
<sup>10</sup> unactionable pleasantries	'непрактичные' любезности

**16. Read the text again and circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.**



**17. Work in groups of three. Choose one example from the text to read about in detail and prepare to tell your group about it.**

**18. Listen to the conversation about low emission zones. Write down some extra facts and useful words for you to speak on the topic. Do you think it is a good idea to bring in Clean Air Zones in big cities? What else can be done to improve the quality of air in big cities?**

<https://www.youtube.com/watch?v=oRhVmbfy1sY>

## VOCABULARY

### Module 2 Word List

<b>Essential Vocabulary</b>	
1. acid (adj) rain (n)	27. protect (v)
2. adopt (v)	28. recycle (v)
3. affect (v)	29. reduce/mitigate (v) (pollution)
4. alternative (adj) energy (n)	30. solve (v)/ solution (n)
5. carry (v) out (research)	31. threat (n)
6. cause (n, v)	32. waste (v, n)
7. concern (v, n)/ be concerned with	<b>Additional Vocabulary</b>
8. conserve (v)	1. avoid (v) something
9. consumption (n)	2. be exposed to/exposure (n)
10. contribute (v) to something	3. be responsible (adj) for something
11. cut down (v) rainforest(s) (n)	4. currently (adv)
12. damage (v, n)	5. deal (v) with/solve (v) a problem
13. destroy (v) something	6. estimate (v)
14. disaster (n)	7. impact (v, n)
15. efficient (adj)	8. impede (v)
16. endangered species (n)	9. performance (n)
17. environmental (adj) issue (n)	10. poisonous/toxic (adj)
18. environmental (adj) protection (n)	11. population (n)
19. fossil (adj) fuel (n)	12. replace (v)
20. global (adj) warming (n)	13. respond to (v)
21. greenhouse effect (n)	14. reveal (v)
22. harmful (adj) emission(s) (n)	15. save (v) resources (n)
23. increase (n, v)	16. significant (adj)
24. join (v)	17. substance (n)
25. ozone layer (n)	18. take (v) measures (n)
26. pollution (n)	19. the rest of the world (n)
	20. warning (n)

**19. Match the words in two columns to make word combinations: e. g. the amount of + greenhouse gases. Then write your own sentences with these word combinations.**

*Example: The burning of fossil fuels is increasing the amount of greenhouse gases.*

**A.**

- |                     |                          |
|---------------------|--------------------------|
| 1. the amount of    | a. the ozone layer       |
| 2. to cause         | b. damages               |
| 3. to destroy       | c. greenhouse gases      |
| 4. to contribute to | d. species               |
| 5. a distant        | e. the greenhouse effect |
| 6. to affect        | f. people                |
| 7. to inflict       | g. future threat         |
| 8. endangered       | h. extinction            |
| 9. on the verge of  | i. climate change        |

**B.**

- |                            |                                       |
|----------------------------|---------------------------------------|
| 1. to respond to           | a. fossil fuels                       |
| 2. in the last             | b. devices                            |
| 3. repeated                | c. disasters                          |
| 4. to move away from       | d. with alternative sources of energy |
| 5. to replace fossil fuels | e. decade                             |
| 6. to reduce               | f. responsible habits                 |
| 7. to adopt                | g. waste                              |
| 8. efficient               | h. flooding and droughts              |
| 9. to recycle              | i. the consumption of energy          |

**20. Match the words with similar meaning.**

*Example: to affect = to influence*

- |                |                          |
|----------------|--------------------------|
| 1. reveal      | a. effect                |
| 2. significant | b. lessen/minimise       |
| 3. impact      | c. slow/hinder           |
| 4. conclusion  | d. poisonous             |
| 5. impede      | e. serious and important |
| 6. warning     | f. inform/make known/say |
| 7. toxic       | g. work out a solution   |
| 8. issue       | h. caution/message       |
| 9. solve       | i. decision/opinion      |
| 10. reduce     | j. point/concern/topic   |

**21.** Rewrite each sentence below replacing the underlined words by the word from task 20 so that the new sentence will have the same meaning as the first one. Translate the sentences into Russian if necessary.

*Example:* The difficult driving conditions led to several accidents. (cause)

The difficult driving conditions caused several accidents.

1. I think this problem is serious and we need to consider it carefully.
2. We are just beginning to understand the effect of pollution on nature.
3. High winds hindered firefighters in their efforts to put out the fire.
4. She suffered a massive exposure to poisonous chemicals.
5. We've worked out all our difficulties.
6. The survey says that up to 90 % employers use temporary workers.
7. According to dietitians we should lessen our red meat consumption.
8. They issued a caution that the escaped criminals were dangerous.
9. A few interesting opinions emerge from the analysis.
10. They organised the conference to get people together and discuss the topics in useful ways.

**22. Word quiz. Guess the word.**

Choose from: *to take measures, considerable, to affect, to deal with, pollution, to*

*destroy, waste, to increase, disaster, to conserve.*

**A.**

1. A noun which means ‘damage caused to the environment by harmful substances’.

*The company is responsible for the ~ of the river.*

2. What verb has the meaning ‘to become or make something larger in amount or size’?

*The cost of the project has ~ significantly since it began.*

3. An expression equivalent to ‘take action, do things to accomplish a purpose’.

*What ~ can we ~ to avoid a terrorist attack?*

4. The verb which means ‘to damage something so badly that it cannot be used’.

*Lots of houses were ~ by the earthquake.*

5. An event that results in great harm, damage or death.

*An earthquake is the worst natural ~ .*

6. A verb which means ‘to have an influence or cause a change’.

*The new prices will ~ all the people.*

7. A verb which means ‘to keep and protect something from damage’.

*I'm not lazy- I'm just ~ my energy for the race.*

8. What do we call unwanted material of any type?

*Big cities produce millions of tons of household ~ each year.*

9. A phrasal verb meaning ‘to take action in order to achieve something or solve a problem’.

*How do you intend to ~ with this problem?*

10. An adjective meaning ‘something large or of noticeable importance’.

*The fire caused ~ damage.*

**B.**

Choose from: *to adopt, responsible, warning, to reduce, impact, substance, to recycle, environment, emissions, performance*

1. What do we call ‘the air, water, and land in or on which we live’?

*It would be better for the ~ if more people used bikes rather than cars.*

2. A verb to say ‘to accept or start to use something new’.

*I think it's time to ~ a new strategy.*

3. To become or make something smaller.

*Many people say that nuclear weapons (ядерное оружие) ~ the risk of war.*

4. What word is used to describe a certain amount of gas that is sent out into the air?

*Electric buses considerably reduce harmful ~ into the atmosphere.*

5. A noun which means ‘ material with certain physical characteristics’.

*What sort of ~ can be used at the temperature of 50 degrees?*

6. An adjective used to describe somebody who has control over something and the duty of taking care of it.

*My boss is ~ for the efficient work of the office.*

7. A powerful effect that something has on a situation or person.

*The antismoking campaign had ~ on young people.*

8. A noun which means how well a person or machine does a piece of work or an activity.

*High-~ cars are the most expensive.*

9. To sort and collect rubbish in order to produce useful materials.

*The Japanese ~ more than half of their waste paper.*

10. A signal that makes you aware of a possible danger or problem.

*The authorities have put out a ~ to people living in the area because of the extreme weather conditions*

### **23. Choose the correct word in each pair. Translate the sentences.**

1. Many chemicals have a *damaging/dangerous* effect on the environment. 2.

Farmers and gardeners have been badly *affected/infected* by the drought. 3. We

won't invest in a company that *pollutes/mitigates* the environment.

4. Unfortunately, oil spills are common, as the *dumping/destroying* of toxic

industrial wastes. 5. It is sometimes useful to *reduce/replace* a problem to a few

simple questions. 6. Certain health risks are caused by vehicle *emissions/issues*. 7.

The city council is *responsible/efficient* for keeping the streets clean. 8. The

government's decision had a disastrous *impact/threat* on foreign policy. 9. There has been a significant *impact/increase* in the number of students in recent years. 10. The committee asked him to *reveal/replace* more information. 11. Metal, paper and glass can be *adopted/recycled*. 12. He *responded/respected* positively to the offer. 13. Tourism has *replaced/recycled* agriculture as the nation's main industry. 14. The Health Minister issued a *warning/warming* about the dangers of coronavirus.

**24. Fill in each gap with one of the words below.**

*Carried out, eliminate, emissions, solve, increasing, throughout the world,  
pollution, replaced, deal with, considerable.*

1. Air pollution \_\_\_\_\_ is reaching tremendous proportions. 2. Electric cars might help \_\_\_\_\_ pollution in big cities. 3. Lots of plants throw out harmful substances into the atmosphere causing environmental \_\_\_\_\_. 4. The problem of pollution, though, is not that easy to \_\_\_\_\_. 5. Ecologists are working on an action plan to \_\_\_\_\_ the problem of water pollution. 6. According to the statistics the level of carbon dioxide in the atmosphere has been \_\_\_\_\_ over the last years. 7. Intensive research to develop alternative sources of energy is being \_\_\_\_\_. 8. Human activity and natural disasters are causing \_\_\_\_\_ damage to the environment. 9. The factory \_\_\_\_\_ most of its workers with robots. 10. The participants of the conference suggested taking some measures to reduce carbon \_\_\_\_\_.

**25. Summarise in English.**

Из докладов участников конференции становится ясно, что наша планета Земля столкнулась с чрезвычайной климатической ситуацией, и кризис, связанный с загрязнением окружающей среды, становится глубже. Все признают, что изменение климата явилось причиной угрозы, с которой мы столкнулись. В докладах приводятся примеры того, как с каждым годом все больше людей во всем мире страдают от экстремальных погодных условий, а

ущерб, причиненный стихийными бедствиями, беспрецедентен. Изменение климата на протяжении многих лет медленно разрушает экосистемы. Повышение уровня моря сказывается на жизни прибрежных областей непредсказуемым образом. Закисление океана считается наихудшим видом загрязнения. В то время как уровень углекислого газа увеличивается, океан становил все более кислым. То, что на состояние окружающей среды напрямую влияет вредоносная деятельность человека, ясно всем. Распространенной причиной загрязнения воды являлся сброс промышленных отходов в моря и реки. В результате деятельности людей вырубаются леса, уничтожаются редкие виды флоры и фауны, истощаются невозобновляемые природные ресурсы. Пришло время устраниить ущерб, стать более ответственными по отношению к природе и сохранению жизни на планете, беречь природные ресурсы, уменьшать загрязнение окружающей среды. Для решения экологических проблем необходимо объединять усилия людей на всей планете.

## SPEAKING AND DISCUSSION



**26. Search the Internet to find more examples of how technology can help people deal with pollution.**

Get ready to tell your groupmates about some of these examples. Think about your own opinion on the topic, ask questions and get ready to discuss these suggestions. In groups, create your own list of top three ideas of how technology might solve the problem of pollution. Compare your lists and discuss them.

### Environmental Pollution Survey

**27. Read the following questions and answers below. Find the information where the speaker:**

- explains how serious the problem is.
- gives some examples/statistics to illustrate the point.
- speculates on how the situation might develop.

- suggests some ideas of how to deal with the problem.

***Summarise the speaker's ideas.***

**What should be done about plastic in the ocean?**

While quite a lot has been done already to highlight this terrible problem, I think more could be done to make sure the public know the dangers. Apparently around 350 million tonnes of plastic are being produced each year and around 8 million tonnes of plastic enter the ocean every year.

If waste management practices don't improve, scientists predict this amount could increase tenfold by 2025. What happens is that while paper will eventually disintegrate, plastic does not do this and so when it does eventually break up, it still leaves smaller fragments called microplastics, which have been identified in commercial fish consumed by humans.

**What might some solutions be to reduce this situation?**

I think many manufacturers should work really hard to reduce the use of what is called single-use applications, plastics which are used just once and then disposed of as this makes up approximately half of all plastics. Plastic can quite easily be recycled and used again for shampoo bottles for example. Some large companies have already started only using recycled plastics for their own- brand products and this kind of policy should be rolled out as widely as possible.

**28. In pairs write five GOOD questions about pollution. Each student must write the questions on his / her own paper. When you have finished, interview other students. Write down their answers. Then return to your original partner and talk about what you have found out. Make mini-presentations to other groups about your findings.**

**STUDENT 1**

Q.1.\_\_\_\_\_

**STUDENT 2**

Q.2.\_\_\_\_\_

**STUDENT 3**

Q.3.\_\_\_\_\_

Q.4.\_\_\_\_\_

Q.5.\_\_\_\_\_

## **GRAMMAR**

### **PAST TENSE FORMS**



#### **Lead-in**

*Read the interview with the student who was one of the seven participants in the international youth expedition to the North Pole.*

*Identify the highlighted tense forms and try to explain their meaning.*

*Example: ... did you find... – Past Simple, completed past action.*

**Reporter:** Maria, how did you find out about the international youth expedition to the North magnetic pole?

**Maria:** When I saw a photo of the project on a friend's page on the Internet I immediately realised that I had always wanted to participate...I submitted an application, filled out a form, and made a self-presentation video.

**R.** Did you have to pass any special tests?

**M.** Yes. Having positive stress tolerance is as important as medical tests. During the tests they were measuring stress tolerance, leadership skills, ability to work in a team during two weeks. The main focus was on endurance tests. In addition, we were told about the Arctic - the region where we were going.

**R.** What kind of research did you carry out during the expedition?

**M.** We measured the depth, thickness, and density of snow, and the ratio of snow to water. These measurements can be used to determine how much the climate is changing. Our leader, Mike, had been travelling for 20 years, that was not the first time he had been in the Arctic and he could compare what it had been like two decades before and what it had become then. For example, we saw an iceberg that

had been brought to the Arctic from Greenland. This is not normal, that had never happened before. Or another example, the reason why we had to stop ahead of time – open water. We encountered it at the beginning of the Arctic spring, 50 kilometres away from our goal. No one expected to see it so early.

## THE PAST SIMPLE TENSE

### Meaning

#### 29. Match the sentences in the Past Simple Tense with their meaning.

- |  |  |
|--|--|
| 1. When I <u>saw</u> a photo of the project,<br>I <u>submitted</u> an application. | a. a completed action which happened<br>at a stated past time;                       |
| 2. Maria's mother <u>loved</u> travelling<br>when she was young.                   | b. an action which happened in the<br>past and is not connected with the<br>present; |
| 3. We <u>encountered</u> it at the beginning<br>of the Arctic spring.              | c. a succession of past actions;   |
| 4. We <u>measured</u> the depth, thickness,<br>and density of snow.                | d. a past habit or state.  |

**STUDY NOTE.** We use **the Past Simple** to describe:

1. a fact in the past or an individual action that ended in the past.

*Climate related disasters affected 2.4 billion people in the last decade.*

2. a succession of past actions.

*The government stopped destroying forests, created green spaces in cities, and constructed a new waste recycling plant.*

3. past states.

*The problem of pollution was the highlight of the last week.*

### Form

#### Past Simple: V-ed or Past Tense form for Irregular verbs

+	?	-
I <b>saw</b> a photo.	What <b>did</b> you <b>see</b> ?	I saw <b>no</b> photo.
I <b>liked</b> a photo.	<b>Did</b> you <b>like</b> it?	I <b>didn't</b> like it.

**30. Put the verbs in the examples below into the Past Simple Tense and explain their meaning. Make interrogative and negative sentences.**

**Example:** She (**call**) \_\_\_\_ yesterday. → She **called** yesterday. When **did** she **call**?  
She **didn't** **call**.

1. His colleagues (**open**) \_\_\_\_ the discussion.
2. The employees (**translate**) \_\_\_\_ a lot of articles last week.
3. Global fossil emissions (**rise**) \_\_\_\_ by 62% between 1990 and 2019.
4. The economy growth in the first half of the last year (**be**) \_\_\_\_ evident.
5. The government (**take**) the necessary measures last month.
6. They (**admire**) \_\_\_\_ the photos of rare birds during their visit to the museum.
7. We (**enjoy**) \_\_\_\_ the snow last night.
8. He (**stay**) \_\_\_\_ long yesterday.
9. She (**sing**) \_\_\_\_ a new hit on Sunday.
10. Maria (**take**) \_\_\_\_ part in an expedition to the North pole 2 years ago.

**31. Put the words in the correct order to make sentences. Ask questions to these sentences.**

**Example:** *went/ to/ for/ last/ Sochi/ holidays/ summer.*

*I went to Sochi for my holidays last summer. → Where did you go last summer?*

1. The disaster /a lot of damage /brought about / last century.
2. these reports / three years ago /The researcher /wrote.
3. after the presentation/ a lot of / asked/ They / questions.
4. environment protection /Students read a lot/ about / last week.
5. last year /took place / A number of/ environmental science conferences/ in Moscow.
6. about the plan /He spoke to us / the day before yesterday.
7. went to/ two years / I /university / ago.
8. in this lake / stopped / after / Fish / reproducing / acid rains.
9. in 2019 / China / emerged / Coronavirus / in.
10. and /The Titanic / an iceberg / sank / hit.

**32. Read the text and fill in the gaps with the verbs in brackets in the Past Simple Tense form. Retell the text.**

### **The First Engineer of Russia**

Brilliant engineer Vladimir Grigoryevich Shukhov (1853-1939), who 1. \_\_\_\_\_ (design) hundreds of complex structures, is known to a huge number of people exclusively for the historical radio tower in Moscow, the so-called Shukhov tower. Many, however, do not realise that the active thought and extraordinary efficiency of Shukhov 2. \_\_\_\_\_ (form) the basis of their current comfort and well-being: heating, water supply, lighting. After he 3. \_\_\_\_\_ (graduate) from the gymnasium, Shukhov 4. \_\_\_\_\_(enter) the Imperial Moscow Technical School (now Bauman University), in which his teachers 5. \_\_\_\_\_(include) Pafnuty Chebyshev and Nikolay Zhukovsky. In those years, the School 6. \_\_\_\_\_(be) an educational institution that 7. \_\_\_\_\_ (provide) an opportunity to receive fundamental physical and mathematical training, acquire deep knowledge of other theoretical disciplines, and at the same time master the applied crafts that 8. \_\_\_\_\_ (be) so necessary for a practical engineer. The works of this brilliant engineer have long been a Testament to us, a legacy. He was a wonderful designer who 9. \_\_\_\_\_(have) a unique gift for finding ingenious ways to solve any problem. In engineering science, Shukhov is recognised as one of the founders of the Russian oil business, the developer of related equipment and mechanisms, the author of unique metal structures, large-span ceilings. Apart from hard work, Shukhov always 10. \_\_\_\_\_(find) time for a passionate hobby of his – photography. He 11. \_\_\_\_\_(make) photos in various genres: reporting, city landscape, portrait, constructivism. About two thousand photos and negatives were made by Shukhov. They 12. \_\_\_\_\_ (survive) until this day.

### **THE PRESENT PERFECT Vs THE PAST SIMPLE**

**33. Choose the right option in each sentence. Explain your choice.**

1. I didn't go to / haven't gone to university yesterday.

2. We *didn't yet have / haven't yet had* dinner. We are hungry.
3. When *did you see / have you seen* your grandparents last?
4. I *never saw / have never seen* a tiger.
5. The speaker *answered / has answered* the questions after the presentation.

**34. Watch the video about the Past Simple Tense and the Present Perfect Tense and fill in the gaps in the table.**

<https://www.youtube.com/watch?v=jwmKjgwIMk8>

Present Perfect	Past Simple
1. We use the Present Perfect to say _____ happened	and the Past Simple for _____ and _____ .
2. Sometimes we can use the Present Perfect with a _____, when a situation started in the past and is still _____ or _____ now.	We use the Past Simple when the action started and _____ in the past.
3. We often use the Present Perfect with _____ and _____ for _____ experiences.	If you add information about _____ and _____, use the Past Simple.

*Words to use: time phrase, time, happening, place, where, when, what, ever, finished, never, true, life.*

**35. Look at the following pairs of sentences and match them with numbers 1-3 in the table. Add your own examples for each rule.**



1. Have you ever tasted rabbit?

Yes, I have. I tasted rabbit when I was in Malta, it is their traditional dish.

2. Ann has lived in Moscow for three months.

Ann lived in Moscow for three months but now she is in Chita.

3. My friend has bought a new car.

My friend bought a new car not long ago.

**36. Choose the correct option.**

1. Sorry, I can't do my presentation today, I *have left / left* my flashcard with the slides at home. 2. I *haven't received/didn't receive* any emails from them today yet. 3. I can't concentrate properly because I *have slept/ slept* badly. 4. *Have you ever learned/did you ever learn* to play the piano? 5. When *have you seen her/did you see* her last? 6. The coronavirus lockdown *has improved/ improved* the air quality in many capital cities. 7. During his professional career Maradona *has played/played* 490 games and *has scored/ scored* 259 goals. 8. Since a computer *has been/was invented* it *has become/became* an essential tool for most people. 9. The new ship *has begun / began* important testing for a research trip. 10. Anders Hofman *has travelled/travelled* thousands of miles in sub-zero temperature that is why he is called Iceman by press.

**37. Decide which answer a, b or c best fits each space.**

1. All last year's reports \_\_\_\_\_ with the impact humans have on the physical environment.

- a. concerned      b. have concerned      c. were concerned

2. Three centuries ago, there \_\_\_\_\_ any concerns about reducing industrial atmospheric emissions.

- a. weren't      b. haven't been      c. hasn't been

3. So far the new energy resources development \_\_\_\_\_ in the centre of attention.

- a. is      b. has been      c. was

4. These days preventing the erosion of the fertile (плодородный) soil layer \_\_\_\_\_ an urgent problem.

- a. has become      b. became      c. have become

5. This country \_\_\_\_\_ to use new rational technologies of extracting mineral resources lately.

- a. has began      b. has begun      c. began.
6. Yesterday the students \_\_\_\_\_ the films about how to avoid air pollution.  
a. watched      b. have watched      c. watching
7. Environmental education \_\_\_\_\_ to organise efforts to teach how natural environments function.  
a. always tried      b. has always tried      c. are always trying
8. In recent years UNESCO \_\_\_\_\_ the role of environmental education in improving the quality of life through the protection of the environment.  
a. emphasised      b. had emphasised      c. has emphasised
9. They \_\_\_\_\_ aquariums, zoos, parks, and nature centres over the past years for teaching the public about the environment.  
a. built      b. build      c. have built
10. In the previous century the scientists \_\_\_\_\_ a lot of research on how to save endangered plants and animals from extinction  
a. carried out      b. have carried out      c. carried out

**38\*. Open the brackets using the verbs either the Past Simple or the Present Perfect.**

1. Many changes in climate in the 20th century (be) \_\_\_\_ unprecedented. 2. The largest human influence on the environment over the past years (be) \_\_\_\_ the emission of greenhouse gases such as carbon dioxide, methane, and nitrous oxide.
3. Some time ago greenhouse gas emissions also (cause) \_\_\_\_ oceans acidification (закисление). 4. Today, the health-saving technologies and human ecology (become) \_\_\_\_ of great importance. 5. There (be) \_\_\_\_ a number of environmental conferences since the beginning of the 21<sup>st</sup> century. 6. As discussed above, environmental mega conferences already (gather) \_\_\_\_ a wide range of participants. 7. Last year the situation (improve) \_\_\_\_ as more people (get) \_\_\_\_ involved in the decision-making process. 8. In the 20th century there (appear) \_\_\_\_ a need to enforce corporate responsibility in environmental matters. 9. There are criticisms from smaller groups which remain

outside the formal decision-making process. Despite this, the numbers of participants in environmental conferences (increase) \_\_\_\_\_ in recent years. 10. In its last assembly resolution The United Nations Organization (state) \_\_\_\_\_ that environmental education (be) \_\_\_\_\_ vital in enhancing public environmental awareness.

**39\*. Look at the cues below and prepare to speak about the most interesting place you have visited.**

Where? when? why? how long? ... going to go again? ... eat exotic food? ... meet interesting people? ... learn anything? ... recommend?

**Think of some other interesting experience you have had and tell your partner about it.**

## PAST CONTINUOUS

### Meaning

**40. Match the sentences (1-3) with the uses (a-b).**

- |   |   |
|---|---|
| 1. While climate change is getting worse, hurricanes are becoming more devastating. | a. a temporary action taking place at a given moment or period in the past; |
| 2. They were still discussing different views when the chairman suggested to vote.  | b. two simultaneous past actions;   |
| 3. It was raining all night yesterday.  | c. past action in progress interrupted by another past action.              |

**STUDY NOTE.** We use **the Past Continuous** to talk about an action that was in progress at a specific time in the past.

*They were laughing while watching the comedy.*

*I was sleeping when you rang me up.*

The most common **time expressions** used with the Past Continuous Tense are: *while, as, all night (long), all morning, at 6 o'clock yesterday, from 5 till 6, etc.*

*He was working in the garden all day yesterday.*

## Form

### Past Continuous: past of be + Participle I

+

?

-

I **was having** a      **Were** you **having** a lesson at 9  
lesson at 9 o'clock      o'clock yesterday?  
yesterday.                  When **were** you **having** a lesson?

I **was not** (wasn't)  
having a lesson.

### 41. Put the verbs in brackets into the Past Continuous Tense Form and ask questions to the following sentences.

1. She \_\_\_\_\_ (discuss) her progress with the tutor when the bell rang.
2. During the lockdown lots of people \_\_\_\_\_ (work) from home.
3. While he was sleeping, his brain \_\_\_\_\_ (process) the day's information.
4. I \_\_\_\_\_ (do) my homework when he rang me up.
5. He \_\_\_\_\_ (watch) TV from 7 to 9 last night.

### 42. Put the verbs in brackets into the Past Continuous tense. Match the two halves of the sentences. Explain the use of the Past Continuous Tense in these examples.

1. The wind _____ (blow) and...	a) while he _____ (listen) to me.
2. He _____ (look) through some papers...	b) when there was a power cut in the building.
3. This time last month...	c) at 10 in the morning yesterday.
4. The policeman _____ (stare) at me...	d) the sea _____ (begin) to get rough.
5. He _____ (work) on the computer...	e) they _____ (laugh) and _____ (talk) loudly.
6. When the speaker _____ (answer) the questions...	f) when someone called my name.
7. I _____ (stand) at the bus stop...	g) and I began to get nervous.
8. We _____ (have) our English lesson	h) we _____ (travel).

### 43. Ask and answer these questions in pairs.

- What were you doing 5 minutes ago?
- Think of a situation when someone couldn't reach you because your number was busy. Who were you talking to?
- What were you talking about?
- What were your family members/roommates doing when you got home yesterday?
- I was reading the whole evening yesterday. And what were you doing?
- Was it raining when you got up yesterday?
- What were you doing at this time yesterday?
- What was your friend doing then?

## PAST SIMPLE Vs PAST CONTINUOUS

<p><b>STUDY NOTE.</b> We use <b>the Past Simple</b> for ‘short’ actions that happened in the past, or when one action followed the other, and also with some verbs that are <b>not</b> normally used in Continuous Tenses:</p> <p><i>I did a lot of useful things yesterday.</i></p> <p><i>He opened the door and entered the room.</i></p> <p><i>She wanted to be a writer when I knew her.</i></p>	<p>We use <b>the Past Continuous</b> for longer actions that were in progress before and after a specific time in the past, or for two actions happening at the same time:</p> <p><i>I was waiting for a bus <u>at six o'clock</u> yesterday.</i></p> <p><i>While everyone <u>was laughing</u> Ann <u>was crying</u>.</i></p> <p><i>or</i> to indicate that a longer action was interrupted by a shorter action in the past: <i>I <u>was watching</u> TV when you <u>called</u> last night.</i></p>
--	---

**44. Complete the sentences in A with phrases from B. Explain the use of the Past Simple and the Past Continuous in the sentences.**

**A.**

**I.**

- The family was having a party
- He took a dislike to me

**B.**

- when I went to bed yesterday.
- and didn't hear you call.

- 3 I was listening to loud music  
 4 As Tom was preparing for his exams  
 5 It was snowing
- c. Jim was sleeping.  
 d. when the post arrived.  
 e. from the moment he saw me.

## II.

- 1 They had lunch  
 2 He left the office at once  
 3 While I was walking home  
 4 When I saw her  
 5 While she was shopping
- a. I fell over and cut my knee.  
 b. while they were waiting for the plane.  
 c. as soon as he heard the news.  
 d. she met an old friend.  
 e. she was buying food for the party.

### **45. Make sentences choosing the correct verb form: the Past Simple or the Past Continuous.**

1. While I/ play/ the piano/ Joan/ read/ a newspaper. 2. Mark/ work/ for the bank/ when the war/ begin. 3. Just as I/ get/ to the most interesting part/ of the story/ the doorbell/ ring. 4. While he/ consider/ that idea/ the situation/change. 5. We/ not/ go/ out/ because/ it/ rain/ heavily. 6. We/ see/ Alex /in the park. He/ sit/ on the grass/ and read/ the book. 7. My uncle/ fall off the ladder/ while/ he/ paint/ the ceiling. 8. The most extraordinary thing/ happen to him/ while/ he / stay/ in London. 9. You/ still/ work/ when I /leave? 10. I/ fall/ asleep when I/ watch/ television. 11. Tom/ burn/ his hand/ when he/ cook/ the dinner. 12. When we/ arrive/ the family/ have lunch. 13. She/ walk/ along the street/ and she/ not/ see/ me. 14. I sit/ between my two sisters/ when he/ come in.

### **46\*. Open the brackets using either the Past Simple or the Past Continuous.**

**Explain your choice or translate the sentences into Russian. In some sentences both are possible with a change in meaning.**

1. The speakers of the conference (discuss) the environmental issues when our delegation (arrive). 2. While media (try) to unite disconnected issues, UN (declare) that the problems of sustainable development could be adequately

resolved. 3. With the increased consumption of non-renewable resources, people could see that pollution (worsen) and ecological habitats (continue) to be lost. 4. The human influence (create) the simmering conflict between the environment and development in the 20th century. 5. While the levels of carbon dioxide (increase), the ocean was becoming more acidic. 6. In his research the ecologist proved that climate change slowly (destroy) coral reef ecosystems of the Great Barrier Reef. 7. The authorities (declare) yesterday that we were in the zone of ecological disaster and that the situation (become) worse because more pollution (come) from non-point (неточечных) sources such as agricultural runoff, wind-blown debris, and dust. 8. Research (show) that rising sea levels (affect) coasts in complex and unpredictable ways. 9. The report (state) that humans (learn) to adapt, rather than abandoning the islands that (change) due to sea level rises. 10. During a period between 5,000 and 4,000 years ago the land in the area (become submerged) and people (adapt) to the new landscape. 11. The participants of the conference declared that our planet Earth (face) a climate emergency. 12. They recognised that the climate crisis (accelerate) fast.

## PAST PERFECT SIMPLE

**47. Reorder the words and write the sentences. Identify the Past Perfect Tense forms and explain their meaning.**

1. got wet / had left my umbrella / I / because / at home.
2. had never used / told me / that he // My granddad / a mobile phone.
3. I / learnt to use / a lot of manuals / the new equipment / I / before / had read.

## Meaning

**48. Find out about the main uses of the Past Perfect Simple Tense matching the sentences with the uses.**

1. Yesterday I couldn't get into the flat. I had lost my keys.
- a. past action which occurred before another action or before a stated past time
  
2. The lecture had already begun by the time he arrived.
- b. to report our experience up to a point in the past
  
3. My eighteenth birthday was the worst day I had ever had.
- c. completed past action which had visible results in the past

**STUDY NOTE.** We use **the Past Perfect** for a past action completed before a certain moment or other action in the past (often with “after”, “before”, “by”).

*By 9 o'clock they had prepared everything for the conference.*

*After the Summit had reached an agreement, the participants witnessed the beginning of the constructive work.*

## Form

### The Past Perfect Tense: had + Participle II

+

He **had** prepared  
everything.

?

**Had** he prepared  
everything?

-

He **hadn't** prepared  
anything.

### 49. Put the verbs in the examples below into the Past Perfect and explain their meaning.

1. We knew that he \_\_\_\_\_ (do) a lot of good in the world; he \_\_\_\_\_ (bring) back health and happiness to many, but at the back of his mind he was never quite sure how he \_\_\_\_\_ (do) so. 2. I (no see) this film before yesterday. 3.\_\_\_\_\_ he (answer) all your questions by the end of the presentation? 4. He \_\_\_\_\_ (travel) around the world before he came to Moscow. 5. They helped me to do the job after they \_\_\_\_\_ (finish) their work. 6. \_\_\_\_\_ he \_\_\_\_\_ (come) to the programme

before the presenter came? 7. We were late. The train \_\_\_\_\_ (leave) when we arrived. 8. They were hungry. They \_\_\_\_\_ (not eat) for five hours.

**50\*. To find out more information about the Past Perfect watch the video, write down 3-5 sentences with the Past Perfect Tense and explain their meaning.**

<https://www.youtube.com/watch?v=A3HRUtZCAa4>

**51\*. Match the beginnings of the sentences with the endings. Then write out the sentences with the correct form of the verbs in brackets.**

*Example: I had left my credit card at home so I couldn't pay for the ticket.*

- |  |                                    |
|--|------------------------------------|
| 1. When I (get) home my father was angry<br>because          | a. I (watch) this new film.        |
| 2. By the time the rain (stop)                               | b. I (not phone) him.              |
| 3. I accidentally (leave) my car windows open                | c. I (fail) my exam.               |
| 4. I (not hear) about this actress before                    | d. my audio system (to be stolen). |
| 5. I never (think) about how important<br>grammar was before | e. they (get) soaking wet.         |

**52\*. Put the verbs in brackets into the Past Simple or the Past Perfect Tense.**

*Explain the meaning of the tense forms or translate the sentences into Russian.*

1. When I \_\_\_\_\_ (arrive), the play \_\_\_\_\_ (start). 2. She \_\_\_\_\_ (live) in Sochi before she \_\_\_\_\_ (go) to Moscow. 3. After they \_\_\_\_\_ (eat) oysters, they \_\_\_\_\_ (feel) sick. 4. We \_\_\_\_\_ (be) late for the plane because we \_\_\_\_\_ (forget) our passports. 5. She \_\_\_\_\_ (tell) me she \_\_\_\_\_ (study) a lot before the exam. 6. The lights \_\_\_\_\_ (go) off because we \_\_\_\_\_ (not/pay) the electricity bill. 7. I \_\_\_\_\_ (not/have) yet dinner when he \_\_\_\_\_ (arrive). 8. He \_\_\_\_\_ (not/use) email before, so I \_\_\_\_\_ (show) him how to use it. 9. I \_\_\_\_\_ (not/study) for the test, so I \_\_\_\_\_ (be) very nervous. 10. His English \_\_\_\_\_ (be) perfect because he \_\_\_\_\_ (live) in England as a child. 11. The students \_\_\_\_\_ (finish) translating the article by 5 o'clock yesterday. 12. She \_\_\_\_\_ (train) a lot before the

competition. 13. When the taxi (arrive), they \_\_\_\_\_ already (finish) packing. 14. He \_\_\_\_\_ (say) that the climate \_\_\_\_\_ (get) worse since the last century. 15. My friend \_\_\_\_\_ (decide) to go to this university before he \_\_\_\_\_ (finish) school.

## PAST PERFECT CONTINUOUS

### Meaning

**53. Reorder the words and write the sentences. Identify the Past Perfect Continuous Tense forms and try to explain their meaning.**

1. without a break / the accident happened / They / when / had been driving/ for a few hours.
2. Her eyes / because / she / were red / had been crying.
3. had been living / for years / they / in the house / before / They / moved / into a flat.

**STUDY NOTE.** We use the **Past Perfect Continuous** for an action continuing over a period up to a specific time or another action in the past. It is often used with ‘for’ and ‘since’.

*She had been speaking on the phone for half an hour by the time he arrived.  
There were puddles outside. It had been raining all night.*

### Form

**The Past Perfect Continuous Tense: had+been+V-ing**

+

?

-

I **had been** working  
hard.

**Had you been** working  
hard?

I **hadn't been** working  
hard.

**54. For more information about the Past Perfect Continuous watch the video, write down 3-5 sentences with the Past Perfect Continuous Tense and explain their meaning.**

**55. Put the verbs in the examples below into the Past Perfect Continuous and explain their meaning.**

1. I \_\_\_\_\_(wait) a few minutes when the bus arrived. 2. After they \_\_\_\_\_ (walk) for three hours, they realised they were lost. 3. Last Monday it was so difficult to get up to go to school because I \_\_\_\_\_ (work) on my essays the night before and I was very tired. 4. A:Why did you decide to go travelling for a year? B:Well, I \_\_\_\_\_ (read) an amazing book about a woman who rode a horse around South America. I was just halfway through the book when I decided I had to go travelling and that was it. I just took a year out of work and went. 5. It \_\_\_\_\_ (snow) all night and the ground was covered in snow when we woke up. 6. The phone \_\_\_\_\_ (ring) for ages before I answered it.7. He \_\_\_\_\_(work) for 40 years by the time he retired. 8. Though she \_\_\_\_\_ (prepare) for her MBA exams for 2 years, she didn't pass them.

### **PAST PERFECT SIMPLE Vs PAST PERFECT CONTINUOUS**

**56. Compare the following examples. Use the information about the Past Perfect Simple and the Past Perfect Continuous in the materials above and explain the difference between the sentences in each pair.**

1. Tom finally bought a car that he had saved up for.

Tom had been saving up for a car but he still didn't have enough money to buy the car he wanted.

2. He didn't remember any details because he had read the book long before.

He said he had been reading the book since morning.

3. Before he joined our group he had worked in a few different places.

We knew that she had been working for an advertising company for the past five years.

**STUDY NOTE.** We often use the **Past Perfect Continuous** rather than the **Past Perfect Simple** to emphasise the **duration** of the action which started before another action or time in the past and continued up until this time or action.

**57\*. Put the verbs in brackets choosing between the Past Perfect and the Past Perfect Continuous, explain your choice.**

1. I didn't go to see the film last night because I \_\_\_\_\_ (see) it.
2. Ann already \_\_\_\_\_ (arrive) when we got to the station.
3. We felt very tired yesterday because we \_\_\_\_\_ (work) hard since seven o'clock.
4. Tom \_\_\_\_\_ (drive) a van for 20 years before he got the job at the factory last year.
5. He already \_\_\_\_\_ (leave) when I got there.
6. We \_\_\_\_\_ (stay) at the hotel for two days when all the participants checked in.
7. My friend asked me to pay for him because he \_\_\_\_\_ (leave) his wallet at home.
8. She \_\_\_\_\_ (write) an essay for two hours when the teacher asked her to hand it in.
9. Before I bought this car I \_\_\_\_\_ (ride) a bike.
10. I \_\_\_\_\_ (not/ meet) him before you introduced me at the conference.

**58\*. Choose a better option. Explain your choice.**

1. Climate scientists said that tourism *had caused/had been causing* over 8 percent of greenhouse gases.
2. The researchers said that air travel *had already created/had already been creating* more CO<sub>2</sub> emissions than other areas of tourism.
3. The news agency said the potato chip maker *had improved/had been improving* their packaging to make it easier to recycle.
4. The company spokesman said that they *had worked hard/had been working hard* to come up with a new can which was recyclable and kept chips fresh.
5. The WHO reported that pollution level in cities *had been continuously slowing down/had continuously slowed down* since the COVID-19 pandemic started.
6. He was an ecologist who *had entered/had been entering* this profession by chance.
7. The conference *had gone on/had been going on* for hours when the discussion started.

8. Before he started his career in our company he *had worked/had been working* in different hospitals for fifteen years. 9. By the time our work was finished we *had gained/had been gaining* a lot of experience. 10. People told one another about the astonishing things they *had done/had been doing*.



**59. Write 6-8 sentences about yourself using different Past Tense Forms. Use the prompts below if necessary.**

- Last year (summer, two years ago, when I was at school) I...
- When I came home ....(already)
- When I was staying at ... I...
- After/before I ..... I...

## PASSIVE VOICE: PAST TENSE FORMS

### Meaning

**60. Compare the sentences in columns A and B. What is the difference between them?**

**A.**

My mother taught English at school many years ago.

They were discussing their project in the evening yesterday.

The lecturer had answered all the questions by the end of his presentation.

**B.**

When a was at school English was taught by my mother.

The project was being discussed.

All the questions had been answered by the lecturer.

**STUDY NOTE.** In the active, the subject is the doer of the action. In the passive, the subject is acted upon or receives the action of the verb.

He *hit* the ball. → The ball *was hit*.

## **Form**

### **Passive Voice in Past Tenses: to be in one of the Past Tense forms**

#### **+ Participle II**

+	?	-
The questions <b>were answered.</b>	<b>Were the questions answered?</b>	The questions <b>weren't answered.</b>
The questions <b>were being answered.</b>	<b>Were the questions being answered?</b>	The questions <b>weren't being answered.</b>
The questions <b>had been answered.</b>	<b>Had the questions been answered?</b>	The questions <b>hadn't been answered.</b>

#### **61. Put the following sentences into the Passive Voice, Past Simple, Past Continuous and Past Perfect tenses, positive, negative and interrogative forms.**

*Example: They (give) me a bonus. → I was given a bonus. Were you given a bonus? I wasn't given a bonus. I was being given bonuses while I was working for Yandex. Were you being given bonuses? I wasn't being given bonuses. I had been given a bonus by the end of the year. Had you been given a bonus by the end of the year? I hadn't been given a bonus by the end of the year.*

1. I (write) lots of emails
2. He (fixes) the problem.
3. They (arrange) a meeting.

#### **62. Put the verbs in brackets into the correct Past Passive form.**

1. At the last lesson the student (ask) to tell the story again.
2. When we came to the town, their new house (not build) yet.
3. Yesterday we (tell) a very funny story!
4. They explained that the match (cancel) because there was too much snow.
5. She was offended (была обижена) because she (not/invite) to the party.
6. Nobody was surprised that the poetry competition (organise) so quickly.
7. The house still (redecorate) when he decided to buy it.
8. The washing machine (repair) yesterday afternoon.
9. They didn't come because they (not/tell) about the meeting.
10. At last the problem (solve) to everyone's satisfaction.
11. The winner

(give) a silver cup after the race. 12. In the last century the beans (pick) by hand and (leave) to dry in the sun.

**63\*. Fill in the correct tense. Use Active or Passive.**

1. Last year computers (not/manufacture) at that factory.
2. Most of the old part of the city (destroy) during the last war.
3. David's new car (damage) in a car park.
4. Most of the guests of the conference (leave) at midday.
5. New environmental achievements (introduce) at the exhibition last week.
6. When I started my work here he already (sack).
7. Turandot (compose) by Puccini.
8. The conference (be) badly organised.
9. They said that no one (be) injured during the storm.
10. The host (offer) coffee and sandwiches to his guests.
11. The whole house (flood) last month.
12. Several protesters (take) away by police after the meeting was over.

**64. Read the text about the eruption of the volcano in Congo, put the verbs in brackets into the right past tense form and retell the text.**

**A Large Volcano Erupted In Congo**

Mount Nyiragongo is one of the world's most active volcanoes but there were concerns that its activity 1. \_\_\_\_\_ (observe). Last year, the Goma Volcano Observatory's director, 2. \_\_\_\_\_ (tell) the BBC World Service's Science in Action that the volcano's lava lake 3. \_\_\_\_\_ (fill) quickly, increasing the chances of an eruption in the next few years. The volcano's deadliest eruption 4. \_\_\_\_\_ (happen) in 1977, when more than 600 people 5. \_\_\_\_\_ (die). In a recent report the observatory 6. \_\_\_\_\_ (warn) that seismic activity at Nyiragongo 7. \_\_\_\_\_ (increase). Mount Nyiragongo, located 10km (six miles) from Goma, a city of two million people in Congo, 8. \_\_\_\_\_ (turn) the sky red and 9. \_\_\_\_\_ (spew) out a river of lava when it 10. \_\_\_\_\_ (erupt) on Saturday. Tom Peyre-Costa, from the Norwegian Refugee Council in Goma, told the BBC how the scene 11. \_\_\_\_\_ (unfold). Thousands of people fled Goma overnight. As the lava 12. \_\_\_\_\_ (move) slowly, many people 13. \_\_\_\_\_ (have) time to leave the area. Crowds 14. \_\_\_\_\_ (see) fleeing even before the government's announcement, which 15.

\_\_\_\_\_ (come) several hours after the eruption 16. \_\_\_\_\_ (start). Some locals 16. \_\_\_\_\_ (complain) about the lack of information from the authorities before and during the eruption. Student Aline Kanyere said she 17. \_\_\_\_\_ (study) it and that it 18. \_\_\_\_\_ (talk) about all the time, yet it 19. \_\_\_\_\_ (be) shocking to see it burst into action. Rwandan authorities said about 3,000 people 20. \_\_\_\_\_ (cross) from Goma.

## INDEPENDENT FURTHER STUDY

### 65. Fill in the missing letters in the words from Module 2 word list.

p\_ll\_t\_on , \_nv\_r\_nm\_nt, r\_\_nf\_r\_st, c\_ns\_mpt\_on, d\_m\_g\_, thr\_ \_t, p\_p\_l\_t\_on,  
w\_st\_, f\_ \_l, d\_s\_st\_r.

### 66. For each number, circle the word that does not belong to the group and explain why.

- |   |   |
|---|---|
| 1. cause, problem, reason                   | 8. endangered, extinct, disappearing        |
| 2. contamination, pollution, emission       | 9. to impede, to adopt, to take on          |
| 3. environmental, poisonous,<br>harmful     | 10. to eliminate, to reduce, to<br>mitigate |
| 4. to preserve, to mitigate, to<br>conserve | 11. to increase, to improve, to rise        |
| 5. waste, rubbish, fuel                     | 12. nature, population, people              |
| 6. effect, damage, harm                     | 13. significant, important,<br>considerable |
| 7. flood, draught, drought                  | 14. issue, disaster, accident               |

## DEGREES OF COMPARISON OF ADJECTIVES AND ADVERBS

### 67. Look at the underlined words in the sentences from Reading section in Module 1 and 2. Explain their meaning or translate them into Russian.

1. University education provides a springboard for better career options.
2. BMSTU is one of the oldest and biggest technical universities in our

country.

3. IMTS was considered the best engineering educational institution in Russia.
4. The most famous universities in Britain are Oxford and Cambridge.
5. Climate related disasters take a heavier human toll and come at a higher price.
6. It is equally important to reduce our consumption of energy by adopting responsible habits and using more efficient devices.
7. The researchers discovered that the longer people were exposed to polluted air, the greater was the damage to their intelligence.
8. They further found that if those hurricanes were to occur in a future world that is warmer than present, those storms would have even more rainfall and stronger winds.
9. According to the study if we don't take any steps to reduce pollution, the quality of life will be getting worse.
10. Does it mean that everybody should be ruder?
11. Ocean acidification is considered the worst type of pollution.
12. Air pollution is the most dangerous type of pollution for humans.

**68. Study the information in the table below and divide the words from the previous exercise into 4 classes presented in the first column of the table.**

**Example:** Type 1: old.... Type 2.... Type 3.... Type 4....

Positive Degree	Comparative Degree	Superlative Degree
<b>Type 1.</b> short <sup>1</sup> adjectives and adverbs: <i>fast, pretty</i>	we add <b>-er</b> to the end: <i>faster, prettier</i>	we add <b>-est</b> to the end: <i>the fastest, the prettiest</i>
<b>Type 2.</b> two-syllable <sup>2</sup> adjectives and adverbs: <i>clever</i>	we can choose whether to use <b>more</b> <sup>4</sup> or to add <b>-er</b> :	we can choose whether to use <b>(the) most</b> or to add <b>-est</b> :

	<i>cleverer/more clever</i>	<i>the cleverest/the most clever</i>
<b>Type 3.</b> long adjectives and adverbs and some <sup>3</sup> two-syllable adjectives and adverbs: <i>intelligent</i>	we use <b>more</b> : <i>more intelligent</i>	we use <b>(the) most</b> : <i>the most intelligent</i>
<b>Type 4.</b> Irregular: <i>little</i>	Irregular form: <i>less</i>	Irregular form: <i>the least</i>

<sup>1</sup> monosyllabic, or bisyllabic ending in -y.

<sup>2</sup> bisyllabic usually with final ‘soft’ consonant.

<sup>3</sup>two-syllable adjectives and adverbs that end in -ly, -ing, and other typical adjective endings (-al, -ant, -ard, -ate, -ect,-ed, -en, -ent, -ful, -id,-ite, -ive -less, -ous, -some).

<sup>4</sup>we also use **less and the least** instead of more/most with the difference in meaning: *less important, the least important*.

## 69. For more information about degrees of comparison of adjectives and adverbs and extra examples you can watch a short video lesson from Six Minute English.

<https://www.youtube.com/watch?v=U2DxNgQqDgQ>

## 70. Write comparative and superlative forms of these adjectives.

Big, early, good, far, bad, famous, thin, cheap, expensive, high, low, fast, dangerous, pretty, safe, sad, mad, busy, modern, fashionable, late, little, old, long, practical, simple, light, great, thick, nice, cold, merry, small, tall, strong, green, dry, clean, dirty, wide, deep, brave.

## 71. Use the correct comparative or superlative form of the words in brackets.

1. Acid rain is (harmful) to the environment than fertilizers.
2. Aerosol sprays are the (bad) cause of pollution at home.
3. In some areas the concentration of carbon

dioxide in the atmosphere is systematically (high) or (low) than in the others. 4. The Mediterranean climate is the (good) for growing citrus fruits. 5. We need (strict) laws to eliminate pollution. 6. Cutting down trees is the (serious) problem in Europe. 7. To stop the destruction of rainforests we need to use (many) renewable resources. 8. The (common) cause of water pollution is dumping of industrial waste in seas and rivers. 9. One of the (endangered) species is the sea turtle. 10. Electric buses already emit (little) carbon than diesel buses. 11. Some people think that we cannot stop global warming, we can only make the process of global warming (slow). 12. Scientists say that air pollution is the (dangerous) type of pollution for humans. 13. Lake Baikal is the (large) freshwater lake and it is also the (deep). 14. The researchers point out that the ozone layer is getting (thin) over the (densely) populated areas. 15. One of the (deadly) floods in history was the Central China Flood in 1931 with the death toll of about five million people.

**72. Compare the words in the following pairs.**

**Example:** Moscow vs St. Petersburg

*Moscow is larger than St. Petersburg, it is well over twice the size of the northern Russian capital of Russia.*

Elbrus vs. Kazbek / The Volga vs the Lena / Siberia vs. the Far East / the population of Moscow vs. the population of Novosibirsk / the Black Sea vs. the Baltic Sea / agriculture vs. oil mining in Russia / climate in Moscow vs. climate in Sochi

**73. Work in groups. Choose 5 questions to discuss. Take notes and report your ideas back to other groups.**

1. What is the biggest environmental problem that mankind is facing at the moment?
2. What makes one country more powerful than other countries?
3. What are the most difficult things about learning a foreign language?
4. Which language, English or Russian, is easier (more difficult) to learn? Give your reasons why.
5. What are the best things/worst things about living in a warm country/in a cold

country? 6. What are the most difficult things about studying at a university? 7. What are the most enjoyable things about being a student of a university? 8. What is the easiest/the most difficult subject in the 1<sup>st</sup> year? 9. Can you compare Moscow and St. Petersburg? 10. What is the best book/the best film you've ever read/seen? Why do you think so? 11. What is the most popular TV programme in Russia in your opinion? 12. What is the most common hobby for young people nowadays? 13. Which trait is better: being flexible or being able to do what you think is right without considering other people's opinions. 14. What are the most common names in Russia today?

## CHECK YOURSELF

### 74. Fill in each gap with one of the words below.

(scale, considerable, pollution, increasing, measures, achieve, similar, change, dealt, causing, evident, realise)

1. Nowadays the world's population is \_\_\_\_\_ at a high rate.
2. Management of natural resources on a global \_\_\_\_\_ is already possible from a technical standpoint.
3. The question is whether we can \_\_\_\_\_ success in environment protection.
4. Many environmental issues can be \_\_\_\_\_ with on the level of the world community.
5. That human activity directly affects the condition of the environment is \_\_\_\_\_ to all.
6. Rapid growth of industry is \_\_\_\_\_ air and water pollution.
7. Australia, South America and Africa occupy approximately the same range of latitudes and have \_\_\_\_\_ habitats.
8. Use of water and waste production are causing \_\_\_\_\_ damage to the environment.
9. Ecologists are trying to make us \_\_\_\_\_ how we can \_\_\_\_\_ the situation to the better.
10. In his plan to fight climate change the speaker suggested some \_\_\_\_\_ to reduce carbon \_\_\_\_\_.

### 75. Put these time phrases in the correct part of the table. Some of them can go into more than one box.

*Yesterday, before, after, no sooner ..... than, by the time, last week, ten days ago, in 1957, from 2010 to 2018, yesterday at 5 o'clock, since, when, as soon as, for, ever since, hardly (scarcely, barely) ..... when*

<b>Past Simple</b>	yesterday,
<b>Past Continuous</b>	from 2012 to 2020,
<b>Past Perfect</b>	before,
<b>Past Perfect Continuous</b>	since,

**76. Write sentences from the words in the given tense.**

1. I/read/this book/before/I saw/film. (Past Perfect Simple)
2. While/he/take/pictures/his girlfriend/watch him. (Past Continuous)
3. You/ ever/ be/to the Tretyakov Gallery? (Present Perfect Simple)
4. They/write/an essay/for two hours/when/the bell/rang. (Past Perfect Continuous)
5. It was reported that / the process of global warming/slow down/over the past few years. (Past Perfect Continuous)
6. With the appearance of electric buses / less carbon dioxide/emit /into the atmosphere. (Present Perfect Passive)
7. The environmentalists/were concerned that/the ozone layer/get thinner / over the densely populated areas. (Past Continuous)
8. During the deadliest flood in history / in Central China, in 1931/ about five million people / kill. (Past Simple Passive)
9. After/the eruption of the volcano/thousands of people/see/fleeing Goma overnight. (Past Simple Passive)
10. They informed that/ in the result of/ the volcano's deadliest eruption- more than 600 people/die. (Past Perfect Simple)

**77. Fill in the gaps with the verb from the box in the Past Simple, Past Continuous, Past Perfect Simple or Past Perfect Continuous Tense form. Use each verb once.**

Put, work, lose, sleep, start, build, climb, make, collect, happen, rain, plant.
--

1. When I left the house I took an umbrella because it \_\_\_\_\_. 2. He succeeded in his exams because he \_\_\_\_\_ hard. 3. How long ago \_\_\_\_\_ they \_\_\_\_\_ this shopping centre? 4. While they \_\_\_\_\_ the mountain, the weather changed. 5. The lecture\_\_\_\_\_ by the time we got there. 6. To help improve the environment they \_\_\_\_\_ litter from the parks, \_\_\_\_\_ paper and cans into recycling bins, and \_\_\_\_\_ more than 1000 trees. 7. Everyone \_\_\_\_\_ when the earthquake hit the small town. 8. I \_\_\_\_\_ two mistakes in the last quiz. 9. Nothing much \_\_\_\_\_ before I got to the meeting. 10. I was upset because our team \_\_\_\_\_ the game.

**78. Answer these questions giving your own opinion and examples. Use the information from Module 2 texts A, B, C.**



1. What environmental issues is humanity facing nowadays? 2. Explain what we mean by air, water and soil pollution? 3. Which of them is the most dangerous form of pollution? 4. What examples of the disastrous consequences of environmental pollution can you give? 5. What measures are to be taken to eliminate pollution? 6. How can everyone contribute to the common cause of environmental protection? 7. How is the problem of pollution being solved at the level of governments? 8. How do new technologies help us save the planet? 9. What do you know about supercomputers' simulations for climate change investigation? 10. What are the consequences of acid rains, the ozone layer destruction and global warming?

## **MODULE 2 PROGRESS TEST**

**Vocabulary. Decide which answer a, b or c best fits each gap.**

### **SAVE IT**

In recent years, the number of (1) \_\_\_\_\_ problems has increased dangerously. For example, the presence of vapour, carbon dioxide and other gases in the lowest  
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layers of the (2)\_\_\_\_\_ has led to the (3)\_\_\_\_\_ effect, and made climate warmer in most countries. Global warming is already affecting a number of areas in the world causing unusual weather with (4)\_\_\_\_\_ or heavy storms. Cutting down on (5)\_\_\_\_\_ from vehicles would help improve the situation. Natural (6)\_\_\_\_\_ such as oil and coal are not endless, so using other forms of (7)\_\_\_\_\_ e.g. wind, sun, water and even sea waves, would help (8)\_\_\_\_\_ our planet. Very soon we will be able to drive cars in cities and towns that run on electricity – a much cleaner (9)\_\_\_\_\_ than petrol. And we can also help save natural resources, such as trees and sand, by (10)\_\_\_\_\_ things made of glass, plastic and paper.

- |                  |                  |               |
|------------------|------------------|---------------|
| 1.a. environment | b. environmental | c. polluting  |
| 2. a. atmosphere | b. soil          | c. ocean      |
| 3. a. warming    | b. damaging      | c. greenhouse |
| 4. a. draughts   | b. drafts        | c. droughts   |
| 5. a. emissions  | b. releases      | c. leaks      |
| 6. a. sources    | b. resources     | c. materials  |
| 7. a. energy     | b. fuel          | c. resources  |
| 8. a. conserve   | b. mitigate      | c. preserve   |
| 9. a. fuel       | b. substance     | c. power      |
| 10. a. reducing  | b. recycling     | c. conserving |

***Grammar. Decide which answer a, b or c best fits each gap.***

In 1984, Union Carbide plant (1)\_\_\_\_\_ 30 tons of lethal methyl isocyanate gas into the air in Bhopal, India. Thousands of people (2)\_\_\_\_\_ immediately. Deaths and disabilities (3)\_\_\_\_\_ long after.

A year later, in West Virginia, another Union Carbide plant (4)\_\_\_\_\_ toxic gas into the atmosphere, resulting in illnesses among town residents. The law (5)\_\_\_\_\_ companies that (6)\_\_\_\_\_ hazardous materials to minimise their annual polluting activities. After the law (7)\_\_\_\_\_, companies (8)\_\_\_\_\_ a

substantial reduction in toxic releases.

Oil also polluted land and water sources, the most tragic example of which was the *Exxon Valdez*. On the night of March 24, 1989, the oil tanker (9)\_\_\_\_\_ a ground at Bligh Reef, Alaska, spilling eleven million gallons of oil into the fragile environment. While it was not one of the largest spills in the world, it (10)\_\_\_\_\_ the worst in terms of the damage to the environment.

- |                        |                  |                        |
|------------------------|------------------|------------------------|
| 1. a. released         | b. had released  | c. was releasing       |
| 2. a. were dying       | b. died          | c. had died            |
| 3. a. were continuing  | b. had continued | c. had been continuing |
| 4. a. was emitting     | b. had emitted   | c. was being emitted   |
| 5. a. was requiring    | b. required      | c. had required        |
| 6. a. were using       | b. had used      | c. used                |
| 7. a. had been enacted | b. was enacted   | c. enacted             |
| 8. a. were reporting   | b. had reported  | c. reported            |
| 9. a. was running      | b. ran           | c. had run             |
| 10. a. was considering | b. considered    | c. was considered      |

## **MODULE 3**

### **ELECTRICITY AND SOURCES OF POWER**

“Invention is the most important product of man's creative brain. The ultimate purpose is the complete mastery of mind over the material world, the harnessing of human nature to human needs.” - *Nikola Tesla, an inventor and an engineer.*



#### **Learning points for Module 3:**

##### **Reading:**

Text A. Ubiquitous Electricity

Text B. What are Different Sources of Energy?

Text C. How Electricity Has Transformed Modern Life

##### **Vocabulary in context:** Word definitions/Collocations/Confusing words

##### **Grammar:** Future forms/Passive Future Forms

##### **Listening:** Shocking Facts about Electricity

##### **Speaking and discussion:** What electricity really is?

##### **Skills:** Explaining how something works

##### **Learning aims:**

- to practise reading and speaking about electricity and sources of power;
- to learn and practise using the words related to the topic of the module;

- to learn and practise active and passive future tense forms;
- to learn and practise the skill of describing how something works.

## Lead-in

**Myth or Reality? Read some facts about electricity and decide whether they are true or false.**

1. Electricity has a zero mass or weight.
2. Electricity travels at the speed of light.
3. Electricity can be generated<sup>1</sup> with the help of chemical reactions.
4. During a thunderstorm<sup>2</sup> electric current<sup>3</sup> is produced.
5. Low voltage shocks are not dangerous.
6. Fossil fuels<sup>4</sup> are a finite<sup>5</sup> resource.
7. Solar panels do not work in cloudy weather.
8. We can get electricity from air.
9. Electrical current depends on the thickness of the wires<sup>6</sup>. Thicker wires allow more electrical current to travel through it.
10. Human body generates electrical signals.

### *Useful words*

<sup>1</sup> be generated	вырабатываться
<sup>2</sup> thunderstorm	гроза
<sup>3</sup> current	ток
<sup>4</sup> fossil fuels	ископаемые виды топлива
<sup>5</sup> finite	небезграничный
<sup>6</sup> wires	проводы

**History. Complete the sentences with the dates.**

**1897, 1837, 1954, 1873, 1831**

1. In \_\_\_\_\_, the world's first nuclear power station to generate electricity started operations in the Soviet Union.

2. In \_\_\_\_\_ James Clerk Maxwell created his equations that described the electromagnetic field and predicted the existence of electromagnetic waves.
3. In \_\_\_\_\_ British physicist J. J. Thomson discovered the electron which made understanding the nature of electricity more complete.
4. One of the first major breakthroughs (прорыв) in electricity occurred in \_\_\_\_\_, when British scientist Michael Faraday discovered the basic principles of electricity generation.
5. The first practical application of electricity was the telegraph, invented by Samuel Morse in \_\_\_\_\_ .

## READING

### Part 1

#### 1. *Discuss in pairs.*

1. What is the difference between an invention and a discovery? Think of some examples of inventions and discoveries.
2. Is electricity an invention or a discovery and why?
3. Think of a few examples of how we use electricity.
4. Imagine a day without electricity today and try to describe it.

*Use some of the phrases below while speaking.*

It is often said that ...	I totally agree...
In my opinion/view...	I see your point, but...
I believe/ suppose...	I'm not sure about that...
That's a good point...	Sorry to interrupt, but...

#### 2. *Dictionary skills. Read the words in the table below. Can you translate them or explain their meaning? If not, look them up in a dictionary.*

A	B	C	D
to occur	secondary	available	current
to attract	primary	to produce	negative

to be defined	source	to carry out	positive
set of phenomena	coal	engine	to be released
charge carrier	oil	power station	interaction
property	nuclear power	transformation	collision
particle	generation	electrochemistry	biochemical
	light bulb	solar cell	

**3. Scan the text and choose the best heading (A-E) for each section (1-4). There is one extra heading. Confirm your answers with quotes from the text.**

- A How static electricity is generated
- B Humans and electricity
- C Generating electricity
- D The sources of electrical energy
- E What electricity is

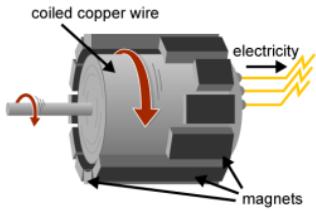


### Text 3A

#### UBIQUITOUS<sup>1</sup> ELECTRICITY

**Electricity is all around us. It is powering such technologies as our mobile phones, computers, lights, and air conditioners. It is impossible to escape it in our modern world.**

(1) Electrical phenomena attracted the attention of European thinkers as early as the 17<sup>th</sup> century. The name ‘electricity’ came from the Greek word for ‘amber<sup>2</sup>’ and was coined<sup>3</sup> by Elizabeth I’s physician William Gilbert because amber attracted light objects after being rubbed. Electricity can be broadly defined as a set of phenomena that occur throughout nature and take many different forms, including lightning and static electricity. Various manifestations of electricity are the result of the accumulation or motion of electric charge carriers. Electric charge is a fundamental property of matter and is borne<sup>4</sup> by elementary particles. In



electricity the particles involved<sup>5</sup> are electrons, the negatively charged particles of atoms.

(2) Electrical energy is one of our most widely used forms of energy. Humans get electricity, which is a secondary energy source, from other sources of energy, like coal, natural gas, oil and nuclear power. The original natural sources of electricity are called primary sources. And before electricity generation began, houses were lit with kerosene lamps, food was cooled in iceboxes, and rooms were warmed by wood-burning or coal-burning stoves<sup>6</sup>. Beginning with Benjamin Franklin's experiments, the principles of electricity gradually became understood. In the mid-1800s, everyone's life began to change with the invention of the electric light bulb which used electricity to bring indoor lighting to our homes.

(3) Electricity is not freely available in nature, so it must be produced. Electricity generation is the process of producing electric power using the sources of primary energy. Production is most often carried out at power stations, also called power plants, by electromechanical generators. An electric power station uses steam, gas or water turbines<sup>7</sup>, internal combustion engines<sup>8</sup>, or other sources of mechanical energy to drive an electric generator, a device for converting mechanical energy into electrical energy. Other methods of generation include electrochemistry, the direct transformation of chemical energy into electricity, as in a battery, and the photovoltaic<sup>9</sup> effect, the transformation of light into electrical energy, as in solar cells.

(4) While current electricity is a flow of electrons, static electricity is the result of an imbalance<sup>10</sup> between negative and positive charges in objects. These charges can build up on the surface of an object until they find a way to be released. Electrostatic energy is present when two bodies undergo a frictional<sup>11</sup> interaction or collision. For example, rub a comb on a woolen material and hold it over small paper pieces; they are lifted up because of the static electricity created by rubbing the objects. You may be interested to know that certain animals can produce electricity and light through biochemical reactions (electric eels, glow worms<sup>12</sup> and

some types of fish). They may hold key for new methods of electricity production.

### Vocabulary notes for text 3A

<sup>1</sup> ubiquitous	вездесущий, повсеместный
<sup>2</sup> amber	янтарь
<sup>3</sup> was coined	было придумано
<sup>4</sup> is borne	переносится
<sup>5</sup> involved	вовлеченные
<sup>6</sup> stoves	печи
<sup>7</sup> turbine(s)	турбина
<sup>8</sup> internal combustion engine(s)	двигатель внутреннего сгорания
<sup>9</sup> photovoltaic	фотоэлектрический
<sup>10</sup> imbalance	дисбаланс
<sup>11</sup> frictional	возникающий в результате трения
<sup>12</sup> eels and glow worms	угри и светящиеся черви

#### 4. Read the text again and finish the following sentences using the information from the text.

- Electricity is...
- Electric charge is...
- The various manifestations of electricity are...
- Before electricity generation began...
- Electric generators transform...
- The original sources of energy are ...
- Other methods of electricity generation...
- Electrostatic energy is...

#### 5. In turn retell text 3A. Use key words from Task 2 as prompts.



#### 6. In pairs ask and answer the following questions. Summarise your groupmate's answers.

STUDENT A's QUESTIONS	STUDENT B's QUESTIONS
-----------------------	-----------------------

<p>1. Did you like reading this article? Why/why not?</p> <p>2. Was there any new information for you in the text? What information?</p> <p>3. What is electricity?</p> <p>4. What is a generator?</p> <p>5. What is static electricity?</p>	<p>1. Did you like reading this article? Why/why not?</p> <p>2. Was there any new information for you in the text? What information?</p> <p>3. What is current electricity?</p> <p>4. How is electricity generated?</p> <p>5. How do you understand the phrase “They may hold key for new methods of electricity generation”.</p>
--	---

## READING

### Part 2

**7. In pairs discuss the following questions.**

1. What sources of energy do you know?
2. Which of them are the most common ones where you live?
3. What sources of energy will be used in 50 years in your opinion?

**8. Read the text and try to identify what source of energy each paragraph describes using the words below.**

### Text 3B

#### WHAT ARE DIFFERENT SOURCES OF ENERGY?

*Wave energy/ nuclear power/ solar power/ fossil fuels/ wind power/ geothermal energy/ tidal<sup>1</sup> energy/ hydropower/ biomass energy/ hydrogen energy.*

There are 10 main different sources of energy that are used in the world to generate power. While there are other sources being discovered all the time, none of them has reached the stage where it can be used to provide the power to help modern life go.

1. \_\_\_\_\_ systems can **harvest** the energy of the sun through using collector

panels which can then be used for the production of electricity. This source of power has grown in popularity since the oil crisis and more and more countries **rely** on this energy for **various purposes**.

2. \_\_\_\_\_ is the energy we capture<sup>2</sup> from the movement of air and convert into electricity. Today it is **booming** more than ever. Recent **innovations** that allow **wind farms** to appear are making them a more **common sight**.

3. \_\_\_\_\_ is heat that is generated within beneath<sup>3</sup> the Earth. High temperatures are produced **continuously** inside the Earth's crust<sup>4</sup> by the slow decay<sup>5</sup> of radioactive particles. This energy is a clean, **renewable** source that can be harnessed<sup>6</sup> for use as heat and electricity.

4. \_\_\_\_\_ involves the use of hydrogen and/or hydrogen-containing compounds<sup>7</sup> to generate energy **to be supplied** with high energy **efficiency**, numerous environmental and **social benefits**, as well as economic competitiveness<sup>8</sup>. According to the latest research, hydrogen, which has been **regarded** as a potential clean energy **solution for decades**, may finally be ready for the spotlight<sup>9</sup>.

5. \_\_\_\_\_ is a form of renewable energy which is created by converting energy from the regular rising and falling of the level of the sea due to alternating sea levels into electricity using various methods. The generation of energy through this power is mostly **prevalent** in coastal areas.

6. \_\_\_\_\_ is energy harnessed from the ocean or sea. It is produced only when the surface of the water is rough. This energy is renewable, environment-friendly and **causes no harm** to the atmosphere. It can be harnessed in coastal regions of many countries and can help them **reduce** their **dependence** on other sources of power.

Most of the cities and towns in the world rely on 7. \_\_\_\_\_ derived from the energy of falling or fast-running water to generate electricity. In the early 21<sup>st</sup> century it was the most widely utilised form of a renewable energy.

8. \_\_\_\_\_ is produced from organic material (e.g. plants, such as corn and soy) and is commonly used **throughout the world**. Plants convert light energy into

chemical energy and the energy from these organisms can be burned to create heat or converted into electricity.

9. \_\_\_\_\_ is produced through the process of nuclear fission<sup>10</sup>. It is a great subject for debate as to how safe it is and whether or not it is really energy efficient when you **take into account** the waste it produces. But it still remains one of the major sources of energy today which provides 17 percent of the world's electricity. When most people talk about different sources of energy, they **list** natural gas, coal and oil. These are all considered to be just one source of energy called 10.

\_\_\_\_\_. At the beginning of the 21<sup>st</sup> century about 80 percent of the world's energy was derived from this source.

### Vocabulary notes for text 3B

<sup>1</sup> tidal	приливо-отливный
<sup>2</sup> capture	захватывать, поглощать
<sup>3</sup> beneath	ниже, под
<sup>4</sup> crust	кора
<sup>5</sup> decay	распад, разложение
<sup>6</sup> be harnessed	использоваться, приспособливаться
<sup>7</sup> compounds	сложные химические соединения
<sup>8</sup> competitiveness	конкурентоспособность
<sup>9</sup> be ready for the spotlights	оказаться в центре внимания
<sup>10</sup> nuclear fission	ядерное деление

**9. Find the words in bold from the text that correspond to the following meanings.**

#### § 1-3

1. trust someone or something;
2. develop quickly or become successful;
3. something you can often see;
4. a group of wind turbines that are used to produce electricity;



5. the sources of energy that can be produced as quickly as they are used;
6. collect a natural resource in order to use it effectively;
7. many different aims;
8. new ideas or methods;
9. without a pause;

#### **§ 4-5**

10. good effects for people;
11. existing commonly;
12. to be given or provided;
13. considered;
14. periods of ten years;
15. the answer to a problem;
16. the good use of energy in a way that does not waste any energy;

#### **§ 6-10**

17. consider or pay attention to something;
18. the situation in which you need something for support;
19. enumerate, register;
20. make something become smaller;
21. in every part of the world;
22. is not dangerous.

**10. You have read about different sources of energy. Try to analyse their advantages and disadvantages and fill in the table below. Search the Internet for more information about these sources. Discuss your results with other students. Decide which 3 sources of energy are the most promising ones in the future. What other sources can you add to this list if any?**

<b>Source of energy</b>	<b>Advantages</b>	<b>Drawbacks</b>
Solar power		
Fossil fuels		

Wind power		
Nuclear power		
Hydropower		
Biomass energy		
Hydrogen energy		
Wave energy		
Tidal energy		
Geothermal energy		
Anything else?		

## READING

### Part 3

**11. Read the text and say what the text is about.**

#### Text 3C

#### HOW ELECTRICITY TRANSFORMED MODERN LIFE

**The dawn of the Electric Age.** In 1912, less than 15 per cent of American homes had electricity; within twenty years, that number stood at 85 percent. Many reasons could be made to account for the sudden sky-rocketing demand for electrical appliances. In England the Electrical Association of women began to promote the benefits of electricity to overworked housewives. The first Hoover vacuum cleaner was introduced in 1908, followed by “Thor”, the first electric-powered clothes washing machine. Commercial refrigeration had been around since 1850s, but by 1910 the units, often prohibitively expensive, were small enough to fit in the average home. Although all of these machines had been around for a while, it took the particular combination of social factors of the 1920s to kick start their popularity among those who could afford them. Electrification began in earnest.

**Electrocardiogram machine.** The electrocardiogram, or ECG, is a machine that

records the electrical impulses generated by the muscles of the heart with each contraction. In a healthy human heart, these impulses occur in a very orderly and precise fashion, so by measuring and mapping them, doctors can get a good idea of the overall functionality and health of the organ.

These days, ECG machines are as common in modern hospitals as beds, but this was not always the case. In fact, the first ECG machine was rather primitive. In 1838, the Italian Professor Carlo Matteucci proved for the first time that our every heartbeat is accompanied by an electric impulse. His prototype of ECG consisted of a frog's leg with some nerves still attached: the leg muscles contracted with every heartbeat. However, this apparatus had a limited shelf life and was soon replaced by better alternatives. Problems still arose, however, because collecting the results was exceedingly time-consuming.

It wasn't until 1895 that ECG became a useful clinical tool due to Dutch physician Willem Einthoven. Einthoven went on to develop the first practical electrocardiogram machine in 1903 and was subsequently awarded the Nobel Prize for Medicine for his invention in 1924. Early machines weighed around 270 kilograms and required five people to operate them; the same device today is the size of a laptop computer. The electrocardiogram has become the backbone of modern cardiology.

**The Internet has changed the world forever.** The Internet is, hands down, one of the most important electrical inventions of all time. It has changed the world and the way we live, beyond all recognition. The way we work, access information, shop, and communicate have all been completely changed thanks to the net. But it is not a "new" invention, *per se*. The origins of the Internet date back to the 1960s. Over the following decades slow, but important advancements were made, culminating in the groundbreaking work of Tim Berners-Lee in the late 1980s. Today it has grown to be practically all-encompassing, creating new industries and allowing people to connect and work anywhere in the world with an internet connection. It might well be the most important invention in data dissemination (распространение) since the Gutenberg printing press.

**12. Circle any words you do not understand in text 3C. In groups, pool unknown words and use dictionaries to find their meanings.**

**13. Work in groups of three. Choose one example of how electricity transformed our life in text 3C and prepare to tell your group about it.**

**14. Listen to the BBC 6 minute English programme “Shocking facts about electricity”. Why do you think they call them “shocking”? Note down some extra facts and useful vocabulary to talk about electricity. Before listening, answer the quiz question: Who discovered electricity? Check your answers.**

<https://www.youtube.com/watch?v=xg7OWeR7tr4>

## VOCABULARY

### Module 3 Word List

Essential Vocabulary	Additional vocabulary
1. attract (v)	1. attach (v)
2. be associated (v) with	2. cause (v) harm
3. be available (adj)	3. consume (v)
4. carry (v) out	4. distribute (v)
5. charge (n, v)	5. harness (v)
6. collision (n)	6. harvest (v) the energy
7. common (adj)	7. light bulb (n)
8. convert (v)	8. measure (v, n)
9. electric current (n)	9. over the last few decades
10. flow (n)	10. pass (v) through
11. generate (v)	11. prevalent (adj)
12. include (v)	12. reduce (v)
13. involve (v)	13. regard (v)/ to be regarded
14. negative/positive (adj)	14. rely on (v)
15. occur (v)	15. renewable (adj)

16. particle (n)	16. social benefit(s) (n)
17. phenomenon/phenomena (n)	17. solve (v)/solution (n)
18. power station (n)	18. supply (v, n)
19. property (n)	19. take (v) into consideration
20. relate (v)	20. take (v) into account
21. release (v)	21. throughout (prep)
22. set (n) of	22. transmit (v)
23. solar cell (n)	23. unit (n) of energy
24. source (n) of energy	24. wind farm (n)
25. various (adj)	

**15. Match the words in column A with the words in column B to make up word collocations. With a partner discuss the meaning of these expressions and try to recall how they were used in texts 3A and 3B. Choose 8-10 collocations and write your own examples with these collocations.**

### I. A.

1. common
2. power
3. to occur
4. to be associated with
5. particles
6. to be related to
7. including
8. various
9. light
10. social

### B.

- a. static electricity
- b. bulb
- c. benefits
- d. station/plant
- e. manifestations
- f. throughout nature
- g. of atom
- h. phenomenon/sight
- i. electricity
- j. electric charges

### II.

- |                        |                          |
|------------------------|--------------------------|
| 1. to be available     | a. production            |
| 2. electric            | b. electrons             |
| 3. to carry out        | c. harm                  |
| 4. solar               | d. certain areas         |
| 5. a flow of           | e. the energy of the sun |
| 6. recent              | f. in nature             |
| 7. to cause            | g. cells                 |
| 8. fossil              | h. innovations           |
| 9. to harvest          | i. current               |
| 10. to be prevalent in | j. fuels                 |

### **III.**

- |                      |                                |
|----------------------|--------------------------------|
| 1. to take           | a. electrical energy           |
| 2. to convert into   | b. farms                       |
| 3. to rely on        | c. a solution                  |
| 4. to release        | d. the dependence on           |
| 5. wind              | e. into account/consideration  |
| 6. in the last few   | f. the world                   |
| 7. to be regarded as | g. renewable sources of energy |
| 8. units             | h. decades                     |
| 9. to reduce         | i. of energy                   |
| 10. throughout       | j. the charges                 |



**16. Write all the words from the box which can go with the word electricity. Use them in your own sentences.**

*Example: generate electricity. Electricity can be generated in many different ways.*

generate	get	transport	supply	amount of	do	enter	consume	transmit	flow
----------	-----	-----------	--------	-----------	----	-------	---------	----------	------

of meet distribute run take attach pass through turn off bill

**17. Read the sentences and use the given words to fill in the blanks. Translate the sentences into Russian.**

## **INTERESTING FACTS ABOUT ELECTRICITY AND OTHER STUFF**

*Solar / light bulb / power / common phenomena / to occur / are associated / generators / is measured / not related / power plant / caused / convert / units / receive*

---

1. Beautiful sky paintings (rainbow) are \_\_\_\_\_ to electricity, as some people might think, they are \_\_\_\_\_ by the sun. 2. Fogs used to be \_\_\_\_\_ in London in the 19<sup>th</sup> century. 3. According to the statistics, thunderstorms are most likely \_\_\_\_\_ in the spring and summer months. 4. Such phenomena as lightning and magnetism \_\_\_\_\_ with electricity. 5. Electricity provides the \_\_\_\_\_ on the earth and in space. 6. Electric \_\_\_\_\_ are devices that \_\_\_\_\_ mechanical power into electrical power. 7. Power \_\_\_\_\_ in watts, which are \_\_\_\_\_ of energy. A kilowatt is 1,000 watts. 8. In the past, homes and businesses located far from the local \_\_\_\_\_ could not \_\_\_\_\_ electrical power. 9. \_\_\_\_\_ power comes from the sun's energy. 10. The invention of the \_\_\_\_\_ enabled societies around the world to extend (удлинять) the length of a working day and practically "banished the night".

*Renewable / to reduce the dependence / be taken into account / a source of electricity / benefits / wind / compared / involved / prevalent / generate / convert / electrical charges / release / includes*

---

11. \_\_\_\_\_ energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished (пополняться), for

example, sunlight and \_\_\_\_\_. 12. Nonrenewable energy \_\_\_\_\_ fossil fuels such as oil, gas, and coal. In many countries they are trying \_\_\_\_\_ on these sources of energy in favour of renewable ones. 13. According to the data, drought conditions have been \_\_\_\_\_ across the West of Europe for several years. 14. There are some secondary issues which must \_\_\_\_\_ as well. 15. There's no question that thunderstorms \_\_\_\_\_ a tremendous amount of electricity. 16. When you \_\_\_\_\_ a lightning bolt (вспышка) into watts, the result is a pretty large number. But when you convert the watts into kilowatt-hours and compare it to how much electricity the average home uses, it is rather insignificant. When \_\_\_\_\_ against a large city, it is negligible (незначительный). 17. It is simply not economical to build the infrastructure required to capture a lightning bolt to power our homes, which is why no company has ever successfully commercialised lightning as a \_\_\_\_\_. 18. The notion of harnessing the power of electricity formed naturally has tantalized (манить) scientists for centuries. But until now, scientists lacked adequate knowledge about the processes \_\_\_\_\_ in formation and \_\_\_\_\_ of electricity from water in the atmosphere. 19. Scientists once believed that water droplets (капли) in the atmosphere were electrically neutral, and remained so even after coming into contact with the \_\_\_\_\_. But new evidence suggests that water in the atmosphere really does pick up an electrical charge. 20. According to new research, the \_\_\_\_\_ of harnessing hydroelectricity in the near future could be substantial (значительный).

*cause no harm / electric battery / power generator / produced / particles / turbine /  
is harnessed / converted / brought into practical use / renewable energy / reduce*

---

21. Though some people think that during a thunderstorm electric current is \_\_\_\_\_ it is not true. 22. One of the greatest pioneers in electricity was Thomas Edison, who saw electricity as his “field of fields” to “reorganise the life of the world.” Working tirelessly on electricity from his laboratory in New Jersey in the

1870s, America's greatest inventor \_\_\_\_\_ the incandescent electric light bulb (лампа накаливания) \_\_\_\_\_ by the end of that decade. 23. The first wind \_\_\_\_\_ used for the production of electricity was built in Scotland in 1887. 24. Airbus has unveiled ambitious plans for the world's first zero-emission aircraft which will \_\_\_\_\_ to the atmosphere. 25. It is believed that the use of hydrogen as a fuel has the potential to \_\_\_\_\_ significantly aviation's climate impact. 26. Airbus says that with the support from government they can scale up (увеличить масштаб использования) \_\_\_\_\_ and hydrogen for the sustainable (устойчивый) future of the aviation industry. 27. In 1897 J.J. Thompson of England showed that thermionic emission was indeed caused by negatively charged \_\_\_\_\_ - electrons. 28. Italian physicist Alessandro Volta discovered that chemical energy could be \_\_\_\_\_ into electrical energy and invented the first \_\_\_\_\_ , that he called a voltaic pile, in 1800. 29. Michael Faraday, an English scientist, invented the electric dynamo, the first \_\_\_\_\_ in 1831. 30. Biomass energy \_\_\_\_\_ from organic matter such as wood, animal waste, plants and crops.

**18. Complete each sentence with the correct form of the word in capitals.**

1. The \_\_\_\_\_ of electricity changed the world for ever. DISCOVER
2. The scientists continue to argue about \_\_\_\_\_ issues. ENVIRONMENT
3. Latest \_\_\_\_\_ in the field of virtual reality software make us closer to 'walking' inside cells. DEVELOP
4. The invention of self-driving cars is a pretty impressive \_\_\_\_\_ in technology. ADVANCE
5. \_\_\_\_\_ power transfer was first demonstrated by Nikola Tesla. WIRE
6. Humanity has accomplished plenty of amazing engineering \_\_\_\_\_ that can be seen all around the globe. ACHIEVE
7. One of the theories explains the triangular form and southerly direction of the continents by the differential \_\_\_\_\_ of the sun and moon. ATTRACT
8. It is known that lots of health problems are \_\_\_\_\_ to our lack of physical activity. RELATION
9. More and more people try \_\_\_\_\_ their carbon footprint

because they are concerned about climate change. REDUCTION 10. The report brings together a number of relevant and practical \_\_\_\_\_. CONSIDER

**19. Write your own examples with some words from Module 3 vocabulary list with gaps on cards and practice filling the gaps on your partners' cards.**

**Example:** Wave energy is produced from the ocean waves. →

\_\_\_\_\_ energy is produced from the ocean waves.

**20. Name three things that:**

- are great discoveries ever;      - are the latest achievements of technology;
- are great inventions;                - you cannot live without;
- use electricity;                     - can be upgraded.

**21. Summarise in English.**

Кроме замены традиционных источников энергии альтернативными, существуют проекты по созданию экологически чистых и сбалансированных городов и деревень будущего. Основой для их создания будут служить применение экономичных материалов, а также оптимальный режим использования энергии, который смогут поддерживать с помощью компьютерных программ. В испанском поселке Сант-Джосеп на острове сооружается первая в мире экологическая деревня будущего, где поселятся четыреста человек. В проекте участвуют специалисты из всех стран Европы. Чтобы оптимально использовать солнечный свет, «умные» дома сами станут регулировать внутреннюю температуру. Это позволит как новая технология, так и используемые материалы которые создадут щит, впускающий солнечный свет, но удерживающий тепло. Температура зимой и летом будет одинаковая - 20-22 градуса. Избыток энергии поступит в термический теплонакопитель. Электроэнергию там станут вырабатывать также ветряные мельницы и солнечные батареи, избыток ее опять же сберегут огромные аккумуляторы. Биоочистная установка превратит органические отходы в

метан, преобразуемый затем в электричество. Структура здания гарантирует сохранность свыше 85 процентов энергии. На гигантской биоферме будут выращивать скот, рыбу, а также овощи, фрукты и злаки.

## SPEAKING AND DISCUSSION



**22. Words of wisdom. Try to match two parts of quotes by famous people about electricity. Choose the one you like the most and explain why.**

- |   |   |
|---|---|
| 1. There is a driving force more powerful         | a. You can't see it, but you can see the light. (Gregory Dickow)                              |
| 2. If your hate could be turned into electricity, | b. than steam, electricity and nuclear power: the will. (Albert Einstein)                     |
| 3. Faith is like electricity.                     | c. to the traditional media business as electricity was to the candle business. (Ken Auletta) |
| 4. The electric age established a global network  | d. it would light up the whole world. (Nikola Tesla)  |
| 5. The digital revolution is almost as disruptive | e. that has much the character of our central nervous system. (Marshall McLuhan )             |
| 6. Ampere was                                     | f. but gives much light. (Abbe Pierre)  |
| 7. A smile costs less than electricity            | g. the Newton of Electricity. (James Clerk Maxwell)   |



**23. Search the Internet to find more examples of the inventions that electricity has made possible. Use the following link:**

**<https://interestingengineering.com/heres-9-of-the-most-important-electrical-inventions-ever>**. Tell your group about one of these inventions. In groups, create your own list of top 5 most important electrical inventions. Compare your lists.

**24. Discussion. Read the passage below and discuss the questions.**

*"Many errors, of a truth, consist merely in the application of the wrong names of things."* – B. Spinoza, a Dutch philosopher.

Let's look at what we know about electricity, the most important physical phenomenon of our civilization. Most of us are not particularly interested in any theoretical foundations, because at school we were clearly explained what electricity is in a simple way. But what exactly *is* electricity? This is a very complicated question, and as you dig deeper and ask more questions, there really is no definitive answer, only abstract representations of how electricity interacts with our surroundings.

Many encyclopaedias, dictionaries, and textbooks contain very clear statements about the nature of Electricity. They say this:

- ✓ Electricity is a type of energy.
- ✓ Electric current is a flow of energy.

The above statements are wrong. Yes, electrical energy does exist. However, energy and charge flow in completely different ways in a circuit. They are two different things, so they cannot both be the electricity. It's not too difficult to demonstrate the mistake...

- 1. Can you give any facts which show that electricity, the stuff that flows within copper wires, is not a form of energy?
- ?
- 2. “The more we know about electricity the less we understand this phenomenon”. To what extent do you agree with this opinion?

**25. Case study. The Best Project For an Eco-village. Listen to three talks about renewable energy sources and fill in the gaps in the text with necessary information.**

<https://drive.google.com/file/d/1YUJ0bG6flC5DAOKPm3p6cyGPAq5R6zVB/view?ts=5f99912f>

## Fuels And Energy Sources

A. There are many energy \_\_\_\_\_ we can use. Some, like fossil fuels and nuclear fuels, are non-renewable. Others, like wind, \_\_\_\_\_ and solar power, are renewable.

What is solar energy? Solar energy is energy in the form of \_\_\_\_\_, produced by the Sun. Energy from sunlight is captured in solar panels and converted into electricity.

B. Wind turbines (modern windmills) turn wind energy into electricity. They can be found singularly, but usually many together in wind farms. Wind is a potentially \_\_\_\_\_ energy supply.

C. The movement of seawater in and out of a cavity on the shore compresses trapped air, driving a turbine. Ideal for an \_\_\_\_\_ country. More likely to be small local operations, rather than done on a national scale.

*Discuss the advantages and disadvantages of each energy source in groups.*

*Decide what the best project to supply a coastal eco-village with electricity would be.*

## GRAMMAR

### FUTURE FORMS



#### Lead-in

*In groups identify the tense forms and explain their meaning in the sentences below.*

1. Kate and I are meeting up in Moscow this month.
2. Mike is going to travel around China this summer.
3. We'll meet you outside the café.
4. At this time

tomorrow we'll be having dinner in one of the best restaurants of this city. 5. Her birthday falls on a Friday next year. 6. Paul hopes he will have finished his project by May. 7. Our lesson is about to begin in a minute. 8. There is no doubt that he will be appointed the chairman of the committee.

**26. Match the verb forms in the sentences (1-7) with their uses (a-g).**

- |  |  |
|--|--|
| 1. I think he will pass the exam.                    | a. an arrangement                                  |
| 2. Oh, 3-0! They are going to win.                   | b. a prediction from present evidence              |
| 3. We are leaving for Sochi tomorrow.                | c. a decision made at this moment                  |
| 4. The concert begins at 19.30.                      | d. a future action completed before another action |
| 5. I'll help you with your homework.                 | e. a prediction when there is no present evidence  |
| 6. He will be giving the talk this time tomorrow.    | f. a future action in progress                     |
| 7. I will have finished the report before they come. | g. timetables, programmes, schedules               |

**STUDY NOTE.** English uses a lot of different verb forms to refer to **future time**.

We use **will**:

1. when we decide to do something at the time of speaking: *Ok, I'll (I+will) help them.*
2. or a prediction that is not based on present evidence: *I think it won't (will+not rain today.*
3. to express offers, suggestions, fears, promises, warnings, threats, requests: *Will you do something for me?*

We use **be going to**:

4. when we already have a plan or intention to do something: *I'm going to see my parents this Sunday.*
5. for prediction that is based on present evidence: *It's 6-0, they are going to win.*

We use **the Present Continuous**:

6. when we have an arrangement: *Nobody's working on the 1<sup>st</sup> of January.*

We use **the Present Simple:**

7. with timetables and programmes: *Our train arrives at 12.30.*

8. after time conjunctions: when, as soon as, before, after, etc. : *I'll ask him to phone when he arrives.*

## **27. Choose the correct form of the verbs in brackets.**

1. Lots of people think it (*will/ is going to*) take long time to replace fossil fuels with renewable energy sources. 2. Sorry, I can't meet you tonight. I ('ll visit /'m going to visit) Tom in hospital. 3. We'll call you as soon as (*we get/we'll get*) there. 4. It is said here that the play (*starts /is going to start*) at seven. 5. You look tired. You rest, and (*I'll cook /I'm going to cook*) dinner tonight. 6. I'd love to come tomorrow but (*I'll have / I'm having lunch*) with my brother. 7. The clouds are coming out. It *is going to/will* rain. 8. Just before you (*go /you'll go*), can you check this for me? 9. The coach (*leaves/will leave*) at 8pm. 10. We need some paper for the photocopier. Okay, I ('ll/'m going to) buy some.

## **28. Complete the sentences by writing the verbs in brackets in the appropriate Future form. Explain the meaning or translate the sentences into Russian.**

1. All right. I \_\_\_\_\_ (leave) the key on his table. 2. What exams \_\_\_\_\_ we\_\_\_\_\_ (take) this term? 3. \_\_\_\_\_ you \_\_\_\_\_ (do) anything next weekend? 4. When my son \_\_\_\_\_ (come), he \_\_\_\_\_ (show) them round Moscow. 5. Sorry, I can't see you in the morning, I \_\_\_\_\_ (give) my sister a lift to university tomorrow. 6. They\_\_\_\_ probably \_\_\_\_\_ (come) back at 8.00. 7. I'm afraid, I'm not quite ready. - Never mind. I \_\_\_\_\_ (wait). 8. Paul \_\_\_\_\_ (have) his first driving lesson next week. 9. All right. I \_\_\_\_\_ (ring) her up at 9.30. 10. Next year the third year students \_\_\_\_\_ (study) specialised subjects.

## **FUTURE PASSIVE FORMS**

## **29. Turn the sentences into the Future according to the model.**

*Example: The cake is made by my mother. → Tomorrow the cake will be made by*  
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*my sister.*

1. The sick woman is taken to hospital. (tomorrow)
2. Tea is made by my mother. (tonight)
3. Such cars are made in Germany. (soon)
4. He is often seen here. (when he comes back)
5. The tickets are sold in the box-office. (online/next week)
6. Football is played in many countries. (in the future, all over the world)
7. These textbooks are not used any longer. (next year)
8. English is taught at school. (when you go to school)
9. Is your sister left at home alone sometimes? (next month)
10. Dinner is served at 8pm. (at 7pm tonight)

**30. Write 6-7 sentences about your plans for tomorrow / this weekend / nearest holidays in your diary. Then tell your partner about them. Ask about your partner's plans. Use different future forms. Example:**

*Example: Mon 9am - dentist. I'm meeting my dentist at 9am on Monday.*



Ask questions like this: What are you doing this weekend/this summer? Are you going to ...? Do you think you'll...?

## **ALL TENSES REVISION**

**31. Correctly reorder the information in the tables below.**

**A.**

<b>Example</b>	<b>Tense</b>	<b>Use</b>
1. He'll <u>be</u> here soon.	Present Simple	Routine
2. <u>Have</u> you ever eaten Chinese food?	Past Simple	Action prior to a stated action
3. When I got back, she <u>had changed</u> all the locks.	Future Simple	Action currently in progress
4. We're <u>doing</u> Grammar Revision exercise right now.	Present Continuous	Past action at a stated time
5. They <u>built</u> a new house	Past Perfect	Progressive action
	Past Perfect Simple	

last year.  6.I <u>was having a bath</u> at 8 o'clock last night.  7.We <u>have breakfast</u> in the morning.		around a stated time  Experiences, unstated time  Prediction
---	--	--

B\*.

Example	Tense	Use
1. She'll <u>have had</u> the operation by this afternoon.	Future Continuous	Reason for past state
2. I'll <u>have been studying</u> at this university for a year by next September.	Future Perfect Simple	Plans for the future
3. I'm exhausted. I've <u>been studying</u> all day.	Present Perfect	Progressive action around a stated time
4. The room was stank-someone <u>had been smoking</u> .	Continuous	Action completed before a stated time
5. This night I'm <u>going out</u> .	Past Perfect Continuous	Defined duration up to a stated future time
6. We'll <u>be eating</u> at 8 o'clock.	Future Perfect Continuous 'going to' future	Reason for present state

**32. Fill in the tenses in the brackets, following the example. Explain the meaning of tenses in the examples.**

**Example:** The meeting went okay yesterday. (Past Simple)

1. I've known my English teacher since September. (\_\_\_\_)
2. I'll be with you in a minute. (\_\_\_\_)
3. I had passed all the exams by January 25. (\_\_\_\_)
4. He eats cornflakes for breakfast. (\_\_\_\_)
5. Prices are rising very quickly at the moment. (\_\_\_\_)
6. She graduated four years ago. (\_\_\_\_)
7. I was having dinner at 2 o'clock yesterday. (\_\_\_\_)
8. They'll have arrived by tomorrow afternoon. (\_\_\_\_)

### **33. Fill the gaps choosing the appropriate time expressions.**

**I.** at 7.00 /so far/ since 5 o'clock/when he saw the spider/ never/four years ago/three times/for the last 6 years/right now/every day

1. I eat cornflakes \_\_\_\_\_. 2. He \_\_\_\_\_ watches television. 3. Prices are rising very quickly \_\_\_\_\_. 4. We are having dinner \_\_\_\_\_ tonight. 5. I've been to Paris \_\_\_\_\_. 6. She hasn't done it \_\_\_\_\_. 7. She's been smoking \_\_\_\_\_. 8. I've been playing tennis \_\_\_\_\_. 9. She graduated \_\_\_\_\_. 10. He ran away \_\_\_\_\_.

**II.** when they arrived / all morning/ when I see him / usually/ by 10.00 /next spring / throughout the lesson/ if it rains / shortly / by next October

1. They were chatting \_\_\_\_\_. 2. We had already finished the meeting \_\_\_\_\_. 3. I had been working hard \_\_\_\_\_ and felt tired. 4. I'll tell him \_\_\_\_\_. 5. I'll take an umbrella \_\_\_\_\_. 6. I'm going to visit Japan \_\_\_\_\_. 7. The plane will be landing \_\_\_\_\_. 8. I'll have finished \_\_\_\_\_. 9. I'll have been working here for ten years \_\_\_\_\_. 10. When I feel tired I \_\_\_\_\_ take a cup of coffee.

### **34. Read the sentences and put the verbs in brackets into the correct tense.**

**Explain the meaning of the tense forms you used or translate the sentences.**

**I.** 1. She \_\_\_\_\_ (go) swimming once a week. 2. I \_\_\_\_\_ (wait) for you at 8.00 tonight. 3. I \_\_\_\_\_ (feel) slightly unwell today. 4. She just \_\_\_\_\_ (find) a new job. 5. We \_\_\_\_\_ (travel) recently. 6. I \_\_\_\_\_ (go) to see my parents last week. 7. Sorry, I didn't answer your call. I \_\_\_\_\_ (have) dinner at 7.00 last night. 8. I just \_\_\_\_\_ (get) up when the doorbell rang. 9. I \_\_\_\_\_ (see) you next Saturday. 10. She \_\_\_\_\_ (sleep) for 2 hours when the doorbell rang.

**II.** 1. We \_\_\_\_\_ (see) our new boss later on. 2. They \_\_\_\_\_ (arrive) by now. 3. She \_\_\_\_\_ (sleep) for a long time when we get there. 4. They already \_\_\_\_\_ (build) the house by the time I bought the flat. 5. They seldom \_\_\_\_\_ (eat) fish with peas. 6. She \_\_\_\_\_ (meet) Bill next Thursday. 7. \_\_\_\_ you ever \_\_\_\_ (see) somebody famous? 8. He \_\_\_\_\_ (arrive) from his business trip yesterday. 9. He

\_\_\_\_\_ (write) a report when she arrived. 10. He probably \_\_\_\_\_ (arrive) at about 10.00 tonight.

**35. Answer the questions paying attention to Passives. Give full answers.**

1. What is electrical energy based on? 2. Can scanners and computers be classified as ‘electrical equipment’? 3. How can electricity be used in everyday life? 4. Was tidal energy classified as non-renewable source of energy? 5. Were nuclear power plants recognised as dangerous for humanity? Why? 6. Will fossil fuels be replaced by renewable sources of energy soon?

**36. Passives quiz. Match the beginnings of the sentences (1-10) with their endings (a-j). Write the sentences putting the verbs in brackets into the correct Passive Tense form. Ask and answer the questions in pairs from memory.**



*Example: This university building (to open) ...*

*→ This university building was opened in 2004.*

1. The oldest university in Russia (to found).....
2. Over 800 various events (to hold).....
3. The Soviet space programme (to direct)  
.....
4. Sputnik 1 (to design and construct).....
5. Comprehensive engineering education at BMSTU (to provide).....
6. The State Historical Museum (to establish) .....
7. Dealing with waste (to consider) .....
8. Nearly five percent of global CO<sub>2</sub> emissions (to produce) .....
9. The introduction of low emission zones (to suggest) .....
10. Alternative forms of mobility (public transport and bicycle infrastructure) (to develop) ...
  - a. as a revolutionary scenario for the development of the transport system of the

capital.

- b. one of the top environmental issues in our country.
- c. by Sergei Korolev.
- d. in 1724 by Peter the Great.
- e. to commemorate national history.
- f. through lectures, seminars, hands-on experience and research.
- g. in Moscow and St. Petersburg in the next decade.
- h. to celebrate the 250th anniversary of Moscow State University in 2005.
- i. in Russia.
- j. in less than a month.

## **INDEPENDENT FURTHER STUDY**

**37. Note the difference between the words in the examples below and complete the sentences with the right word in the correct form.**

### **1. electric/electrical**

electric: needing electricity to work, produced by electricity, or used for carrying electricity: *electric circuit/ charge/ current/ field/ eel/ lights/cooker etc.*

electrical: relating to electricity, also used about things in general that use electricity: *electrical engineer/ equipment/ goods/ devices/ appliance/ fault etc.*

### **2. lighting/lightning/lightening**

lighting: the system or arrangement of lights.

lightning: the visual presentation of the electrical discharge between clouds.

lightening: becoming lighter in weight or become brighter or less dark.

### **3. invent/discover**

invent: to make, design, or think of a new type of thing.

discover: to be the first person to find something

1. \_\_\_\_\_ current makes the wire behave like some kind of magnet.

2. \_\_\_\_\_ engineers develop different things that use electricity in a helpful way. 3. There were \_\_\_\_\_ lights burning at the entryway. 4. Russia has a single synchronous \_\_\_\_\_ network encompassing much of the country. 5. The load was thrown into the sea to \_\_\_\_\_ the ship. 6. My cat is afraid of thunder and \_\_\_\_\_. 7. As the sky was \_\_\_\_\_, we were able to see where we were. 8. The street \_\_\_\_\_ was so dim that we got lost. 9. Ivan Kulibin \_\_\_\_\_ screw elevator, powered barge, prosthetic foot and other mechanical tools. 10. Pyotr Kapitsa is a winner of the Nobel Prize for Physics in 1978 for his \_\_\_\_\_ of superfluidity of liquid helium.

**38. Odd one out. For each number, circle the word that does not belong to the group and explain why.**

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| 1. sight, phenomenon, event          | 6. refrigerator, car, dishwasher |
| 2. discovery, property, invention    | 7. transmit, pass, transfer      |
| 3. lightening, grid, web             | 8. watt, volt, metre             |
| 4. hydrogen, nitrogen, copper        | 9. substance, particle, matter   |
| 5. physicist, electrician, physician | 10. solar, biomass, coal         |

**39. Identify the forms of the Passive structures (Present/ Past /Future Simple, Present/Past Continuous, Present/Past/Future Perfect Simple)**

is | is being | was | was being | has been | had been | will have been | will be + developed

**40. Read the text below. Identify the tense forms of the highlighted verbs and explain their meaning. Retell the text.**

Imagine a self-powering mobile phone that never needs to be charged because it converts sound waves produced by the user into the energy it needs to keep running. It's not as far-fetched as it may seem thanks to the recent work of scientists of Texas A&M University. It has been found that a certain type of piezoelectric material can convert energy at a 100 percent increase when manufactured at a very small size – in this case, around 21 nanometres in

thickness.

Though the subject matter is small, its impact could be huge. The discovery stands to advance an area of study that has grown increasingly popular due to consumer demand for compact portable and wireless devices with extended lifespans.

Battery life remains a major concern for cell phones that are required to perform an ever-expanding array of functions. Even the disturbances in the form of sound waves such as pressure waves in gases, liquids and solids may be harvested for powering nano and micro devices of the future if these materials are processed and manufactured appropriately for this purpose.

Key to this technology is piezoelectrics. Derived from the Greek word "piezein," which means "to press," piezoelectrics are materials (usually crystals or ceramics) that generate voltage when a form of mechanical stress is applied. Conversely, they demonstrate a change in their physical properties when an electric field is applied. Though piezoelectrics had been discovered much earlier (in 1880s), they were first used only during World War I in sonar devices. Today they can be found in microphones and quartz watches.

On a grander scale, some night clubs in Europe feature dance floors built with piezoelectrics that absorb and convert the energy from footsteps in order to help power lights in the club. And it has been reported that a Hong Kong gym is using the technology to convert energy from exercisers to help power its lights and music. While the technology is being developed dramatically, piezoelectric work at the nanoscale is a relatively new attempt with different and complex aspects to consider.

#### **41. Change the following sentences from Active into Passive.**

**Example:** This process cools the buildings during the summer. → The buildings are cooled by this process in summer.

1. This process cooled the buildings during the summer.
2. This process will cool the buildings during the summer.
3. This process is cooling the buildings during the summer increasingly.

4. This process has already cooled the buildings.
5. They informed that the process had already cooled the buildings.

**We usually omit the agent (the person who causes or carries out the action):**

- when the action interests us more than the agent;
- when we don't know the agent;
- when it is easy to understand who or what the agent is.

## **42. Rewrite the sentences in the Passive Voice.**

1. Physicists are testing an idea to see if the universe is a computer simulation.
2. Nikita Mikhalkov has directed a lot of successful films.
3. Christians in Great Britain celebrate Christmas on December 25.
4. Valentin Serov painted "The girl with peaches".
5. Scientists have been exploring submerged (находящийся под водой) volcanoes on Earth for a long time.
6. Highly-qualified professors will deliver lectures on a variety of subjects.

## **43\*. Rewrite the newspaper headlines as complete sentences.**

*Example: The job crisis is being faced by young people.*

1. **JOB CRISIS BEING FACED BY YOUNG PEOPLE**
  2. **PLANET NOT YET FACED THE TOUGHEST VIRUS RESTRICTIONS**
  3. **CHILD RESCUED FROM FIRE TODAY**
  4. **OFFICIALS ACCUSED OF BREAKING QUARANTINE RULES**
- YESTERDAY**
5. **THIS WEEK COUNCIL WARNED OF ENFORCING ADOPTED RULES**
  6. **EXHIBITION TO BE HELD BY LOCAL ELITE REPRESENTATIVES**
- TOMORROW**
7. **FIRST LIVING ROBOTS JUST CREATED**
  8. **PEOPLE TO BE MADE TELEPATHIC BY BRAIN-COMPUTER**

## INTERFACE, SCIENTISTS SAY

### 44. Correct the mistakes in the text.

Our Hospital situated (1) on the outskirts of the city next to a large park.

Our brand-new facility had opened (2) last summer. Wi-Fi facilities can been accessed (3) in all wards and fire safety equipment have been installed (4) by the time we officially opened the hospital. Some more private ensuite bedrooms are building (5) at the moment which will be available next year. The lighting of patient rooms implements (6) by small lamps with a relay. Electrical patient bed is appeared (7) as a mini bed with a motor. The facility to call the medical nurse represents (8) by a nurse call buzzer system. Also, permission has given (9) to build a Radiology unit. All rooms clean (10) daily with the minimum amount of inconvenience to our patients.

**Note** that we use ‘by’ for the agent and ‘with’ for the tool.

### 45. ‘By’ or ‘With’. Fill in the gaps choosing ‘by’ or ‘with’.

1. Different sources of energy are used \_\_\_\_ engineers.
2. Saturn's magnetosphere is filled \_\_\_\_ plasma.
3. The device is started \_\_\_\_ an electronic card.
4. Geothermal energy can be used \_\_\_\_ a residential unit or on a large scale \_\_\_\_ an industrial application.
5. Wind farms were allowed to appear \_\_\_\_ numerous innovations.
6. New sources of energy may be discovered \_\_\_\_ scientists.

### 46. Summarise in English.

Ученые работают над созданием микроустройств с автономным питанием, например, телефон, который никогда не нужно будет заряжать, потому что он преобразует звуковые волны, создаваемые пользователем, в энергию, необходимую для работы. Было обнаружено, что определенный тип пьезоэлектрического (piezoelectric) материала может скрывать энергию со 100-процентным увеличением при производстве в крошечных размерах, в данном случае около 21 нанометра в толщину (thick). Хотя предмет небольшой, его

влияние может быть огромным. Это открытие должно продвинуть вперед область исследований, которая становится все более популярной. Даже возмущения (disturbances) в виде звуковых волн, таких как волны давления в газах, жидкостях и твердых телах, можно использовать для питания нано- и микроустройств будущего, если эти материалы обрабатываются и производятся соответствующим образом для этой цели. Ключом к этой технологии являются пьезоэлектрики. Это материалы (обычно кристаллы или керамика), которые генерируют напряжение при приложении механического напряжения. Хотя пьезоэлектрики были открыты намного раньше (в 1880-х годах), они были впервые использованы только во время Первой мировой войны в гидроакустических устройствах. Сегодня их можно встретить в микрофонах и кварцевых часах.

## RECOGNISING WORD CLASSES

**STUDY NOTE.** English words belong to different **grammatical classes or parts of speech** (e.g. noun, verb, preposition). In English there are few clues in the word itself to tell us what class it belongs to. We usually have to look at the context. The following sentence gives examples of different word classes.

The (**article**) old (**adjective**) woman (**noun**) walked (**verb**) slowly (**adverb**) up (**preposition**) the hill, she (**pronoun**) soon got tired and (**conjunction**) stopped.

Note: A lot of words function as a member of one word class in some contexts and as a member of another word class in other contexts:

*to play (v) – a play(n), an adult(n) – an adult(adj) person*

**47. Find more information about word classes and prepare to give their definitions and examples. Take notes and write a list of the main word classes in English with their definitions and examples.**

**Example:** A noun describes a person, place or thing. Some typical noun endings are: -ion (education), -ity (difficulty), -ment (instrument), -ance (importance). In a sentence they act as subjects and objects. Education(n) is a way(n) to success(n).

**48. Put the words from reading into the appropriate column. Some words can go into more than one section. Add 2-3 examples of your own to each class.**

Graduate, successfully, senior, at present, first, we, as well as, economy, high, convert, flow, become, property, with, renewable, chance, a few, intelligent, besides, additionally, include, important, but, also, for, the, this, common, they, modern, industrial, method, constantly, it, or, second, apart from, more.

<b>Nouns (n)</b>	a graduate,
<b>Verbs (v)</b>	to graduate,
<b>Adjectives (adj)</b>	senior,
<b>Adverbs (adv)</b>	successfully,
<b>Determiners (articles, numerals, quantifiers)</b>	first,
<b>Pronouns (pron)</b>	we,
<b>Prepositions (prep)</b>	at,
<b>Conjunctions (conj)</b>	as well as,

### CHECK YOURSELF

**49. Use the given words to fill in the blanks.**

### UBIQUITOUS ELECTRICITY

charge /particles /attracted/ motion /Phenomena/ manifestations/ occur
--

1. Electrical \_\_\_\_1\_\_\_\_ attracted the attention of European thinkers as early as the 17<sup>th</sup> century. The name ‘electricity’ came from the Greek word for ‘amber’ and

was coined by Elizabeth I's physician William Gilbert because amber \_\_\_\_\_ 2 \_\_\_\_\_ light objects after being rubbed. Electricity can be broadly defined as a set of phenomena that \_\_\_\_\_ 3 \_\_\_\_\_ throughout nature and take many different forms, including lightning and static electricity. Various \_\_\_\_\_ 4 \_\_\_\_\_ of electricity are the result of the accumulation or \_\_\_\_\_ 5 \_\_\_\_\_ of electric charge carriers. Electric \_\_\_\_\_ 6 \_\_\_\_\_ is a fundamental property of matter and is borne by elementary particles. In electricity the particles involved are electrons, the negatively charged \_\_\_\_\_ 7 \_\_\_\_\_ of atoms.

bulb/ generation /sources of energy /nuclear

2. Electrical energy is one of our most widely used forms of energy. Humans get electricity, which is a secondary energy source, from other \_\_\_\_\_ 8 \_\_\_\_\_, like coal, natural gas, oil and \_\_\_\_\_ 9 \_\_\_\_\_ power. The original natural sources of electricity are called primary sources. And before electricity \_\_\_\_\_ 10 \_\_\_\_\_ began, houses were lit with kerosene lamps, food was cooled in iceboxes, and rooms were warmed by wood-burning or coal-burning stoves. Beginning with Benjamin Franklin's experiments, the principles of electricity gradually became understood. In the mid-1800s, everyone's life changed with the invention of the electric light \_\_\_\_\_ 11 \_\_\_\_\_ which used electricity to bring indoor lighting to our homes.

solar cells / plants /converting /carried out /available

3. Electricity is not freely \_\_\_\_\_ 12 \_\_\_\_\_ in nature, so it must be produced. Electricity generation is the process of generating electric power from sources of primary energy. Production is most often \_\_\_\_\_ 13 \_\_\_\_\_ at power stations, also called power \_\_\_\_\_ 14 \_\_\_\_\_, by electromechanical generators. An electric power station uses either a turbine, engine, water wheel, or other similar machine to drive an electric generator, a device for \_\_\_\_\_ 15 \_\_\_\_\_ mechanical energy into electrical energy. Other methods of generation include electrochemistry, the direct transformation of chemical energy into electricity, as in a battery, and the photovoltaic effect, the

transformation of light into electrical energy, as in \_\_\_\_\_16\_\_\_\_\_.

interaction / imbalance/ current /surface

4. While \_\_\_\_\_17\_\_\_\_\_ electricity is a flow of electrons, static electricity is the result of an \_\_\_\_\_18\_\_\_\_\_ between negative and positive charges in objects. These charges can build up on the \_\_\_\_\_19\_\_\_\_\_ of an object until they find a way to be released. Electrostatic energy is present when two bodies undergo a frictional \_\_\_\_\_20\_\_\_\_\_ or collision. For example, rub a comb on a woolen material and hold it over small paper pieces; they are lifted up because of the static electricity created by rubbing the objects. You may be interested to know that certain animals can produce electricity and light through biochemical reactions (electric eels, glow worms and some types of fish). They may hold key for new methods of electricity production.

**50. Choose the best option to complete the sentences.**

1. Electricity has many useful ... .  
a) appearances b) properties c) inventions
2. Nuclear power has one ... : it produces dangerous materials.  
a) disadvantage b) efficiency c) advantage
3. The world energy ... are limited.  
a) consumption b) forecasts c) sources
4. Electricity has found ... in various fields of human activity.  
a) reduction b) application c) replacement
5. The new design will ... all existing models.  
a) replace b) replay c) rebuild
6. The ... of electricity is the most important task worldwide.  
a) design b) generation c) indication
7. The work in the office was organised very  
a) efficiency b) efficiently c) effortlessly
8. No other \_\_\_\_ of energy has been so widely used as electricity.  
a) consumption b) source c) property

9. Electricity has many important \_\_\_\_ in industry as well as in our houses.

- a) advantages b) applications c) properties

10-11. In the UAE a motorway tunnel miles away from any \_\_\_\_ supply is lit day and night by solar-powered \_\_\_\_ .

- a) power b) property c) powder
- a) designs b) devices c) properties

12. There is an important \_\_\_\_ of solar power: its use does not pollute the environment.

- a) appearance b) application c) advantage

13. It is very important to develop devices which make it possible to \_\_\_\_ solar power into mechanical and electric forms of power.

- a) cover b) invent c) transform

14. What \_\_\_\_ of electricity make it so universal?

- a) properties b) appearances c) states

15. Our life has been completely transformed with the \_\_\_\_ of electricity.

- a) achievement b) protection c) appearance

16. The indicator of nation development is the \_\_\_\_ of electricity per capita.

- a) transformation b) source c) consumption

**51. Verb tense review. Complete the sentences putting the verbs in brackets into the right tense form.**

1. The legend is that Newton (discover) \_\_\_\_ gravity when he saw a falling apple while he (think) \_\_\_\_ about the forces of nature. 2. As far as I know, our professor (teach) \_\_\_\_ at this university for 30 years and is not going to retire. 3. My boss loves travelling and he already (be) \_\_\_\_ to 20 different countries. He says that next year he (go) \_\_\_\_ to Japan. 4. Mr. Black is a writer. He began from writing travel memoirs, but now he (write) \_\_\_\_ mystery novels. He (write) \_\_\_\_ since he was 25. Altogether he (write) \_\_\_\_ three novels and a collection of short stories. 5. We were late because our car (break) \_\_\_\_ down. By the time we got to the station, our friends (wait) for us for more than two hours. 6. My

husband is in hospital. He (try) \_\_\_\_\_ to change a light bulb when he slipped and fell. 7. They are a very happy couple. They always cook together. Jim (peel) \_\_\_\_\_ the vegetables and Kate (cook) \_\_\_\_\_ meat right now. At this time yesterday they (do) \_\_\_\_\_ the same thing. Tomorrow they (to have) \_\_\_\_\_ a meal out. So, at this time tomorrow they (sit) \_\_\_\_\_ in a restaurant. 8. My son (do) \_\_\_\_\_ his Master's course now. I hope that by this time next year he (complete) \_\_\_\_\_ his course and (find) \_\_\_\_\_ a good job. 9. The students are usually taught by Miss Smith. But as she has fallen ill, next week they (teach) \_\_\_\_\_ by some other teacher. 10. Last night I was very tired. I (browse) \_\_\_\_\_ the net for two hours before I found the information I was looking for.

**52. Read the text and put the verbs in brackets into the right tense form (Present Perfect, Present Continuous, Present Simple, Past Simple, Future Simple). Retell the text.**

## **90-YEAR-OLD STARTS ELEMENTARY SCHOOL**

A 90-year-old Kenyan grandmother 1. (become) \_\_\_\_\_ the world's oldest elementary school student ever. Priscilla Sitienei is from a small village in Kenya. Right now she 2. (study) \_\_\_\_\_ at the local elementary school to learn to read and write. Ms Sitienei 3. (spend) \_\_\_\_\_ most of her life working as a midwife. She wants to be able to read and write so she can pass on her midwifery skills and write down the special herbal remedies she 4. (use) \_\_\_\_\_. She also 5. (want) \_\_\_\_\_ to be able to read the Bible. Sitienei says she 6. (not/have) \_\_\_\_\_ a chance to go to school when she 7. (be) \_\_\_\_\_ younger. She hopes she 8. (set) \_\_\_\_\_ an example to younger people. She wants all the children in her village to study. When Ms Sitienei first 9. (try) \_\_\_\_\_ to enroll at the school, the head teacher 10. (think/not) it was a good idea. Now he 11. (be) \_\_\_\_\_ very happy that Priscilla is at the school. He said: "She 12. (do well) \_\_\_\_\_ considering her age. I can say I 13. (see) \_\_\_\_\_ a big difference in this school since she 14. (come) \_\_\_\_\_. Priscilla had a message for children everywhere, saying: "I want to say to the children of the world, especially girls, that education 15. (be) \_\_\_\_\_ your wealth

in your future life. With education, you can be whatever you want - a doctor, lawyer or a pilot."

**53. Read the text and put the verbs in brackets into the right tense form (Past Simple, Past Perfect, Past Perfect Continuous, Past Continuous, Active or Passive. Retell the text.**

### **LET US KNOW MORE ABOUT THE 'FATHER OF ELECTRICITY'**

*William Gilbert was an English scientist and physician who is credited by many as the "father of electricity and magnetism".*

William Gilbert, an English scientist and physician, 1. (be born) \_\_\_\_\_ in 1544. He 2. (study) \_\_\_\_\_ at Cambridge for almost ten years when after getting a Bachelor's Degree and a Master's Degree he finally 3. (receive) \_\_\_\_\_ his Doctorate. Soon after he 4. (settle) \_\_\_\_\_ in London he 5. (appoint) \_\_\_\_\_ Queen Elizabeth I's physician. He 6. (hold) \_\_\_\_\_ modern views on the structure of the universe and 7. (get interested) \_\_\_\_\_ in the phenomenon of magnetism. He 8. (conduct) \_\_\_\_\_ his experiments for 17 years before he 9. (publish) \_\_\_\_\_ his famous work "De Magnete". He 10. (become) \_\_\_\_\_ the first person who fully 11. (explain) \_\_\_\_\_ the workings of a magnetic compass. Before Gilbert no one 12. (use) \_\_\_\_\_ the terms 'electricity', 'electric force' or 'magnetic pole'. He 13. (continue) \_\_\_\_\_ his research into the nature of magnetism when he suddenly 14. (die) \_\_\_\_\_ of bubonic plague.

**54. Answer the following questions. Consult Module 3 texts if necessary.**

1. What do you know about the history of electricity discovery?
2. What does the term "electricity" mean?
3. What is electricity?
4. How can electricity be generated?
5. What device for converting mechanical energy into electrical energy do power stations use?
6. Can traditional primary energy sources be used infinitely? Why?
7. What alternative sources of energy do you know?
8. Why are they becoming more popular today?
9. Why does nuclear energy remain a great

subject for debate today? 10. Name one of the inventions which was made possible by electricity. How did this invention transform our life?

## MODULE 3 PROGRESS TEST

**Vocabulary.** Decide which answer a, b or c best fits each gap.

### COULD ELECTRICITY BE COLLECTED FROM THE AIR?

Imagine devices that capture (захватить) electricity from the air — much like solar 1 capture sunlight — and using them to light a house or recharge an 2 car. Strange as it may sound, scientists already are in the early stages of developing such devices. They say that this new technology could be 3 a new energy 4 in the future.

The notion of 5 the power of electricity formed naturally is 6 with Nikola Tesla who thought about capturing and using electricity from the air. Water in the atmosphere can accumulate electrical 7 and transfer them to other materials it comes into contact with. We call this 'hydroelectricity,' meaning 'humidity electricity.' In the future it may be possible to develop collectors, similar to the solar cells, to capture hydroelectricity and route it to homes and businesses. Similar approach might help prevent 8 from forming and striking due to placing hydroelectrical panels on top of buildings in regions where thunderstorms are 9. The authors of these fascinating ideas certainly have a long way to go. But in the long run, the 10 of harnessing hydroelectricity could be substantial.

- |                  |               |               |
|------------------|---------------|---------------|
| 1. a. energy     | b. power      | c. cells      |
| 2. a. electrical | b. electric   | c. electronic |
| 3. a. regarded   | b. related    | c. released   |
| 4. a. supply     | b. demand     | c. source     |
| 5. a. harnessing | b. converting | c. attracting |
| 6. a. related    | b. associated | c. regarded   |
| 7. a. charges    | b. particles  | c. phenomena  |
| 8. a. lighting   | b. lightening | c. lightning  |

9. a. preventive    b. prevalent    c. predictive

10. a. advances    b. favours    c. benefits

**Grammar. Decide which answer a, b or c best fits each gap.**

I. 1. Where you \_\_\_\_\_ (go) for your next holiday? (Where have you arranged to go?) – I don't know yet but we probably \_\_\_\_\_ (go) to Sochi.

- a. will/are going    b. will/will    c. are going/will

2. Tomorrow is my mum's birthday and we \_\_\_\_\_ make a birthday cake for her tonight. – That sounds interesting. I \_\_\_\_\_ come and help you if you like.

- a. are going to/will    b. will/am going to    c. are going to/am going to

3. I hope they \_\_\_\_\_ this road by the time we come back next summer.

- a. repair    b. will repair    c. will have repaired

4. I wonder if Ann knows that the time of the meeting has been changed. – Probably not. I \_\_\_\_\_ (look) in on my way home and tell her.

- a. am looking    b. am going to look    c. will look

5. The topic of my presentation is “Renewable Sources of Energy” and I \_\_\_\_\_ with answering the question why they are so important.

- a. am going to start    b. will start    c. am about to start

6. I hope I \_\_\_\_\_ my driving test by the time I buy a car.

- a. am going to pass    b. have passed    c. will have passed

7. I \_\_\_\_\_ my project manager tomorrow. (I have arranged this) I'm going to ask him to give me more time but I am afraid he \_\_\_\_\_ .

- a. am seeing/ is refusing    b. will see/ will refuse    c. am seeing/will refuse

8. Leave a note for your colleagues on the table and they \_\_\_\_\_ it when they come in.

- a. see    b. will see    c. are going to see

9. Where are you going? – There's nothing to eat at home, so we \_\_\_\_\_ something for lunch.

- a. are going to buy b. are buying c. will have bought

10. What are you doing tonight? \_\_\_\_\_ we go to the cinema?

- a. should b. will c. shall

## II.

### CAN IT RAIN FROGS AND FISH?

There \_\_1\_\_ reports of raining frogs and fish dating back to ancient civilization.

Of course, it \_\_2\_\_ frogs or fish in the sense that it rains water. However, strong winds, such as those in a tornado or hurricane, are powerful enough to lift animals, people, trees, and houses. Professor Ernest Agee from Purdue University says, “I \_\_3\_\_ small ponds literally emptied of their water by a passing tornado. So, it wouldn't be unreasonable for frogs (or other living things) to ‘rain’ from the skies” When it \_\_4\_\_ frogs in Kansas City in 1873, “Scientific American” concluded that it \_\_5\_\_ by a tornado.

On October 23, 1947, A.D. Bajkov, a biologist of the Louisiana Department of Wildlife, \_\_6\_\_ at a restaurant in Marksville, Louisiana when the waitress \_\_7\_\_ him that fish \_\_8\_\_ from the sky. “There were spots on Main Street averaging one fish per square yard. Automobiles and trucks \_\_9\_\_ over them. Fish also fell on the roofs of houses...I personally \_\_10\_\_ from Main Street a large jar of perfect specimens and preserved them in formalin, in order to distribute them among various museums.”

- |                       |                    |                     |
|-----------------------|--------------------|---------------------|
| 1. a. had been        | b. have been       | c. has been         |
| 2. a. not rain        | b. doesn't rain    | c. don't rain       |
| 3. a. have seen       | b. had seen        | c. have been seeing |
| 4. a. has rained      | b. had rained      | c. rained           |
| 5. a. had been caused | b. had caused      | c. caused           |
| 6. a. was eating      | b. had been eating | c. has been eating  |
| 7. a. had told        | b. was told        | c. told             |

8. a. was falling                    b. fall                    c. have been falling
9. a. were running                b. have been running            c. were run
10. a. had collected              b. collected                c. collected

## MODULE 4

### TELECOMMUNICATIONS

“The advantage of modern means of communication is that they enable you to worry about things in all of the world ”. - *Laurence J. Peter, a Canadian educator.*



#### Learning points for Module 4:

##### **Reading:**

Text A. The Role of Technology in the Evolution of Communication

Text B. Is Television Dying?

Text C. Electromagnetic Waves

**Vocabulary in the context:** Word definitions/Collocations/The opposites/Word quiz

**Grammar:** Sequence of Tenses/Reported Speech

**Speaking:** The Future of TV and Telecommunication discussion

**Skills:** How to ask a “good” question

##### **Learning aims:**

- to practise reading and speaking about telecommunication technologies;
- to learn and practise active vocabulary related to the topic of the

module;

- to learn and practise sequence of tenses and reported speech;
- to learn and practise the skill of asking good questions.

## Lead-in

***Spell the jumbled words correctly. They are all means of communication listed in a chronological order.***

veca inainptg	hirolphegy	aperp	tirpning	gteperalh	pothelene
idaro	siloteevin	xfa nahicem	tirnteen	boilem nohep	

## A little bit of history

***Put these inventions in telecommunications<sup>1</sup> in a chronological order.***

Telephone	1844
Digital telephony	1957
All digital services	1946
Television	1876
First man-made satellite	1895
Telegraphy	at present
The first radio signal was sent	1925
General purpose electronic computer	1990s

<sup>1</sup>*tele - from a Greek word meaning ‘far’, means ‘distant’, especially ‘transmission over a distance’, used in the formation of compound words.*

## READING

### Part 1

***1. Skim the article and decide which of the following sentences best answers the question what the article is about.***

1. The article is about communication technologies.

2. The article is about how communication technologies developed.
3. The article is about the evolution of communication technologies and their role in modern society.

## Text 4A

### THE ROLE OF TECHNOLOGY IN THE EVOLUTION OF COMMUNICATION



(1) It is obvious that technology and telecommunications have been moving back-to-back<sup>1</sup> and the latest technological breakthroughs have resulted in bringing global telecommunications to a brand-new level.

1\_\_\_\_\_ , as the human relations and communication evolved<sup>2</sup>, they also added to the further development and newer discoveries which seem revolutionary even now, pushing it all forward from one level to another.

#### A minute of history

(2) There were a few main steps in history that were the turning points and led to the rise of communication technologies. Stone pictographs invented in ancient times gave rise to the first written communication. 2\_\_\_\_\_ , then paper, and wax, as well as a printing press in 15th century, made it possible to transfer the first documents, unlike stones which were immobile. This enabled to expand<sup>3</sup> literacy throughout the globe and increase the level of communication.

(3) The first true telecommunications system using electrical signals to carry messages started in the 1840s with machine telegraphy. 3\_\_\_\_\_ the telegraph and the telephone, which enabled speech to be transported along wires. The introduction and application of electromagnetic waves played an important role in the history of communications. They were used to transmit radio or TV signals and 4\_\_\_\_\_. Improvements in materials and devices enabled the transmission of information via cables. The space race led to another means of communications via earth stations to artificial satellites.

(4) As further advances<sup>4</sup> in technology took place (e. g. the invention of the transistor and the development of microelectronic integrated circuit technology), new applications became feasible<sup>5</sup> and new systems were developed. For example, computers pushed the limits of telephone systems to send computer messages. The need for higher transfer speeds encouraged the development of digital transmission technology (the transition of coded data). One of the major later developments was the optical fibre cable which became the main medium of 5\_\_\_\_\_.

Another rapidly growing field today is data communications employing high-speed digital techniques. The most important technology for the human communication in the age of personal computing has probably become the development of the global communication network – the World Wide Web.

(5) Modern society seems to have a bit of an obsession<sup>6</sup> with technology.

6\_\_\_\_\_ than the mobile phone. Back in the early days of mobile phones, their only use was for calling other people whilst<sup>7</sup> on the move. Today, you can use a mobile phone to do literally<sup>8</sup> everything, from paying for your meal to tracking your sleeping habits. Modern smartphones have almost no limits and have become indispensable<sup>9</sup>. According to research, we spend almost 800 hours on our mobile phones in an average year. 7\_\_\_\_\_, it is no surprise that the last ten years have been labelled as the ‘decade of the smartphone’. The evolution of means of communication is a really thrilling journey.

### Vocabulary notes for text 4A

<sup>1</sup>back-to back      непрерывно следующий за чем либо

<sup>2</sup>evolved      эволюционировали, развивались

<sup>3</sup>to expand      расширяться

<sup>4</sup>advances      достижения

<sup>5</sup>feasible      возможный, выполнимый, реальный

<sup>6</sup>obsession      одержимость

<sup>7</sup>whilst      пока

<sup>8</sup>literally      буквально, в прямом смысле

<sup>9</sup>indispensable      незаменимый

**2. Read text 4A again. Complete the gaps 1-7 with the sentences A-H below.**

*(There is one extra sentence which you do not need to use).*

- A Further on, the invention of papyrus,
- B provided the basis for radio and TV broadcasting.
- C But no single device has had as much of an impact on the world
- D And with these figures rising all the time
- E When sending information
- F Apart from the technological shifts
- G The major breakthroughs were
- H data transmission for telecommunication and information technologies.

**3. Guess the words from text 4A using the definitions. Then practice giving the definitions of these words.**

1. Technology of sending signals, images, and messages over long distances by radio, telephone, television, satellite.
2. A system for talking to somebody over long distances, using wires or radio.
3. An electronic machine that can store, organise and find information, do calculations and control other machines.
4. A method of sending messages over long distances, using wires that carry electrical signals.
5. A piece of equipment used for listening to programmes that are broadcast to public.
6. Telecommunications device which circles the earth to receive, amplify and retransmit signals around the world.
7. An electronic device that receives television signals and displays them on a screen.
8. A widely accessible (доступный) system of networks that connects computers around the world using a common software protocol for transmitting and receiving data.

9. A cable consisting of one or more thin flexible fibres (волокно) with a glass core (сердцевина) through which light signals can be sent with very little loss of strength.

10. Electric signals expressed as a series of the numbers 1 and 0, so they have only a number of possible states, as opposed to analogue signals which are totally variable.

**4. Read the text in detail and answer the following questions.**

1. What examples of the first means of communication can you give? 2. What were the first telecommunications systems that used electrical signals? 3. What invention revolutionised personal communication? 4. What discovery provided the basis for radio and TV broadcasting? 5. What other methods of transporting information over long distances appeared over time? 6. What was one of the later developments which became the main medium of data transmission? 7. What technology made it possible for people to communicate on a global scale? 8. What device has probably impacted our lives the most over the last two decades?

**5. Make up sentences with the following word combinations.**

Telecommunications systems; electrical signals; electromagnetic waves; radio and TV broadcasting; artificial satellites; data transmission; optical fibre cable; modern smartphones.

**6. Explain how you understand the phrases from the text. Think of your own examples to illustrate the points.**

1. It is obvious that technology and telecommunications have been moving back-to-back.
2. The space race led to another means of communications via artificial satellites.
3. Computers pushed the limits of telephone systems to send computer messages.
4. Modern society has always seemed to have a bit of an obsession with

technology.

5. Modern smartphones have almost no limits and have become indispensable.

**7. Work in pairs. Write a list of key points of text 4A. Summarise the information in text 4A using your list of key points.**

## **READING**

### **Part 2**

**8. In groups answer the questions.**

1. Do you have a TV set at home? 2. Do you ever watch TV? 3. How much time do you watch TV every week? 4. Do you think television will remain one of the most important means of communication in the next 30 years?

**9. In groups look at the list of the words from the article that you are going to read. If someone in your group knows some words from the list, let them explain their meaning to your group. Look up the words that nobody in your group knows and exchange your information. Give an example of how each word can be used.**

*Example:* Nevertheless is an adverb meaning however or even so. → I'm tired. Nevertheless, I'm ready to help.

Nevertheless / threat / essential / heartbreaking / amusing / consistently / groundbreaking / meanwhile / emergence / radically / attitude / settle in / substantially / sophisticated / to convince / merely / to float / battlefield / over the long haul.

**10. Read the text and decide what the author's answer to the question asked in its title is.**

## **Text 4B**

### **IS TELEVISION DYING?**

(1) It is difficult to imagine our life without television. Nevertheless, young people say that television is dying\*. The Internet, the main 'threat' to television, is clearly

winning. Though, even if we do not watch TV, it is still an essential part of our culture. It has been heartbreaking, amusing, informative, and just part of life of several generations. The technology behind it has been consistently groundbreaking.

(2) Meanwhile, this invention is just over 100 years old. Television, the history of the emergence and development of which fits into such a small period by the standards of history, has radically changed our communication, attitude to information and our culture. Can it surprise us again and again? Yes, it can. It has greatly changed - from first CRT<sup>1</sup> TVs to modern OLED<sup>2</sup> Ultra HD<sup>3</sup> sets, and we are sure we will not need or want another television for the next decade or more. But, as history has proven time and again\*, the Next Great Thing is already well into its development cycle, even if we are just starting to get settled in\* with current technological standards.

(3) What of the distant future? If only someone could come up with something that would virtually make our jaws drop\*! Perhaps, they already have. Are you ready for 3D holographic television? This kind of 3D is substantially more sophisticated than producing image with some special glasses, it will convince you objects exist outside the surface of the viewing screen. With holographic TV, images do not merely project outward from the TV set, as much as they appear to float in mid-air. And yes, that means you will be able to walk around a specific object and look at it from behind. Or even put yourself in the middle of the action – whether that action is a sporting event, a battlefield, or something else altogether. 3D holographic televisions will be really expensive, though, and nobody knows if the public will enjoy the 3D sensation over the long haul. But remember, they said that about colour television back in your grandparents' day too. Or maybe young people are right: TV is dying?

<sup>1</sup>*CRT (Cathode Ray Tube) - a tube-shaped part in a television screen, inside which a continuous flow of electrons is produced to create an image or a text.*

<sup>2</sup>*OLED stands for organic light emitting diode. It is the evolution of the traditional LED TVs which use light emitting diodes to light up a display. OLED TVs have the*

*ability to turn each pixel on and off resulting in really deep blacks.*

*<sup>3</sup>Ultra High Definition (and 4K) offer four times the pixels of a standard 1080 (high definition) display. One of the primary benefits of 4K is that you can sit closer to the screen without noticing any pixellation.*

**STUDY NOTE.** In the phrases from the text marked with \* the words are used figuratively, which means they do not have the meaning of the word or phrase itself (literal) but a different meaning implied by it (idiomatic). Figurative language makes ideas and concepts easier to visualise or more expressive.

\**some people say television is dying - is getting ready to stop existing*

\**to get settled in with current technological standards – to adapt*

\**make our jaws drop – surprise very much*

\**time and again (an idiom)- repeatedly*

**11. A fact or an opinion. Which of the statements can be considered ‘a fact’ (it can be proved to be true) or ‘an opinion’ (a view which is not necessarily based on fact)? Give your arguments.**

1. It is difficult to imagine our life without television.
2. The Internet is the main threat to television.
3. TV is an essential part of our culture.
4. Television is dying.
5. The technology behind television has been consistently groundbreaking.
6. Television has changed our communication.
7. Television has greatly changed.
8. Television can surprise us again and again.
9. 3D holographic TV is a new television technology.
10. 3D holographic TV will replace modern TV technologies.

**12. Read the text again and summarise it in 6-8 sentences. Use the following words:**

The text is about...; The author tries to answer the question...; According to the author’s opinion...; On the one hand/on the other hand...; In conclusion, the author

....

**13. Discuss in groups the following questions after reading text 4B.**

1. Did you enjoy reading Text 4B? Why? Why not? 2. Was there any new information for you in this text? What information was it? 3. Which of the author's ideas do you agree or disagree with? Explain why.

**14. Listening on the topic. Watch this interview with David Wood from European Broadcasting Union. What questions does he answer? What is his opinion about the television? What arguments does he give in favour of his views? While listening, note down some useful language to prepare for discussion "The Future of TV.**

<https://www.youtube.com/watch?v=Zzz5uQJGpfg>

**15. The future of TV Discussion. Work in pairs.** Students A strongly believe that TV is obsolete; Students B strongly believe that TV has a promising future. Then change your partners and talk about your ideas again.

## **READING**

### **Part 3**

**16. Read the text quickly and circle any words that you do not know. In groups, pool unknown words and use dictionaries to find their meaning.**

#### **Text 4C**

#### **ELECTROMAGNETIC WAVES**

(1) How do we understand the information our eyes take in from the outside world? Science tells us that light is the reason we are able to see objects. And the light is a form of electromagnetic radiation made by electromagnetic waves. Electromagnetic radiation is a stream of photons that travels in a wave-like pattern, carrying energy, and moving at the speed of light. The electromagnetic spectrum is the range of all types of electromagnetic radiation. Our eyes are capable of seeing only a small portion of the electromagnetic spectrum. There are plenty of waves in

the physical world that we simply do not see.

(2) If our eyes were capable of seeing every type of wave on the electromagnetic spectrum, a commonplace sight like your university cafeteria would look completely chaotic! You would see microwaves, radio waves and different types of electromagnetic energy bouncing off practically every surface. And that is just within the known spectrum. Scientists imagine that the spectrum goes on forever, with infinite types of waves.

(3) The waves emitted by our physical world make it possible for us to communicate over vast distances, see objects in the dark that are deep beneath the surface of the earth and sea, and even look deep into outer space. By studying electromagnetic waves and creating tools that help us gain access to a wider portion of the electromagnetic spectrum, humankind has given itself unique powers for collecting information about the world. We can think of the waves as a kind of ongoing message being sent out by the universe.

(4) But even without special tools and machines our eyes sensitivity to light makes it possible for us to see beautiful things: a bouncing basketball; a tall, vivid rainbow after a storm; the faces of our friends and families. If it were not for the way our eyes and brain are able to create comprehensible images from waves of visible light, it would be very difficult for us to understand the messages emitted by our physical universe.

**17. Read the text again and answer the questions.**

1. What is the reason we are able to see objects?
2. What is the definition of light?
3. What is the definition of electromagnetic radiation?
4. What is the definition of electromagnetic spectrum?
5. What portion of the electromagnetic spectrum can we see?
6. What would the world look like if our eyes were able to see every type of wave?
7. What do waves emitted by our physical world make possible?

8. What has studying electromagnetic waves allowed us to achieve?

**18. Choose the right option.**

1. What is the text mainly about?

- A. why waves have different wavelengths;
- B. electromagnetic waves and how humans utilise them;
- C. different tools humans have invented to harness information.

2. We can think of electromagnetic waves as a kind of ongoing message being sent out by the universe. Humans are able to naturally access only a portion of this message. What information from the passage best supports this statement?

- A. If only our eyes were capable of seeing every type of wave on the electromagnetic spectrum!
- B. We would see microwaves, radio waves and different types of electromagnetic energy;
- C. The human eye is only sensitive to a portion of the electromagnetic spectrum.

3. Read the following sentence: “If our eyes were capable of seeing every type of wave on the electromagnetic spectrum, a commonplace sight like your university cafeteria would look completely chaotic!” Why might the author have started the passage with this sentence?

- A. because the main idea of the passage is about a cafeteria;
- B. to give the reader an object to visualise;
- C. because the author wants to use the example of cafeteria to explain what our eyes are capable of seeing.

4. Choose the answer that best completes the sentence below.

Humans have invented many tools that allow us to access a wider portion of the electromagnetic spectrum. \_\_\_\_\_, humankind has given itself unique powers for collecting information about the world.

- A. As a result;
- B. However;
- C. Since.



**19. Discuss why humans might want to gain access to a wider portion of**

*the electromagnetic spectrum? Use information from the passage to support your answer.*

## VOCABULARY

### Module 4 Word List

Essential Vocabulary	Additional Vocabulary
<ol style="list-style-type: none"><li>1. advance (v, n)</li><li>2. application (n)</li><li>3. artificial (adj) satellite (n)</li><li>4. average (adj)</li><li>5. breakthrough (n)</li><li>6. bring (v) something to a new level</li><li>7. broadcast (v, n)</li><li>8. carry (v) messages</li><li>9. data transmission (n)</li><li>10. digital (adj)</li><li>11. electromagnetic (adj) wave (n)</li><li>12. employ (v)</li><li>13. enable (v) something</li><li>14. encourage (v) something</li><li>15. evolve (v)</li><li>16. expand (v)</li><li>17. improvement (n)</li><li>18. in ancient (adj) times</li><li>19. indispensable (adj)</li><li>20. integrated circuit (n)</li><li>21. lead (v) to</li><li>22. means (n) of communication (n)</li><li>23. medium/media (n)</li></ol>	<ol style="list-style-type: none"><li>27. push (v) something forward</li><li>28. rapidly (adv)</li><li>29. relation(s) (n)</li><li>30. result (v) in</li><li>31. technique (n)</li><li>32. telecommunication (n)</li><li>33. transmit / transfer/ transport (v)</li><li>34. turning point (n)</li><li>35. wire/cable (n)</li></ol> <ol style="list-style-type: none"><li>1. amusing (adj)</li><li>2. attitude (n) to</li><li>3. comprehensible (adj)</li><li>4. consistently (adv)</li><li>5. convince (v)</li><li>6. emerge (v) /emergence (n)</li><li>7. emit (v)</li><li>8. essential (adj)</li><li>9. exist (v)</li><li>10. groundbreaking (adj)</li><li>11. imagine (v)</li><li>12. meanwhile (adv)</li><li>13. nevertheless (adv)</li><li>14. prove (v)</li></ol>

24. network (n)  
25. obvious (adj)  
26. play (v) a role

15. sophisticated (adj)  
16. specific (adj)  
17. substantially (adv)

**20. Match the words with numbers (1-9) in each column (A, B, C) with the words with letters (a-i) to make up word collocations. Explain the meaning of these expressions and try to recall how they were used in text 4A.**

**Example:** 1-f: the latest breakthroughs → The latest breakthroughs have resulted in bringing global telecommunications to a brand-new level.

**A.**

1. the latest
2. to bring to
3. a turning
4. give
5. to expand
6. to enable speech
7. to transmit
8. artificial
9. further advances

**B.**

1. radio and TV
2. to deal with
3. the medium of
4. electromagnetic
5. to play
6. (an) obvious
7. to take
8. (an) effective
9. to encourage

**C.**

1. digital transmission
2. the optical fibre
3. in ancient
4. a rapidly growing
5. a means of
6. (an) integrated
7. to push something
8. to carry
9. to lead to

- a. rise to something  
b. satellites  
c. signals  
/information  
d. point  
e. a brand new level  
f. breakthroughs

- a. a problem  
b. waves  
c. technique  
d. the development  
e. reason  
f. data  
transmission

- a. times  
b. circuit  
c. messages  
d. forward  
e. technology  
f. cable  
g. communication

- |                      |                 |               |
|----------------------|-----------------|---------------|
| g. literacy          | g. broadcasting | h. a disaster |
| h. in technology     | h. a role       | i. field      |
| i. to be transported | i. place        |               |

**21. Vocabulary in context. Read the sentences below and circle the key words and expressions from the previous exercise. Translate the sentences into Russian.**

**A.**

1. Heavy rains have given rise to flooding over a large area. 2. The information is transmitted electronically to the central computer. 3. The World Cup was transmitted around the world by satellite. 4. The latest medical breakthroughs brought the treatment of cancer to a new level. 5. Ban on smoking in public places became a turning point in the campaign against smoking. 6. These companies need to expand into new markets. 7. Computerisation will enable us to cut our costs. 8. They discussed what equipment they needed for the transmission of television signals. 9. Recent advances in telecommunications mean that people can always stay connected.

**B.**

1. The arrival of satellite television changed the face of broadcasting. 2. The concert takes place next Thursday. 3. A digital technique for high-speed visualisation has been developed by our laboratory. 4. Scientists predict a major breakthrough in dealing with the pandemic in the near future. 5. Children should be encouraged to learn foreign languages at school. 6. Yoga is a very effective technique for dealing with stress. 7. Radio became the first electronic broadcast medium which was used for mass communication. 8. Some people think that electromagnetic waves from mobile phones have a bad effect on their health. 9. According to the research, vaccination will play an important role in dealing with the coronavirus.

**C.**

1. After the pandemic started there has been a rapidly growing demand for face masks. 2. Some people think that music is an effective means of communication. 3.

A strand of optical fibre as thin as a human hair can transmit the equivalent of millions of words in a single second. 4. They were receiving a live transmission from the scene of the accident. 5. The ecologists will discuss the environmental problems that might lead to a disaster if people don't deal with them. 6. In ancient times astronomers named stars after gods. 7. The improvements in technology resulted in better performance. 8. Many people believe that space technologies will push human civilization forward. 9. Wires that carry messages mock space and outrun time.

**22. Complete each sentence with the correct form of the word in capitals.**

*Example:* The current state of U.S.- China \_\_\_\_\_ was discussed at the conference. RELATE → The current state of U.S.-China relations was discussed at the conference.

1. E-mail is the most often used \_\_\_\_\_. APPLY
2. High-speed \_\_\_\_\_ of data has speeded up access to these sites. TRANSMIT
3. A key part of our plan is \_\_\_\_\_ efficiency. IMPROVE
4. Nowadays people can get in touch easily because of \_\_\_\_\_ in communications. ADVANCED
5. Computer-\_\_\_\_\_ industrial production has lots of benefits. INTEGRATE
6. Your password should contain both letters and \_\_\_\_\_. DIGITAL
7. Sophisticated statistical analysis was \_\_\_\_\_ to obtain these results. EMPLOY
8. Mass media informed the public about the \_\_\_\_\_ of a new strain (ИТАММ) of the coronavirus. EMERGE
9. Modern science believes that our universe came into \_\_\_\_\_ about 15 billion years ago. EXIST
10. The virus attacks \_\_\_\_\_ cells in the brain. SPECIFY

**23. Match the words in column A with their opposites in column B.**

*Example:* 'to evolve' is the opposite of 'to decrease, worsen'.

**A**

1. ancient
2. to expand
3. to improve

**B**

- a. boring, annoying
- b. slowly, gradually
- c. to decrease, reduce

- |                  |                         |
|------------------|-------------------------|
| 4. advancement   | d. simple, low-tech     |
| 5. rapidly       | e. useless              |
| 6. indispensable | f. to worsen            |
| 7. essential     | g. regression           |
| 8. amusing       | h. modern, contemporary |
| 9. sophisticated | i. recession            |
| 10. breakthrough | j. unclear              |
| 11. obvious      | k. unimportant          |

**24.** Rewrite each sentence below replacing the underlined words by one of the words from the previous exercise so that it has an opposite meaning to the first sentence. Translate the sentences into Russian.

*Example:* My relationship with my sister has worsened over time . → My relationship with my sister has evolved over time.

1. We were warned against hidden dangers of hot climate.
2. Sometimes a regression in the development of cognitive skills occurs.
3. The film is set in modern times.
4. The company is planning to reduce the average output of cars next year.
5. The situation in economy is getting worse.
6. The recent recession in medical research will have a significant impact on the health care system.
7. The reason for his bad behavior is not clear.
8. The market for our new products is developing gradually.
9. The instructor said that the mobile phone would be useless in the woods.
10. Good communication skills are not important for an IT specialist.
11. This new computer game is really boring.
12. Most of the products of this start-up company are very simple.

**25. Word Quiz. Guess the word.**

Choose from: *to evolve, threat, relations, to prove, network, indispensable, to convince, groundbreaking, digital, telecommunication, to imagine, essential, to emerge, application*

---

1. Communication over a distance by cable, telegraph, telephone or broadcasting.
2. To change or develop into a better, more advanced state.
3. A system of interconnected people or things.
4. Good or important, describing something you can't do without.
5. To picture something in your head.
6. A danger that has the potential to cause serious harm.
7. Very important, necessary
8. To talk someone into something.
9. To show that something is true
10. An adjective to describe something new, unusual, or first made.
11. To come out, appear or become known.
12. Social connections or communications among people or groups.
13. The act of putting something into operation.
14. A type of signal that uses a binary code (numbers) to transmit information.

**26. Fill in the gaps in the sentences with the words from the previous task.**

**Change the word form if necessary.**

1. Computer is \_\_\_\_\_ to modern life. 2. Coronavirus is a serious \_\_\_\_\_ to everyone. 3. Some nice results \_\_\_\_\_ from the study. 4. Distance is no problem with modern \_\_\_\_\_ systems. 5. The quality of the \_\_\_\_\_ TV pictures is excellent. 6. All our computers in this office are part of a \_\_\_\_\_. 7. Electrical power has lots of \_\_\_\_\_. 8. How can you \_\_\_\_\_ that the world is round? 9. As long as the technology continues \_\_\_\_\_ we all should be lifelong learners. 10. We should \_\_\_\_\_ our students to work harder on their dissertations. 11. We can't \_\_\_\_\_ life without mobile devices today. 12. It is \_\_\_\_\_ to turn off electrical appliances before leaving a house to prevent a fire. 13. The development of vaccinology was really \_\_\_\_\_ as it helped eliminate a lot of dangerous infectious diseases. 14. It is in your best interests to have good \_\_\_\_\_ with your boss.

**27\*. Discuss the questions in pairs.**

- A. Does watching TV in HD (high definition) use more electricity than SD (standard definition)?
- B. Does leaving appliances on standby use a lot of electricity?

**Student A.** *Read the answer to question A and fill in the gaps with the proper form of the words given on the right. Then use the information in the text to help you answer your question.*

**A.**

No. It has nothing to do with the format of the broadcast.

Energy 1\_\_\_\_\_ is more a factor of the display technology used to render the image. A cathode ray tube (old TVs used these) uses much more power than LCD display, 2\_\_\_\_\_ on which light-source technology is used; LED is more 3\_\_\_\_\_ than CCFL.

Plasma displays use 4\_\_\_\_\_ less than CRTs and more than LCD panels. OLED displays 5\_\_\_\_\_ use less power than LCDs. Digital 6\_\_\_\_\_ also uses less power than the old analogue technology. There's also slightly increased power consumption based on bit-rate, but it is minuscule compared to the amount of energy 7\_\_\_\_\_ to power the actual light-emitting part of the system.

CONSUME	DEPEND
EFFICIENCY	SLIGHT
TYPICAL	PROCESS
REQUIRE	

**Student B.** *Read the answer to question B and fill in the gaps with the proper form of the words given on the right. Then use the information in the text to help you answer your question.*

## B.

Most modern home 1 \_\_\_\_\_ consume a negligible amount ELECTRON of power in standby mode; the days when they consumed almost as much as when they were 2 \_\_\_\_\_ on are long TURN gone. As such, all this stuff about turning off 3 \_\_\_\_\_ APPLY on standby is pretty much obsolete, as with TVs and similar 4 \_\_\_\_\_ made in the last five or so years, the amount of EQUIP electricity saved by 5 \_\_\_\_\_ them off is literally just a TURN few pence per year. If in doubt, it would be worth checking your electric meter reading. However, most recent appliances, when they are left on standby, hardly use any power. Standby power, is also 6 \_\_\_\_\_ vampire. It CALL 7 \_\_\_\_\_ to the way electric power is consumed by REFER electronic and electrical appliances while they are SWITCH 8 \_\_\_\_\_ off or in standby mode.

### **28. Name three things that:**

- are means of communication;
- can be transmitted via cables;
- were essential for the invention of TV;
- are associated with TV of the future;
- are made possible by the electromagnetic waves.

### **29. Work in groups. Prepare 10-15 examples with the words from vocabulary section. Write them on separate cards using gaps instead of the key words.**

**Exchange your cards with other groups and do the gap filling exercise. Check your answers.**

### **30. Summarise in English using some words from Module 3 word list.**

Поворотным моментом в истории развития средств коммуникации было открытие электричества, благодаря чему возникла возможность быстро доставлять сообщения на значительные расстояния. Это привело к появлению сначала проводной (телефонной и телеграфной), а затем и беспроводной связи, что создало базу для всех средств массовой информации – радиовещания, телевидения, интернета, мобильной связи. Дата рождения первого электрического телефона - 14 февраля 1876 г. В этот день в американское патентное ведомство (patent office) поступила заявка на аппарат для передачи звуков на расстоянии посредством электрического тока. Она принадлежала американскому преподавателю школы глухонемых (deaf people) А. Г. Беллу. А. Белл решил создать аппарат, превращающий звуки в световые сигналы. Во время проведения опыта свободный конец одной из пластинок (free end of one of the plates) на передающей стороне линии приварился (was welded) к контакту. Помощник Белла механик Томас Ватсон, безуспешно пытался устранить неисправность. Находящийся в другой комнате и манипулировавший приемными пластинками Белл уловил звук, дошедший по проводу. Это и был день рождения телефона. В нашу эпоху информационная сфера деятельности человека переходит на новый уровень. Потребности в телекоммуникациях привели к активным исследованиям, (both ... and) как в области условий распространения электромагнитных волн, так и методов обработки (processing) сигналов. Результатом исследований явилось появление отдельных родов связи, таких как, проводная, радио, спутниковая.

## SPEAKING AND DISCUSSION



### 31. Discussion. *The Future of Telecommunication Technologies.*

In pairs write five questions about the future of telecommunication technologies. Before writing your questions, read the information in Appendix 1 about how to ask good questions. Each student must write the questions on their own paper.

When you have finished, interview other students. Write down their answers.

Then return to your first partner and talk about what you have found out.

	Student 1	Student 2	Student 3
Q. 1			
Q. 2			
Q. 3			
Q. 4			
Q. 5			

**Example:** Question: Is cabled communication disappearing? Answer: Today there are two main communication media solutions: wired and wireless technology. Each of them has its advantages and disadvantages and the choice of one or the other depends on its particular application. So, I don't think that wired technology is disappearing. It's just more likely that the wireless one is getting more common nowadays.

### **32. The Importance of Communication Skills.**

The Internet causes social isolation and, as a result, people suffer from loneliness. Moreover, the addiction to virtual communication makes people forget about real life. They do not want to socialise with people face to face, as they are not used to real-life communication, which is essential if you want to succeed in life and to be happy.

**To what extent do you agree with this opinion? Discuss your opinions in mini groups, summarise your points and report them to other groups.**

## **GRAMMAR**

### **SEQUENCE OF TENSES**



#### **Lead- in**

*Compare the sentences from text 4B in two columns and answer the question below.*

<b>The text says that:</b>	<b>The speaker said that:</b>
It <b>is</b> difficult to imagine our life without television.	It <b>was</b> difficult to imagine our life without television.
Television <b>has</b> changed our culture.	Television <b>had</b> changed our culture.
Other means of telecommunication <b>are</b> developing rapidly.	Other means of telecommunication <b>were</b> developing rapidly.
Nobody really <b>knows</b> if the public <b>will</b> enjoy the 3D sensation soon.	Nobody really <b>knew</b> if the public <b>would</b> enjoy the 3D sensation soon.

*Which tenses do we use when we change from giving a description of the events to reporting these events using “said that”-clause? Complete the rule with the words:*

*past    past    “sequence-of-tenses”    main*

If the verb in the \_\_\_\_\_ sentence is in the \_\_\_\_\_ tense, then the verbs in the subordinate (придаточный) clause must also be used in one of the \_\_\_\_\_ tense forms. This is called the \_\_\_\_\_ rule.

## **REPORTED SPEECH**

**33. Complete the table using the examples given below.**

<b>Direct Statement</b>	<b>Reported Statement</b> <i>(after a past form of a reporting verb)</i>
The Present Simple Tense	The Past Simple Tense
The Present Continuous Tense	
The Present Perfect Tense	

The Past Simple Tense

The Past Perfect Tense

Will/can/may/is going to

### Direct Statement

1. I work so hard that I am always tired.
2. Ann isn't enjoying her work.
3. The conference has been badly organised.
4. He made many mistakes in his last test.
5. She had finished most of the work by 9 pm.
6. New software will make computers more secure.
7. He is not going to eat it.
8. He will win.
9. I may be a little late.

### Reporting

1. He said that he worked so hard that he was always tired.
2. The professor was surprised that Ann wasn't enjoying her work.
3. The article said that the conference had been badly organised.
4. He saw that he had made many mistakes in his previous test.
5. She insisted that she had finished most of the work by 9 pm.
6. He thought that new software would make computers more secure.
7. He said that he was not going to eat that.
8. I was sure he would win.
9. I warned you I might be late.

**STUDY NOTE.** The choice of the tense form depends on whether the action of the subordinate clause is:

- a. simultaneous (одновременный) with the action in the main clause;
- b. precedes it; or
- c. follows it.

We use the Past Simple and Continuous for a, the Past Perfect Simple or

Continuous for **b**, and Past Modal Verb forms for **c**.

*I opened the door and saw that it was raining outside. I opened the door and saw that everything was wet: it had been raining all night. They said on TV that rain would start in an hour.*

Back-shift **does not** occur if a reporting verb is in the Present Tense.

*"I haven't seen this film." She says that she hasn't seen this film.*

### **34. Choose the right form of the verb in brackets.**

1. I wonder if anybody (has come/had come) to her party.
2. My father promised that he (will arrive/would arrive) in a few days.
3. My mother was sure that I already (have left/had left).
4. He did not know if there (is/was) anybody in the room.
5. We hope the rain (will stop/would stop) soon.
6. He could not answer my questions about the capital of the UK because he never (has been/had been) to London.
7. I wanted to know who (is playing/was playing) the guitar in the next room.
8. It was expected that he (will have finished/would have finished) his experiment by the end of the day.
9. I looked out of the window and saw that it (had been raining/has been raining).
10. Mike said he (has not/had not seen) his university friends for ages.

**STUDY NOTE.** Some exceptions:

1. We don't change tenses in informal speech when we want to make clear that the situation has not changed: "*I'm tired*" → *He told me that he is tired*.
2. If a general truth is expressed: *Galileo proved that the Earth revolves around the Sun*.
3. Sometimes, when a sequence of events is clear from the context, the Past Simple and Continuous remain unchanged: *The victim said that he was hit over the head*.

### **35. Rewrite the sentences in reported speech paying attention to the verb forms.**

1. "I **need** a new car," Greg said. Greg said (that) he \_\_\_\_\_ a new car.
2. "He's **working**," she said. She said (that) he \_\_\_\_\_.
3. "I've already **written** the

abstract," he said. He said (that) he \_\_\_\_\_ already \_\_\_\_\_ the abstract. 4. "I **got up** late," Tonia said. Tonia said (that) she \_\_\_\_\_ late. 5. "I **was working** at 5 o'clock," Tim said. Tim said (that) he \_\_\_\_\_ at 5 o'clock. 6. "I'll **call** you in the evening," Rita said. Rita said (that) she \_\_\_\_\_ me in the evening. 7. "I **have already done** the work" Ann said when I came. Ann said (that) she \_\_\_\_\_ the work when I came. 8. "We **had been driving** for two hours when we saw the lights of the village," Tom said. Tom said (that) they \_\_\_\_\_ for two hours when they saw the lights of the village.

**36. Put the verbs in brackets into the correct tense form. In some sentences answers may vary.**

**A.** 1. When he looked out of the window, he saw it (rain). 2. We are sure Mike (marry) her soon. 3. My mum never remembers where she (put) her glasses. 4. We all thought the restaurant (be) too expensive so we had dinner at home. 5. She was upset very much because she (not get) the job. 6. Nobody understood why they (break) up. 7. They were not sure if they (be able) to find their way back home when it got dark. 8. Ann didn't show up so everybody asked me if I (invite) her to the party. 9. They say that he always (be) very annoying. 10. When we met she said she (wait) for me for hours.

**B.** 11. I was sure that I (not give) my telephone number to anybody. 12. I am afraid I (not can) answer your question. 13. When they got the news that Kate wasn't well they wanted to know what (happen) to her. 14. My husband said that he (can) repair the car himself. 15. She is very upset: she (break) her favourite mug. 16. They reported that thousands of people (get) infected after the outbreak of coronavirus in China. 17. We thought she still (to be) in hospital. 18. We knew that Tom (arrive) but nobody knew where he (stay). 19. My friends promised they (come) to see me soon. 20. We had no doubt they (be) tired after the match.

**Note the difference between *say* and *tell*:**

With **say** we don't normally use the object or, if we do, we put **to** before the

object. With **tell** we need the object indicating the person to whom the words were spoken: “*She is making progress,*” *he said to me.* → *He said she was making progress.* *He told me she was making progress.*

P.S. **Tell** can be used without a personal object in some expressions: *tell a lie, tell the truth, tell a story, tell the time, etc.*

**37. Correct the mistakes in the following examples if there are any.**

1. Mike said me that he would be late.
2. Mike told that he would be late.
3. Jane said him that she'd come to the party.
4. I said my friend I was going to write an essay.
5. He told to me that he loved living in Moscow.
6. They told that they would arrive at five.
7. She never tells the truth.
8. Have you said the doctor about it?

**38. Write full sentences using the beginnings given below. Explain the meaning of reporting verbs or translate them into Russian.**

**Example:** “*The experiment went well.*” *The supervisor reported...* → *The supervisor reported that the experiment had gone well.*

1. “He has known his best friend since childhood.” We thought that \_\_\_\_\_ 2. “The academic year is about to end.” She was glad \_\_\_\_\_ 3. “I have passed all the exams!”. Dan couldn’t believe \_\_\_\_\_ . 4. “We eat cornflakes for breakfast.” The children mentioned \_\_\_\_\_ 5. “Prices are rising very quickly at the moment”. Mother complained \_\_\_\_\_ 6. “I graduated in 2018.” The candidate confirmed \_\_\_\_\_ 7. “I am guilty.” The suspect admitted \_\_\_\_\_ 8. “We’ll come back at 10 o’clock.” We promised that \_\_\_\_\_ 9. “I’m the best student in my group.” He claimed that \_\_\_\_\_ 10. “I will think about it.” She said that \_\_\_\_\_ .

**39. Fill in the gaps with introductory verbs from the list below in the Past Simple.**

agree / complain / wonder / promise / explain / declare / claim / announce

**Example:** “I'll adjust the new equipment tomorrow”, he said to his boss. → He promised his boss that he would adjust the equipment the following day.

1. “The experiment isn't financed properly, consequently, it won't go ahead!”. He \_\_\_\_\_ that the experiment wasn't financed properly and it wouldn't go ahead.
2. “Where did I leave my coat?”. He \_\_\_\_\_ where he had left his coat.
3. “Yes, it was a good result for the test”. He \_\_\_\_\_ that it was a good result for the test.
4. “All the employees will get their salary”. The director \_\_\_\_\_ that all the employees would get their salary.
5. “We only managed to stop the fire using local resources”. The firefighter \_\_\_\_\_ how they had managed to stop the fire.
6. “The conference will discuss the world's crisis”. The statement \_\_\_\_\_ that the conference would discuss the world's crisis.
7. “The company lost quite a lot of money last year”. The accountant \_\_\_\_\_ that the company had lost a lot of money the year before.

**STUDY NOTE.** Reported commands, promises, agreements, offers, advice, requests, etc., generally use the infinitive (with the verbs: promise, advise, agree, offer, ask, request, encourage, etc.) “*Play the piano*”. → *She ordered/asked/advised us to play the piano.*

“*Don't play the sax*”. → *She ordered/asked/advised us not to play the sax.*

#### **40. Change the sentences according to the example.**

**Example:** Open the door, please! (She asked) → She asked politely to open the door.

1. Don't go there alone! (He said to his son)
2. I'll help you with your assignment. (She offered)
3. Try not to be late. (He advised me)
4. Pretend you're ill. (I told him)
5. Wait a few minutes. (She asked me)
6. Ok, I'll give you the money. (He agreed)
7. Tell me the truth! (He demanded)
8. I'll pay you on Friday. (He promised)
9. I won't tell you her secret. (He refused)
10. Keep quiet or I'll punish you. (He threatened)

**STUDY NOTE.** When we **report questions**, the word order is generally the same as that of statements: “*What’s the time?*” → *Someone asked me what the time was.*

To report yes/no questions, **if or whether** is used: “*Do you have the time?*” → *Someone asked me if I had the time.*

However, we must use **whether**, not **if**,

- when we are asking someone to make a choice

*The question is whether you are an optimist or a pessimist.*

- when we include the phrase *or not*.

*Did she say whether she wanted tea or not?*

#### **41. Rewrite the sentences, beginning with ‘I asked’.**

**Example:** *Can you help me?* → *I asked if he could help me.*

1. What’s Peter’s address? 2. Do they like me or not? 3. Will you pass your exams?
4. When did the train leave? 5. Is the meeting on Monday or Tuesday? 6. When is the new manager coming? 7. Is service included or not? 8. Will you help me? 9. When did the lecture start? 10. Am I doing the right thing? 11. Is the room very expensive? 12. Can we get there easily? 13. Have you looked it up on the Internet? 14. What are you going to do? 15. Why is everybody looking at me?

**STUDY NOTE.** Sometimes we introduce a direct question with a short phrase:

*Do you know when the seminar starts?* → *Can you tell me if the Moscow Kremlin overlooks the Yauza River?*

#### **42. Work in pairs. In turns ask for the following information, using the phrases:**

***Do you (happen to) know... Can/could you possibly tell me...***

1. the time 2. the nearest holiday 3. the inventor of telegraph 4. the year of foundation of BMSTU 5. use your own idea! ☺

#### **43. Look at the following examples. What other changes take place in reporting?**

*Write a list of changes in the table below.*

<b>Direct Speech</b>	<b>Reported Speech</b>
1. One day you'll understand why we worry about you <b>now</b> .	1. My parents always told me that one day I would understand why they worried about me <b>in those days</b> .
2. Did you see her <b>yesterday</b> ?	2. He asked if I had seen her <b>the day before</b> .
3. I hardly go out <b>these days</b> .	3. I said that I hardly went out <b>those days</b> .
4. I saw Jack at a party a few months <b>ago</b> .	4. She said that she had seen Jack at a party a few months <b>before</b> .
5. Tom had an accident <b>last week</b> .	5. He said that Tom had had an accident <b>the previous week</b> .
6. We'll finish our work <b>next month</b> .	6. They said that they would finish their work <b>the following month</b> .
7. I am not feeling well <b>today</b> .	7. She said she was not feeling well <b>that day</b> .
8. We can have lunch <b>now</b> , we have a good café <b>here</b> .	8. He said we could have lunch <b>then</b> , they had a good café <b>there</b> .
9. It happened <b>last month</b> .	9. They said that had happened the month <b>before</b> .
10. Can you come here <b>tomorrow</b> ?	10. She asked if I could go there <b>the next day</b> .

**Direct Speech**

**Reported Speech**

<ul style="list-style-type: none"> <li>▪ now</li> <li>▪ today, tonight</li> <li>▪ this week / month / year</li> <li>▪ tomorrow</li> <li>▪ the day after tomorrow</li> <li>▪ next week / month / year</li> <li>▪ yesterday</li> <li>▪ the day before yesterday</li> <li>▪ last night</li> <li>▪ last week / month / year</li> <li>▪ ago</li> <li>▪ here</li> <li>▪ this / these</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>then</b> _____</li> <li>▪ _____</li> </ul>
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**44. Put the sentences below into indirect speech. Make all the necessary changes paying attention to the underlined words.**

1. He said: “I want to carry out this research myself”. 2. He said: “They will do this assignment on time”. 3. He said: “They met last year”. 4. He said: “This week I am going to Paris to buy new equipment”. 5. He said: “I have never been here before”. 6. I said: “I have been busy these days”. 7. He said: “Artificial earth satellites were invented in the last century”. 8. I said:” Now I am waiting for the result of the experiment”. 9. I said: “Yesterday I stayed in because of the bad weather”. 10. He said: “Today I’ll compare these results and draw a diagram”. 11. She said: “I sent him a letter a few days ago”. 12. He said: “I can’t go there today but I will probably be able to go tomorrow”.



**45. Work in pairs. In turn report the information on your card to**

*your partner beginning with Ann (Bill, Tom etc. said...)*

Student A's card.

***How important is TV in your life? Here's what people said:***

**Ann:** Telly takes about 40% of my time every day. It's important for me because after work and everything I can relax in front of it. **Bill:** Personally I don't watch that much TV. If I do I watch the news. I think TV has created a hyper-reality and changes people's mindset if they watch it. It has a negative effect on people.

**Tom:** TV is a great medium for communication. It covers a broad range of interests and expressions.

Student B's card.

***How important is TV in your life? Here's what people said:***

**Kate:** I enjoy watching telly, especially fashion and celebrities' life. It takes about 30% of my day. **Mike:** I think that television has a negative effect – the negatives outweigh the positives. When I watch TV, I only watch football matches. **Nick:** I like TV because I can see everything with my own eyes. Besides, it's much more difficult for politicians to lie in front of the cameras than on the pages of newspapers.

**46. In groups ask and answer the following questions.**

- Which of the speakers do you agree/ disagree with? Why?
- How important is TV in your life?
- How do you generally feel about the latest advancements in TV technologies?

**INDEPENDENT FURTHER STUDY**

**47. Television technology and other stuff. All the sentences are from the articles about television. Match the sentences with the pictures.**



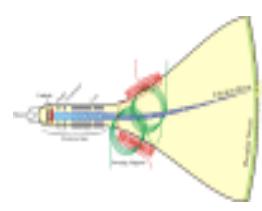
a



b



c



d



e



f



g



h

1. A CRT (cathode ray tube) works by sweeping an electron beam of varying intensity across a phosphor-coated screen. 2. In some areas relay towers must amplify the signal and carry it to the next transmitter. 3. It is hard for today's generation to imagine watching TV at the time when it came to transition from black and white to colour and when there was no Smart TV or HD TV. 4. Analogue televisions without digital capability would not be able to receive a digital signal and would therefore be rendered unusable without a digital TV receiver. 5. Manufacturers release a great number of LED TV models every year including different features. 6. The first TV remote control, called "Lazy Bones," was developed in 1950 by Zenith Electronics Corporation. 7. Television satellites travel in a geosynchronous orbit approximately 22000 miles above the Earth. 8. Mounting your antenna on the roof is a great alternative for signal reception, rather than mounting it in an attic.

**48\*. Read the text below and think of the word which best fits each space. The missing words may include: prepositions, quantifiers, units of measurement or may be evident from the abbreviation.**

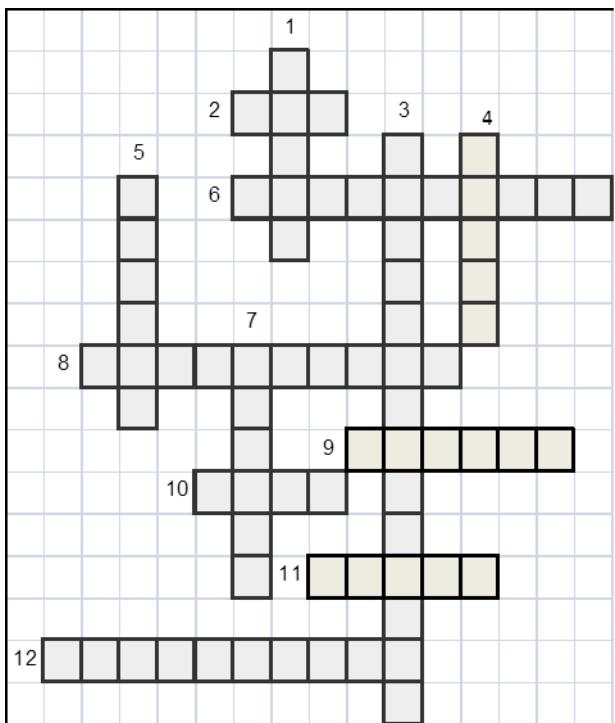
### How Remote Control Works

Generally, there are two types of **remote** controls: infrared (IR), and radio (1) \_\_\_\_\_ (RF). Infrared remote controls work by sending (2) \_\_\_\_\_ of infrared light to a device, while RF remote controls use radio (3)\_\_\_\_\_ in much the same (4) \_\_\_\_\_. Pragmatically, the (5) \_\_\_\_\_ difference between the two is range. IR remote controls **require** a clear line of sight to the **receiving** device and their range maxes out at about 30 feet (9.14 meters). RF remote controls can go (6) \_\_\_\_\_ walls and around corners, with a range of roughly 100 feet, that is 30.48 (7) \_\_\_\_\_.

Most home entertainment components such as stereos, televisions and home entertainment centers use IR remote controls. The remote contains an internal **circuit** board, processor, and one or two Light (8)\_\_\_\_\_ Diodes (LEDs). When you (9)\_\_\_\_\_ a button on a remote control, it transmits a **corresponding** code to the receiving device by way of LED infrared pulses. The idea is somewhat **akin** to flashing an SOS signal, but instead of letters, the flashing LED light is transmitting a series of 1s and 0s. The “1” might be represented by a long **flash**, while “0,” a short flash. A receiver, built into the component, receives the pulses of light and a processor decodes the flashes into the digital bits (10)\_\_\_\_\_ to activate the function.

**49\*. Complete the sentences with the words in bold from the text in exercise 48\*.**

1. While getting started with electronics, you must be thinking about making useful and simple \_\_\_\_\_. 2. She had a \_\_\_\_\_ of intuition. 3. We enjoy travelling to \_\_\_\_\_ and exotic destinations. 4. The number of laboratories \_\_\_\_\_ the equipment is increasing. 5. All rights carry with them \_\_\_\_\_. responsibilities. 6. The German and English languages are closely \_\_\_\_\_. 7. These \_\_\_\_\_ access to advanced production technology.



### 50. Do the crossword.

#### Across

2. Not many, not enough.
  6. The first \_\_\_\_\_ (without interruption) live broadcast of a "breaking" news story in the world was conducted by the CBC.
  8. Radio waves have a \_\_\_\_\_ of about two or three metres.
  9. To make someone able to do something.
  10. A CRT is a sort of vacuum \_\_\_\_\_ in which images are produced.
  11. A vibration that propagates as an acoustic wave.
  12. Opposite to natural.
- Down**
1. Opposite to above.
  3. Many scientific discoveries and inventions are made independently and more or less \_\_\_\_\_ by multiple scientists and inventors.
  4. Something which adjusts or configures a mechanical, electronic, or musical device.
  5. To start to be seen or to be present.
  7. A substance, such as water, that is not solid or a gas.

**51. Do you know some expressions which we use to connect ideas in writing and speaking, such as 'and, but, on the contrary...'? How many words can you name? Look through Module 4 vocabulary list. Find discourse markers there. Remember how they were used in the texts. Think of some equivalents to these words.**

**STUDY NOTE. Discourse markers** are special words that are used to connect

ideas in a text and help us understand the logical structure of what we read or listen to. They are also sometimes called **signposts or linkers**: *It was raining outside. So, I decided to take an umbrella.*

**52. Look at the list of words below. Define their meaning and function in a text.**

**Then use them to fill in the gaps in the text. Retell the text.**

also / Firstly / This is why / So / For example / Thirdly / However / Secondly / Besides / because / And last but not least / In addition / What's more

### **Challenges with Text Messaging**

Studies show that text messaging is quickly overtaking calls as a means of communication using mobile phones. Texting services (SMS or MMS), instant messaging apps and VoIP chats (Skype, Face Time, etc.) have become indispensable. (1)\_\_\_\_\_, they are (2) \_\_\_\_\_ fast and easy to use. (3) \_\_\_\_\_, they have a number of limitations. (4)\_\_\_\_\_, miscommunication happens when you do not understand emotions. (5)\_\_\_\_\_, short answers can come across as uncaring (безразличный) when the sender might have only been in a hurry.

(6)\_\_\_\_\_, facial expressions and tone of voice amplify the meaning of spoken words. (7) \_\_\_\_\_ tone like sarcasm is hard to discern (распознать) from a text. (8)\_\_\_\_\_, we often use shortened words and no capitalisation (использование заглавных букв) or punctuation especially for SMS.

(9)\_\_\_\_\_, many of us rely on auto-correct. (10)\_\_\_\_\_, over dependence can make us forget spelling rules.

(11)\_\_\_\_\_, feelings can get hurt when we don't get a response or a reaction to texts or posts immediately (12) \_\_\_\_\_ we think we are being ignored.

(13)\_\_\_\_\_, our digital tools are dependent upon electricity, internet connection and mobile service.

## DEGREES OF COMPARISON. OTHER POINTS

**STUDY NOTE.** Before comparatives, we can use an intensifier to add emphasis - **much, far, very much, even, or, to talk about small differences - a little, a bit, slightly** etc.

*Travelling by plane is much faster than by train.*

*After taking a medicine he began to feel a little better.*

**53. Read the texts and fill in the gaps with the words from the box. Do you agree with the opinions of the authors of these texts? Why yes/why not ?**

### Two Cities

*a bit more/ much more/ slightly /just as/ a bit/ completely/ much*

If you visit Russia, you should definitely visit both Moscow and St. Petersburg.

They are (1)\_\_\_\_\_ different cities. St Petersburg feels (2)\_\_\_\_\_ European than Moscow, while Moscow is (3)\_\_\_\_\_ ‘grittier’, but very interesting. Things like accommodation, food, transport and so on are (4)\_\_\_\_\_ the same in both places. It’s (5)\_\_\_\_\_ easier to find a cheaper place to stay in St Petersburg, but Moscow has (6)\_\_\_\_\_ variety when it comes to eating out. To get around, take the metro, which is (7)\_\_\_\_\_ efficient in St. Petersburg as in Moscow.

### Working at Home Vs Working in an Office

*nearly/ as much/ slightly more/a bit more / just as much /much more*

It is hard to compare working at home and working in an office. People think that working at home would be (1)\_\_\_\_\_ relaxing, but that’s not always true. You still have to do (2)\_\_\_\_\_ work, so it can be equally stressful. Of course, you have (3)\_\_\_\_\_ freedom to plan your own day, but you also have to be (4)\_\_\_\_\_ responsible , because otherwise you end up wasting a lot of time. In the end, you save time commuting, but most people waste a little more time, so you spend (5)\_\_\_\_\_ time working as if you just went to work.

**STUDY NOTE.** **as + adjective + as** means that the two things are equal: *His new novel is as readable as all his books.*

If we want to say that **two things aren't equal**, we can say: *E-mail is not as personal as a handwritten note.* (= less personal)

We use **double comparatives** to say that things are changing: *Tom is getting taller and taller.*

#### **54. Open the brackets. Translate the sentences into Russian.**

1. The term “telecommunication” is as (old) as the Ancient World.
2. He worked (hard) and (hard) as the end of the term came nearer.
3. My message is not as (long) as yours.
3. Radio broadcast today is not as (good) as it used to be.
4. You won’t pass your test next time if you don’t work as (hard) as you should.
5. Social networks are as (important) today as television used to be.
6. As he went on, the box became (heavy) and (heavy).
7. Computer technologies appeared not long ago but they are as (successful) as other means of telecommunication.
8. He clearly did not like the explanation, and as he was listening to it, he was getting (angry) and (angry).
9. He said that the new method didn’t work as (well) as they had expected.
10. Now the days are getting (long) and (long).

**STUDY NOTE.** We use **the + comparative + the + comparative** to show that two things vary or change at the same time: *The more I study, the more I know.*

#### **55. Correct the mistakes and translate the sentences into Russian.**

1. The much electricity you use, the higher your bill will be.
2. The sooner, a better.
3. The more I thought about the plan, the little I liked it.
4. The earlier we get going, the best.
5. The fast you drive, the much dangerous the situation is.
6. The little money you spend, the more you save.
7. The old we grow, the wisest we become.
8. The much I learn, the more I realise how much I do not know. (Albert Einstein)

#### **56. Complete the second sentence in each pair so that it has a similar meaning to the first one.**

1. Last year they had a better timetable than they have now. The new timetable is \_\_\_\_\_ as the one they had last year. 2. Over the last two centuries the world has changed faster than ever before. The world has never changed \_\_\_\_\_ it has over the last two centuries. 3. You may be surprised but hearing ultrasound is not pleasant. Hearing ultrasound is \_\_\_\_\_ as you might think. 4. All the other students in her group are not as knowledgeable as she is. She is \_\_\_\_\_ in her group. 5. The weather in Moscow was not as good as in Sochi in September. The weather in Sochi was \_\_\_\_\_ than in Moscow in September.

## QUESTION FORMS SUMMARY

**57. Read the following questions from Modules 1-4. How do we make up questions? What is the difference between questions and statements in the English language?**

1. How are students' academic achievements assessed?
2. What courses contribute the most to the career of an engineer?
3. What degree are you studying for?
4. What famous academics taught (or worked) at IMTS?
5. How do alternative energy sources help solve the problem of greenhouse effect?
6. Who owns the discovery of electricity?
7. How is electricity used and received?
8. Did Alexander Bell invent radio?
9. Is a Cathode Ray Tube a part of modern TV sets?
10. What waves make possible most of our everyday communication?

**STUDY NOTE.** In Russian we can use only **intonation** to ask questions. In English we also use **grammar** to ask questions. We divide question forms into four types.

**Type 1:** sentences **with am, is, are, was, or were** as the main verb. We reverse (менять на противоположный) the order (порядок) of the subject (подлежащее) and the verb.

*Are you ill? Was anyone at home?*

**Type 2:** Sentences with **auxiliary** (вспомогательный) verbs (be, have, will, can etc.). We reverse the order of the subject and the auxiliary verb.

*Have seen the new film?*

**Type 3:** Simple Present or Past Tense of all **main** verbs apart from **be**. We use a ‘dummy’ auxiliary **do** or **did**.

*Do you like music?*

PS. We can add question words (why, how, where, when, etc.) to the beginning of type1-3 questions.

*Why are you angry? When will he come? Where did you buy this dress?*

**Type 4:** The question word is **the subject** of the question. There is no change to the basic order of the words in this type of question.

*What is going on? Who told you that lie?*

**58. Look at the questions from task 57. Put them into the right section in the table below.**

Type 1	<i>How are students' academic achievements assessed?</i>
Type 2	
Type 3	
Type 4	

**59. Read some facts from the history of the invention of television and practise asking different types of questions to the sentences below. Ask and answer the questions in pairs.**

**Example:** *The world's first television stations first started appearing in the late 1920s and early 1930s. → When did the world's first television stations start appearing?*

1. The earliest experiments in television began almost immediately after the invention of the photograph in the middle of the 19th century.
2. Michael Faraday's experiments demonstrating the relationship between light and electricity gave the idea of the electrical transmission of moving pictures.
3. A means of

electrical transmission of sound had to be found. 4. A major breakthrough was made in 1873 when it became possible to convert light into electronic signal. 5. In 1883 a German engineer Paul Nipkow invented the technology to create the first genuine television picture. 6. By 1926 radio had become a reality so, the problem of transmitting sound had been solved. 7. Zworykin developed his cathode ray tube into a television receiver. 8. In 1939 NBC began regular broadcasts. 9. After the end of WWII television began to play an increasingly important role in social and political life. 10. Nowadays television has become a major mass entertainment medium.

## CHECK YOURSELF

**60. Choose the right answer. For some questions more than one answer may be correct.**



1. What did Alexander Graham Bell invent?  
**A. telegraph      B. telephone      C. radio**
2. Who first conclusively proved the existence of the electromagnetic waves?  
**A. Isaac Newton    B. Heinrich Rudolf Hertz    C. James Clerk Maxwell**
3. The first radio receiver, also known as lightning detector, was invented by  
**A. Alexander Popov    B. Guglielmo Marconi    C. Nikola Tesla**
4. Electromagnetic waves with lowest frequency are  
**A. radio waves      B. infrared waves      C. ultraviolet waves**
5. What rays are used in a microwave oven?  
**A. Microwaves which are a form of X-rays light rays.  
B. Microwaves as well as ultrasound which are a kind of sound waves.  
C. Microwaves which are a form of electromagnetic radiation - radio waves.**
6. What is the difference between radio waves and Wi-Fi?  
**A. WiFi works on a rather high frequency compared to traditional radio.  
B. WiFi works on a rather low frequency compared to traditional radio.**

**C.** WiFi technology uses sound waves..

7. Television is a device shaped like a box with a screen that receives
- A.** electrical signals and changes them into moving images and sound.
  - B.** radio signals and changes them into moving images and sound.
  - C.** sound waves and changes them into electrical signals.
8. Do you need a digital antenna for a digital TV with a digital tuner?
- A.** No. There is no difference between antennas used for analogue TV and antennas used for digital TV.
  - B.** No. In fact, there is really no such a thing as a "digital" antenna. Digital TV just uses less bandwidth due to the ability to compress the signal.
  - C.** Yes. Digital TV channels operate on other frequencies as analogue TV channels.
9. Which company launched the first mobile phone?
- A.** Motorola
  - B.** Nokia
  - C.** Ericsson
10. What company created the first smartphone?
- A.** Nokia
  - B.** IBM
  - C.** Apple

**61.** Fill in the missing letters in the words from Module 4 word list. Read and translate the words.

1. R\_l\_t\_ \_ns; 2. br\_ \_kthr\_ \_gh; 3. br\_ \_ cast; 4. \_ppl\_c\_ti\_n; 5. int\_gr\_t\_d  
c\_rc\_ \_t; 6. s\_t\_ll\_te; 7. tr\_nsm\_ss\_ \_n; 8. t\_chn\_que; 9. thr\_ \_t; 10. n\_tw\_rk.

**62.** Fill in the gaps in the sentences below using the words in the box.

technique / place / push / dealing / encouraged / ancient / growing/ broadcast / lead / carry
--

- A. 1. After the pandemic started there has been a rapidly \_\_\_\_\_ demand for face masks. 2. They were receiving a live \_\_\_\_\_ from the scene of the accident. 3. The ecologists will discuss the environmental problems that might \_\_\_\_\_ to a disaster if people don't do anything to deal with them. 4. In \_\_\_\_\_ times astronomers named stars after gods. 5. Many people believe that space

technologies will \_\_\_\_\_ human civilization forward. 6. Wires that \_\_\_\_\_ messages mock space and outrun time. 7. The concert takes \_\_\_\_\_ next Thursday. 8. Scientists predict a major breakthrough in \_\_\_\_\_ with the pandemic in the near future. 9. Children should be \_\_\_\_\_ to learn foreign languages at school. 10. Yoga is a very effective \_\_\_\_\_ for dealing with stress.

rise / enable / point /advances / breakthroughs / expand / transmitted / medium / effect / role
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B. 11. Radio became the first electronic broadcast \_\_\_\_\_ which began to be used for mass communication. 12. Some people think that electromagnetic waves from mobile phones have a bad \_\_\_\_\_ on their health. 13. According to the research, vaccination will play an important \_\_\_\_\_ in dealing with the coronavirus. 14. Heavy rains have given \_\_\_\_\_ to flooding over a large area. 15. The information is \_\_\_\_\_ electronically to the central computer. 16. The latest medical \_\_\_\_\_ brought the treatment of cancer to a new level. 17. Ban on smoking in public places became a turning \_\_\_\_\_ in an anti-smoking campaign. 18. These companies need to \_\_\_\_\_ into new markets. 19. Computerisation will \_\_\_\_\_ us to cut our costs. 20. Recent \_\_\_\_\_ in telecommunications mean that people can always stay connected.

**63. Complete the sentences with the correct form of the verbs in brackets.  
(Answers may vary).**

**The Job Interview.**

Peter had a job interview a few days ago. First the interviewer asked him what his name 1.\_\_\_\_(be) and how old he 2.\_\_\_\_(be). Then she asked him where he 3.\_\_\_\_(go) to school and if he 4.\_\_\_\_(have) any special training. She also asked where he 5.\_\_\_\_(work). Peter replied that he 6.\_\_\_\_(finish) a specialised English school, did a course in finances in college 7.\_\_\_\_(work) at the bank for 5 years. He also mentioned that 8.\_\_\_\_(can) speak English fluently. Peter said that he 9.\_\_\_\_(do)

his best to become a good specialist. He answered all the questions and hoped he  
10.\_\_\_\_ (get) a job at the company.

**64. Put the verbs in brackets into the correct tense form. In some sentences answers may vary.**

1. His sister said she never (see) that film before. 2. When he came into the room he saw that his son (play) on his computer. 3. They were worrying because they were not sure if they (lock) the door. 4. I wanted to know when she (be able) to give me that book. 5. The waiter asked them if they (to enjoy) the meal. 6. She believed that she (finish) the article soon. 7. I am afraid they (not to come) yet. 8. He asked how far away the station (be). 9. My colleague said he (not know) who (phone) me. 10. He says he (not see) his parents for weeks. 11. She said she was sorry that she (come) so late. 12. Alex promised he never (speak) to her again. 13. They said they just (buy) a flat. 14. I decided that I never (drink) coffee late at night. 15. His wife said that he already (find) a new job. 16. They were sure that the children (sleep). 17. I don't think they still (to discuss) that problem. 18. We were glad that all the guests (gather) at last. 19. The doctor said I (be) allergic to oranges. 20. Ann hoped that she (pass) her entrance exams.

**65. Rewrite the sentences beginning from the words given in brackets.**

**Example:** *The experiment went well. (The researcher reported...)* → *The researcher reported that the experiment had gone well.*

1. I can get home on my own. (She said...) 2. We haven't been to the art gallery for ages. (They said ...) 3. When did you leave the house this morning? (He asked me...) 4. I'll think about it. (He said...) 5. I haven't been in touch with my mother since the end of the summer. (She said ...) 6. You should cut down on smoking. (The doctor told him...) 7. Do you understand the rules of reported speech? (He asked me...) 8. When will I see you again? (She asked him...) 9. We're going on holiday tomorrow. (They said...) 10. Wait here until I get back. (She told him...)

**66. Put the adjectives in brackets into the correct comparative or superlative**

*form.*

1. He had two TV sets. One of them was (old) than the other. He liked it (well), because it had a (large) screen. 2. The development of electricity led to the invention of telephone and telegraph, and (far) developments led to the wireless communication. 3. The (far) planet in the Solar system is Neptune. 4. The distance between the (near) crests (гребни) of waves in the sea was broadcasting 10 meters. 5. Digital processing (обработка) also uses (little) power than the old analogue technology. 6. LED is (efficient) than CCFL. 7. The (big) difference between infrared (IR) and radio frequency (RF) remote controls is coverage range. 8. Television uses light impulses to build the picture that we can see. If a picture is built up in (little) than a tenth of a second, the eye will be unaware that this process is even occurring.

**67\*. Read a passage from “David Copperfield” by Charles Dickens and put the verbs in brackets into the correct tense form.**

In a week’s time the answer from Mr. Murdstone came, and my aunt (to inform) me that he (to come) to speak to her in person the next day. It (to be easy) to imagine with what beating of the heart I (to wait) for this day. I (to sleep) badly at night and (to wake up) early in the morning, trembling with fear. Yet I (to have) to wait. Mr. Murdstone (not to come) in the morning but only (to arrive) in the late afternoon. He (to come) with his sister who (to be) even more cruel to me than her brother. I asked my aunt if I (to have) to go away but my aunt asked me to stay. Words (can/not) describe the feeling with which I (to see) again the harsh faces of my stepfather and Miss Murdstone. Mr. Murdstone said that I (to cause) him a lot of trouble and that I (to have) a bad temper. He added that they (to try) to do what they (can) for me but (not to be able) to cure me.

(An extract from *David Copperfield* by Ch. Dickens. Adapted)

**68. Answer the following questions. Consult Module 4 texts if necessary.**

1. What examples of the first means of communication can you give? 2. What

does the word ‘telecommunication’ mean? 3. What were the first true telecommunication systems? 4. What discoveries did electromagnetic waves make possible? 5. What is the most popular technology for the human communication today? 6. What are the most popular mobile phone applications? 7. How does a mobile phone transmit information using mobile networks? 8. What discoveries were essential for the invention of TV? 9. What technologies are associated with TV of the future? 10. What do the waves emitted by our physical world make possible?

## **MODULE 4 PROGRESS TEST**

**Vocabulary.** Decide which answer a, b or c best fits into each gap.

The telecommunications industry is playing a major role in the economic growth. The global implementation (внедрение) of digital telecommunications equipment has (1)\_\_\_\_\_ the merger (слияние) of the traditional telecommunications (2)\_\_\_\_\_ designed for voice communications with data communications (computer information (3)\_\_\_\_\_\_). The resulting (4) \_\_\_\_\_ that we all know as “the Internet” has changed the society and (5)\_\_\_\_\_ the world commerce.

In today’s world technical (6)\_\_\_\_\_ is occurring so (7)\_\_\_\_\_ that it is very difficult for most engineers and technicians to stay current with the enormous amount of literature produced in each discipline. Most of them can only hope to keep up with the most (8)\_\_\_\_\_ information and focus on some (9)\_\_\_\_\_ aspects in considerable detail. The practicing engineer/technician should understand how existing telecommunication systems have (10)\_\_\_\_\_ and gain an insight into their future development.

1.    a. enabled              b. enacted              c. employed
2.    a. net                    web                      c. network
3.    a. transit                b. transport            c. transfer
4.    a. breakthrough        b. improvement        c. step

5. a. enabled      b. expanded      c. evolved
6. a. application      b. relation      c. advancement
7. a. instantly      b. rapidly      c. obviously
8. a. essential      b. obvious      c. average
9. a. groundbreaking b. specific      c. amusing
10. a. expanded      b. encouraged      c. evolved

**Grammar. Decide which answer a, b or c best fits into each gap.**

1. The speaker claimed that the first true telecommunications system \_\_\_\_\_ with the successful innovation of a telegraph system.  
a. had begun      b. begin      c. would begin
2. In 1945 Arthur Clarke suggested that satellite communications technology \_\_\_\_\_ developed.  
a. was      b. would be      c. had been
3. According to the article, the era of the handheld mobile phone \_\_\_\_\_ in 1973, when Motorola Manager placed the first mobile phone call.  
a. had started      b. started      c. would start
4. They \_\_\_\_\_ that the last CRT TV by a major manufacturer was introduced by LG in 2010.  
a. claim      b. describe      c. order
5. Did you know that the first true television system \_\_\_\_\_ by Scottish inventor John Logie Baird in 1926?  
a. would be demonstrated      b. was demonstrated      c. had been demonstrated
6. They came to the conclusion that since the invention of television history \_\_\_\_\_ many firsts in the area of television.  
a. saw      b. has seen      c. had seen
7. Do you know that after 1945 improved technology \_\_\_\_\_ to change the face of telecommunications?  
a. began      b. would begin      c. had begun

8. The author pointed out that there \_\_\_\_\_ a few significant contributions by different people in the invention of television.

- a. were              b. had been              c. would be

9. He \_\_\_\_\_ that the first television systems were black and white.

- a. told us              b. said us              c. told

10. It is reported that \_\_\_\_\_ time babies spend watching television, \_\_\_\_\_ slowly they learn to speak.

- a. as much....as much    b. more... more    c. the more...the more

## MODULE 5

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### SMART TECHNOLOGIES

“It's still magic even if you know how it's done.” - *Terry Pratchett, an English writer.*



#### Learning points for Module 5:

##### **Reading:**

Text A. The Age Of Computers

Text B. Just Ask Alexa

Text C. Will It Change Our Lives?

**Vocabulary in context:** Word definitions/ Collocations/ Synonyms/ Word forms

**Grammar:** Different types of Subordinate clauses

**Speaking:** How Smart Technologies Impact Our Lives

**Skills:** How to read the right way

##### **Learning aims:**

- to practise reading and speaking about computers and other smart technologies;
- to learn and practise active vocabulary related to the topic of the module;

- to learn about different types of subordinate clauses and practise to understand and use them;
- to learn about and practise different types of reading.



### Lead-in

*Sentence anagrams. Write the definitions of a computer rearranging the words below. Which of these definitions is more accurate in your opinion? Think of your own definition of a computer.*

A computer is ...

- data / electronic / manipulates / instructions. / an / according to / machine / a list of / that.

- that / information/ works with/ to get / and / result./ a device / accepts / a / /it / particular
- following/ to /a /performs / that/ instructions./ programmable /computations/ / machine / certain

## READING

### Part 1

**1. Read the text and define its main content points choosing from the list below.**

**Confirm your answers with quotes from the text.**

- 1 The definition of a computer;
- 2 The history of computers;
- 3 Numerous applications of computers;
- 4 Generations of computers;
- 5 The structure of a computer system;
- 6 What all computers have in common;
- 7 What tasks computers are designed to perform;
- 8 The downsides of using computers;
- 9 The future of computing;
- 10 Types of computers.

### Text 5A

#### THE AGE OF COMPUTERS

(1) Today we are living in what some people call the ‘digital age’, meaning that computers have become an essential part of our lives. We visit shops and offices which have been designed with the help of computers, pay bills prepared by computers, and make flight reservations and bank transactions with the help of computers. Just picking up a telephone involves the use of a sophisticated computer system. It is almost impossible to imagine our life without computers. But what is a computer?

(2) In general, computers are machines that perform tasks or calculations according to instructions. Since the basic job of computers is processing information, they can be defined as devices which accept information in the form of instructions, called programs, and characters, called data, perform mathematical and logical operations on this information, and then provide the results of these operations.

(3) Today there are a lot of different types of computers. However, most computers, whether large or small, have three basic capabilities. First, they have circuits<sup>1</sup> for performing arithmetic operations. Second, they have a means of communicating with the user. Third, they have circuits which can make decisions. So, a computer can solve a series of problems and make thousands of logical decisions. It can find the solution to a problem in a fraction of the time it takes a human being to do the job.

(4) But, what makes a computer such a miraculous device? Each time we turn it on, it is a blank slate<sup>2</sup>, that with the appropriate hardware and software, is capable of doing anything you ask. It is a calculating machine, it is an electronic filing cabinet<sup>3</sup> which manages large collections of data, it is a magical typewriter that allows you to type and print any kind of document, it is a personal communicator that enables you to interact with other computers and people around the world, and you can also use it to relax playing computer games.

(5) Not only is the number of tasks you can do using a computer growing\*, but the computers themselves are also getting more and more sophisticated. Compared to the first electronic computers, which were huge machines that required teams of people to operate, today's computers are amazing. Not only are they thousands of times faster\*, but they have also shrunk<sup>4</sup> to be able to fit on your desk, in your lap, or even in your pocket. Modern computers range in size and power depending on the tasks they are designed to perform. At one end of the scale, there are supercomputers, very large and powerful computers with thousands of linked microprocessors. At the other end, there are tiny embedded<sup>5</sup> computers. Smartphones have turned into fully programmable computers in their own right and may well be the most common form of computers in existence.

(6) Today computers are virtually<sup>6</sup> in everything we touch. We still have an image of computers as being rectangular objects either on a desk, or these days in our pockets; but computers are everywhere: in our cars, TVs, stereo systems, calculators, and home appliances<sup>7</sup>. They are integrated into everyday life, often in an invisible way. We do need to care about what the future of computing holds because it is going to continue impacting our lives and driving the transformation of entire systems of production, management, and governance<sup>8</sup>.

\***Note that** after some ‘limiting’ adverbials (not only, hardly ever, only once, etc.) when we ‘front’ them (put at the beginning of a sentence) we change the order of the following subject and verb as we do in questions.

*Not only is the number of tasks you can do using a computer growing, but the computers themselves are also getting more and more sophisticated.*

*Not only are they thousands of times faster, but they have also shrunk to be able to fit on your desk.*

### Vocabulary notes for text 5A

<sup>1</sup>circuit

схема

<sup>2</sup>blank slate

чистая доска

<sup>3</sup>filings cabinet

карточка

<sup>4</sup>have shrunk

уменьшились

<sup>5</sup>embedded

встроенный

<sup>6</sup>virtually

практически, поистине

<sup>7</sup>appliances

приборы

<sup>8</sup>governance

управление, руководство

**2. Find the words in the text which have the following meanings. In pairs practice giving their definitions.**

## §1

1. extremely important or necessary;
2. include (something) as a necessary or integral part;
3. well designed and very advanced, often working in a complicated way;

## §2

4. in a way that follows certain rules;
5. a process of dealing with information using a computer;
6. (to) explain the meaning of a word;
7. (to) take something that is offered;
8. signs used on a computer;

## §3

9. abilities, skills or powers;
10. a way (method) of doing something;
12. dealing with a problem;

## §4

13. very good and unexpected;
14. correct or suitable for a particular purpose;
15. computer machinery and equipment;
16. computer programs that make it work;
17. a machine designed to print on paper;

## §5

18. in relation to something;
19. needed;
20. a range of different types of things, from the lowest level to the highest;
21. very small;

## §6

22. describing something that cannot be seen;
23. having an effect on something;
24. all the amount, whole.

**3. Read the text again and answer the following questions.**

1. What does it mean to be living in a digital age? 2. What examples of computer usage can you give? 3. What is a computer? 4. What is the most important function of a computer? 5. What remarkable powers do computers have? 6. How are modern computers different from the first electronic machines? 7. What types of computers are there? 8. Where can you find embedded computers? 9. What devices may be the most common form of computers today? 10. Why can we say that computers are virtually everywhere? 11. What does the future of computing hold? 12. What do you use a computer for?

**4. Complete the sentences using the information from the text without looking into the text.**

1. Living in the digital age means \_\_\_\_\_. 2. It is impossible to imagine our life without computers because \_\_\_\_\_. 3. A computer is a device which \_\_\_\_\_. 4. Three basic capabilities of computers are: \_\_\_\_\_. 5. Computers are capable of doing what we ask them to do with appropriate \_\_\_\_\_. 6. Not only are modern computers thousands of times faster than old machines but they \_\_\_\_\_. 7. Smartphones have turned into \_\_\_\_\_. 8. We need to care about what future of computers holds because \_\_\_\_\_.

**5. Explain how you understand the phrases from the text. Think of your own examples to illustrate these points.**

§2 The basic job of computers is processing information.

§4 Computers are miraculous devices.

§5 They (computers) have shrunk to be able to fit on your desk.

§5 Smartphones have turned into fully programmable computers in their own right.

§6 They (computers) are integrated into everyday life, often in an invisible way.

§6 They (computers) continue driving the transformation of entire systems of production, management, and governance.

## **READING**

### **Part 2**

**6. In pairs / groups, talk about these words from Text 5B. Explain their meaning or translate them into Russian. Use a dictionary if necessary.**

Technology / healthcare / virtual / assistant / capabilities / queries/ software / experts / advice / response / reliable / pharmacists / a patient / software / protection.

**7. You are going to read about Alexa, a virtual assistant used in healthcare.**

**Read the headline. Guess if 1-6 below are true (T) or false (F).**

- 1 The article says healthcare has taken a step towards helping technology.
- 2 We won't be able to ask Alexa for health advice.
- 3 Everyone praised the new Alexa's health advice function.
- 4 Alexa could reduce pressure on hardworking doctors.
- 5 People say we should see a doctor for serious health problems.
- 6 A data protection group said Alexa could be a disaster for our privacy.

**8. Read the text and check your answers.**

### **Text 5B JUST ASK ALEXA**

(1) Technology has taken another step in helping us with our healthcare. We can now ask the digital device Alexa for advice if we are worried about our health.

Alexa is a virtual assistant created by the website Amazon.com. It is capable of listening to people and answering their questions. As well as voice interaction capabilities, Alexa can make to-do lists, play music upon voice request, and give us the latest news. Now Alexa can answer our health queries. Amazon has linked up with the National Health Service (NHS) in the UK to add a health advice capability to the software. Alexa is able to search the NHS website for information and find an answer that is agreed on by many health experts.

(2) Alexa's new health advice capability has been met with a mixed response.

Some people think that technology like this is a great example of how people can access reliable, world-leading advice from the comfort of their home, reducing the pressure on our hardworking doctors and pharmacists. Other people say we need to

be careful about trusting the advice of a piece of software. They say we must go to a human doctor if we have serious health problems. Other people are concerned about privacy. The group Big Brother Watch is worried about hacking. It said: "It is a data protection disaster waiting to happen."

**9. Read the text again and match the words with their definitions using the context.**

**§1**

- |              |  |
|--------------|--|
| 1. step      | a. not physically real, but made by software to look real.   |
| 2. device    | b. action taken in order to reach a goal.  |
|              | c. a helper.   |
| 3. virtual   | d. having the ability, fitness, or quality necessary to do or achieve something.                               |
| 4. assistant |  |
| 5. capable   | e. a thing made or changed for a particular purpose, especially a piece of mechanical or electronic equipment. |
| 6. linked up | f. someone who knows everything about a topic.   |
| 7. expert    | g. joined with something or someone else to do something together.   |

**§ 2**

1. mixed response a. to get to use something.
2. to access b. showing or believing in a person's honesty or sincerity.
3. reliable c. good and bad feelings from people about something.
4. pressure d. always good in quality or performance; able to be trusted.
5. trusting e. a sudden event that causes great damage or loss of life.
6. privacy f. conditions of work or a way of living that cause anxiety or difficulties.
7. disaster g. the state or condition of being free from being looked at by other people.

**10. Answer the questions using the text.**

1. What is Alexa? 2. How can Alexa help people? 3. What service has been linked to Amazon to provide health advice? 4. Why is the health information from Alexa reliable? 5. What kind of response did Alexa's health advice get? 6. Why do some people say we need to be careful while using Alexa's advice? 7. Is it a good idea to follow Alexa's health advice in case of a serious health problem? Why? 8. What is the other concern about using Alexa?

**11. In turn summarise the information in text 5B. Use key words from Tasks 6 and 9 as prompts.**

**12. Discussion. Work in pairs. Students A strongly believe Alexa is a great way of getting healthcare advice; Students B strongly believe the opposite. Change partners again and talk about your ideas.**

**READING**

**Part 3**

**13. In groups think of some recent computer technologies which you think are the most important today. Explain why.**

**14. Scan text 5C and check if the technologies described in the text were on your list.**

## Text 5C

### WILL IT CHANGE OUR LIVES?

One innovation that is with us to stay is AI (Artificial Intelligence) and with it, smart technology. Smart technology makes use of AI to enable a level of cognitive awareness to devices and applications. The technology employs machine learning and big data analysis to perform functions that have traditionally been carried out by humans. In doing so, it rapidly boosts the efficiency, productivity, and functionality of modern devices.

**Artificial intelligence** is the area of computer science that deals with the development of intelligent machines capable of performing tasks usually done by humans. The term ‘Artificial intelligence’ was coined in 1956 by John McCarthy at MIT. AI includes programming computers to make decisions in real life situations, e.g. expert systems that help doctors in the diagnosis of diseases based on symptoms. Other examples include programming computers to understand human languages, to play games, to react to sensory stimuli (robotics), etc. The potential applications of AI are beyond imagination. People tend to rely more on smart machines for difficult tasks and complicated projects that require certain levels of precision. AI is still in its initial stage of development and therefore requires some human interaction. Even at its current state, it is capable of performing many tasks better and more efficiently than humans ever could.

**Machine Learning.** For a machine to be intelligent it has to learn how to process data, and there has to be a way to do so. Machine learning (ML) is the method of making computers learn and think as humans do. Machine learning is becoming so popular today because all you need to know to make it work is the nature of a problem and its ideal answer. Then ML works like magic to solve the problem for you based on similar problems with correct answers you provide it with. Machine learning involves the use of machine learning algorithms and models. A procedure that is run on data to create a machine learning model is called an algorithm.

Machine learning algorithms build a model based on sample data, known as

training data, in order to make predictions or decisions without being explicitly programmed to do so. A model in machine learning is the output of a machine learning algorithm run on data. As a result of what machines learn from the data they are trained on, operations are optimised, intelligence is developed, and predictions can be made.

**Big Data** is a large volume of data collected from various sources, which contains a greater variety and a large amount of information from millions of users. The more various data we use, the better the accuracy of the Machine learning models trained on this data is. Although more data is good, it is not useful if it does not contain variety. Usually, big platforms collect large amounts of data from user interactions in order to improve their services. Most of this data is encrypted and saved anonymously. However, there are downsides to these collections. In recent years, there has been a major concern over privacy and security of users' data. Most companies have now updated their privacy policies and imposed strict rules on data collection and have given more power to their users in deciding what can be collected.

As stated earlier, ML, AI, and big data are not quite the same, but they have one thing in common – they are all data-driven technologies. Because of the pace at which AI is advancing, some researchers predict that one day it may replace the human workforce completely. However, the likelihood of eliminating humans is distant. As of now, the most advanced AIs are of the narrow AI type, which means they only excel at performing a single type of task, unlike humans who are smart and flexible enough to perform a large number of tasks with high accuracy.

**15. Read the text and circle any words you do not understand. In groups, make a list of unknown words and use dictionaries to find their meaning.**

**16. Read the text again and write 10 questions to the text. In groups ask and answer these questions.**



**17. Work in groups of three. In turn tell your group mates about one of**

*the technologies from text 5C. Search the Internet to find more information about the technology you have chosen to speak about and provide some examples of where and how it is being used.*

**18. Listen to the conversation about Artificial Intelligence and how it might change our life. Note down some ideas and useful words for speaking about AI.**

<https://www.bbc.co.uk/learningenglish/features/6-minute-english/ep-150219>

or: <https://www.youtube.com/watch?v=PhnF2lhKypc>

**19. Find the information and prepare to tell your group about some other applications of AI in daily life, e.g. in smart phones, transport, entertainment, at home, etc.**

*E.g.: <https://www.edureka.co/blog/artificial-intelligence-applications/>*

**20. Discussion. Work in pairs. Students A strongly believe that Artificial Intelligence will change our life for the better; Students B strongly believe that AI is a threat to our existence. Change your roles and discuss the opposite ideas.**

## VOCABULARY

### Module 5 Word List

Essential Vocabulary	
1. accept (v)	29.store (v) (data)
2. amazing (adj)	30.supercomputer (n)
3. appropriate (adj)	31.turn (v) into
4. assist (v) / assistant (n)	<b>Additional Vocabulary</b>
5. calculate (v) /calculation (n)	32.according to
6. capable (adj) / capability (n)	33.algorithm (n)
7. character(s) (n)	34.artificial (adj) intelligence (n) / AI
8. compare (v) /compared to	35.be concerned (v) with
9. define (v)/definition (n)	36.be linked (v) up with
10.design (v, n)	37.care (v) about
	38.complete (v)

11.drawback (n)	39.control (n, v)
12.embedded/built-in (adj)	40.data (n)
13.entire (adj)	41.downside (n)
14.essential (adj)	42.draw (v) attention (n)
15.hardware (n)	43.generation (n) of computers
16.however (adv)	44.impact (v, n)
17.latest/recent	45.invisible (adj)
18.(a) means (n) of	46.involve (v)
19.numerous (adj)	47.machine learning (n)
20.ordinary (adj) (computer)	48.miraculous (adj)
21.perform (v) instruction(s) (n)	49.predict (v)
22.process (v) (data)	50.pressure (n)
23.recognise (v)	51.privacy (n)
24.require (v) /request (n)	52.query (n)
25.respond (v) / response (n)	53.rely (v) / reliable (adj)
26.scale (n)	54.step (n) forward
27.software (n)	55.tiny (adj)
28.solution (n)	56.virtually (adv)

**21.** *Look at the words below. Give their definitions and try to recall how they were used in text 5A.*

Essential, to involve, sophisticated, according to, processing, to define, to accept, character(s), capabilities, circuit, a means of, solution, appropriate, hardware, software, compared to, (to) require(d), scale, tiny, embedded, virtually, invisible, to impact, entire.

**22.** *Read the sentences below and identify the key words and expressions from Exercise 21. Translate the sentences into Russian.*

1. Water is essential for our well-being.
2. Final year students are involved in research projects at our university.
3. Modern technologies are becoming

increasingly complicated and sophisticated. 4. According to the report most people do not take enough exercise. 5. Processing is the act of performing a particular series of operations on information. 6. A capability is the ability to do things and choose a way of life according to one's personal values. 7. One of the major advances in computing power came with the introduction of the integrated circuit. 8. A solution to a problem is a way of dealing with it. 9. Hardware and software must work together for a computer to work effectively. 10. The aircraft is designed to be invisible to a radar. 11. The anti-smoking campaign made quite an impact on young people. 12. I spent the entire month writing this report. 13. The last two paragraphs make the conclusion virtually certain. 14. Learning to drive requires a lot of practice. 15. One of the best ways of learning a new word is to define the meaning of this word and give an example of how to use it. 16. I did not want to go to the party but I had to accept his invitation. 17. Examples of characters include letters, digits, punctuation marks, and white space. 18. This film is not appropriate for small children. 19. The road to St. Petersburg is quite busy compared to others. 20. If you require any further information, call this phone number. 21. There are scale models of famous buildings in this museum. 22. The examples of embedded systems include digital watches, electronic calculators, and fitness trackers.

**23. Match the words (1-7) and (a-g) in columns A and B to make up word combinations. (Sometimes more than one choice is possible). Make up your own sentences with these expressions.**

**Example:** An integrated circuit is an electronic device consisting of many miniature elements on a single chip.

**A.**

- 1. integrated
  - 2. on a large
  - 3. essential
  - 4. sophisticated
- a. a theory
  - b. feature
  - c. scale
  - d. circuit

**B.**

- 1. to define
  - 2. a means of
  - 3. appropriate
  - 4. invisible
- a. transport
  - b. ink
  - c. rules
  - d. an economy

- |                 |               |              |               |
|-----------------|---------------|--------------|---------------|
| 5. according to | e. data       | 5. to impact | e. a solution |
| 6. to process   | f. attention  | 6. entire    | f. behaviour  |
| 7. to draw      | g. technology | 7. to find   | g. world      |

**24. Fill in the gaps with the words given in the table below.**

According to / capability / involve(s) / to define / characters /  
solutions / essential / accept(ed) / sophisticated.

A. 1. Education is one of the \_\_\_\_\_ aspects of life. 2. The job of a computer engineer \_\_\_\_\_ problem solving skills. 3. A \_\_\_\_\_ system is a system developed to a high degree of complexity. 4. \_\_\_\_\_ the instructions you'll need to check new files for viruses. 5. It is very difficult \_\_\_\_\_ a concept of beauty. 6. After a lot of thought he \_\_\_\_\_ their invitation. 7. Examples of \_\_\_\_\_ include letters, numerical digits, punctuation marks and white space. 8. When a computer opens a file it is an example of its \_\_\_\_\_ to do so. 9. The ability to find \_\_\_\_\_ to practical problems is important in life.

Virtually / entire / hardware / require(s) / impact / appropriate(ly) /  
compared to / essential / invisible / software

B. 10. To dress neatly and \_\_\_\_\_ is one of the job requirements in our office. 11. Essentially computer \_\_\_\_\_ controls computer \_\_\_\_\_. 12. Winters have become very warm \_\_\_\_\_ the ones we had in the past. 13. Most projects \_\_\_\_\_ a lot of money. 14. \_\_\_\_\_ nothing has been done so far to solve this problem. 15. Good programming skills are \_\_\_\_\_ for a software engineer. 16. These bacteria are \_\_\_\_\_ without a microscope. 17. Computers have had a significant \_\_\_\_\_ on the way we study. 18. We are responsible for designing the \_\_\_\_\_ project.

**25. Look at the words below. With your partner, try to recall how they were used in text 5B.**

Technology, device, lists, queries, linked up to, agreed, mixed, great, pressure, control, serious, happen, step, privacy, capable, latest, search, disaster, example, piece, experts, comfort.

**26. Match the words (1-10) in columns A and B with their synonyms (a-j). Use the texts from Reading section to explain the meaning of the words in the left hand column.**

A.	B.		
1. step forward	a. trustworthy	1. available	a. complex
2. worried	b. major	2. matter	b. built-in
3. latest	c. drawback	3. to control	c. carry out
4. link up	d. advance	4. capable	d. ready for use
5. response	e. reaction	5. sophisticated	e. information
6. reliable	f. stress	6. ordinary	f. able to do
7. pressure	g. concerned	7. to require	g. issue, concern
8. serious (problem)	h. surprisingly wonderful	8. to complete	h. to manage
9. downside	i. most recent	9. data	i. to need or want
10. miraculous	j. combine	10. embedded	j. typical, traditional

**27. Rewrite each sentence below replacing one of the words by the word in brackets so that it will have a similar meaning to the first sentence. Translate the sentences into Russian.**

**Example:** The software allows experts to study the application of any word in a variety of texts. (usage) → The software allows experts to study the usage of any word in a variety of texts.

1. If you want to be able to talk about complex topics in English you need to improve your skills. (sophisticated) 2-3. More money is needed to carry out the program of renovation. (require, complete) 4. All the textbooks from the list can be

found in the library. (available) 5. I think fathers must be able to look after their children. (capable) 6. I'm afraid he has no experience in managing large projects. (control) 7. Could I talk to you about a personal issue? (matter) 8. The story is about a typical family from a big city. (ordinary)

**28. Rewrite each sentence below replacing the underlined words by the word in the box so that it will have a similar meaning to the first sentence. Translate the sentences into Russian.**

**Example:** Education is one of the most important aspects of modern life. →  
Education is one of the essential aspects of modern life.

step forward, worried, latest, link up, response, reliable, pressure, serious

1. It is important to have a friend who is a trustworthy person, someone you can share your secrets with. 2. If you combine these pieces of information you will get a full picture of the situation. 3. Recent advances in medicine were made possible thanks to the modern technology. 4. One of the most important professional skills today is to be able to perform well under stress. 5. The lack of clean drinking water is a major problem today around the world. 6. Because of the advance of AI lots of people are concerned about losing their jobs. 7. Crying at a sad film is an emotional reaction to the drama that is taking place on the screen.

**29. Use the word given on the right to form a word which fits in the gap.**

Much of what people do is (1) \_\_\_\_ problems and making decisions. Often when they face a problem their decision (2) \_\_\_\_ upon their previous experience. But the (3) \_\_\_\_ of a decision that seemed to work before does not always help (4) \_\_\_\_ a new task. If you don't get out of your (5) \_\_\_\_ zone while (6) \_\_\_\_ to challenges, you won't learn anything. Though sometimes (7) \_\_\_\_ on ready-made decisions is not bad, in most

1. to solve
2. to depend
3. to use
4. completion
5. comfortable
6. to respond
7. to rely
8. application

life situations you need to learn (8) \_\_\_\_ decision making skills. One of them is to be able (9) \_\_\_\_ the problem and understand how it is different (10) \_\_\_\_ to the previous ones. Only then you will be (11) \_\_\_\_ to select an appropriate approach to resolve the problem and (12) \_\_\_\_ your task.

- 9. definition
- 10. to compare
- 11. ability
- 12. performance

**30. Work in groups. Make 10-15 sentences with the words from vocabulary section. Write them on cards using gaps instead of the key words. Exchange your cards with other groups and do the gap filling exercise. Check your answers.**



### SPEAKING AND DISCUSSION

**31. Answer one of the questions below and give some examples from your personal experience. While speaking, use as many words from vocabulary section as you can.**

1. What are the benefits of modern technology?
2. Are there any negative sides of smart technologies?
3. Should we fear the advance of AI?
4. Do computers make us stupider?
5. What is your favourite mobile app and why?
6. Are we addicted to smart phones?

**32 a. Match the examples of computer use in column A with the areas of application in B. Sometimes more than one answer is possible.**

#### A.

1. calculating a distance to a target
2. identifying an employee by his or her voice
3. analysing blood tests
4. controlling the temperature of a washing machine
5. warning when aircraft is too close
6. coordinating information from all parts of war-zone

#### B.

- a. hospital
- b. airport
- c. supermarket

- |  |             |
|--|-------------|
| 7. using bar codes to identify items and prices        | d. design   |
| 8. producing scale models of new designs               | e. security |
| 9. checking credit cards used for payments             |             |
| 10. issuing seat numbers                               | f. library  |
| 11. storing employees' records                         |             |
| 12. monitoring the safety of each stage in the process | g. military |
| 13. monitoring the life signs of a patient             |             |
| 14. comparing fingerprints                             | h. the home |

**32 b.** *Choose one of the areas from column B and prepare to talk about the use of computers in this area in more detail. Search the Internet for some examples to illustrate the application you chose.*

**33.** *Use the cards below to prepare for a role-play exercise. In your group decide which application is the most useful/least useful.*

### **Role A – Health Advice**

You think that the best use of digital devices is providing health advice. Give three reasons why. Comment on other speakers' opinions. Tell the others why you do not agree that the applications they have talked about are more important than yours.

### **Role B – Home Security**

You think that the best use for digital devices is home security. Give three reasons why. Comment on other speakers' opinions. Tell the others why you do not agree that the applications they have talked about are more important than yours.

### **Role C – Homework**

You think the best use for digital devices is helping you with doing homework. Give three reasons why. Comment on other speakers' opinions. Tell the others why you do not agree that the applications they have talked about are more important than yours.

## Role D – Entertainment

You think the best use for digital devices is entertainment. Give three reasons why. Comment on other speakers' opinions. Tell the others why you do not agree that the applications they have talked about are more important than yours.

### GRAMMAR



#### SUBORDINATE CLAUSES



#### Lead-in

*Look at the sentences below and explain what the difference between a 'sentence' and a 'clause' is.*

George says                                   that   he wants to start his own business.  
I haven't yet seen the film                 which   everyone is talking about.



**main clause**

**linking word**

**subordinate clause**

**STUDY NOTE.** When a sentence is made up of two or more sentences, these sentences are called **clauses**. A **main** clause is a group of words that can stand on its own. A **subordinate** clause is a particular kind of a group of words that we attach in some way to a main clause. A sentence composed of a main clause and one or more subordinate clauses is called a **complex** sentence.

#### 34. Study the table below and answer the questions.

1. What types of subordinate clauses are there?
2. How do we identify different types of subordinate clauses?
3. What words are used to connect subordinate clauses to main clauses?

	Main clause	Linking word	Subordinate clause
Noun (object) clause	I believe	(that)	he is coming tomorrow.

Adverbial clause	They left	when	we arrived.
Relative clause	I'd like to have an app	which	can hide other apps.

**STUDY NOTE.** A clause which functions as a noun within the main clause is called a **noun** (also object) subordinate clause; a clause which functions as an adjective is called a **relative** or **attributive** (also adjective) subordinate clause; a clause which functions as an adverb is called an **adverbial** (also adverb) subordinate clause.

## RELATIVE CLAUSES

**STUDY NOTE.** **Relative** clauses provide information about something or someone and are similar in function to adjectives. They answer the question ‘what or what kind of’.

*I'm looking for a laptop which is fast and powerful but not very expensive.*

Most often relative clauses are attached to the main clause with the help of relative pronouns: **who** (**whom**, **whose**), **which**, or **that**.

**35. Read these sentences and decide which relative pronouns refer to people, things, or both. Complete the table.**

1. We visit shops and offices **which** have been designed with the help of computers.
2. Charles Babbage was an English mathematician **who** designed a calculating machine **which** was able to compute.
3. In general, computers are machines **that** perform certain tasks according to a set of instructions, or programs.
4. The student **that** is now doing a presentation has won a scholarship.
5. John McCarthy, **whose** name is associated with Artificial Intelligence, was an American computer and cognitive scientist.
6. IBM is an international company **whose** branches operate in many countries.
7. The security engineer **whom** we consulted gave us a few useful recommendations.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

refer(s) to people.

refer(s) to things /animals.

refer(s) to people and things.

### 36. Choose the correct relative pronoun (*who, whom, which, that, whose*).

1. This is the app \_\_\_\_\_ was installed on my computer.
2. There are many people \_\_\_\_\_ believe that computer skills are absolutely necessary today to succeed in life.
3. A person \_\_\_\_\_ gets into other people's computers without permission is called a hacker.
4. Before setting a password, consult the list of the top most common passwords \_\_\_\_\_ hackers use.
5. If you are worried about computer security, consult a security engineer \_\_\_\_\_ can help you protect your information.
6. The device \_\_\_\_\_ is used to store information is called a storage device.
7. Computer engineers \_\_\_\_\_ create and test software are called software engineers.
8. A designer \_\_\_\_\_ project won is one of the youngest participants in the competition.
9. A software company is a company \_\_\_\_\_ primary products are various types of software.
10. A cache is a data storage layer in \_\_\_\_\_ data is stored so that future requests for that data can be served faster.
11. I have just met a colleague with \_\_\_\_\_ we are going to write a new program.
12. A computer is a machine \_\_\_\_\_ performs four general operations: input, storage, processing, and output.
13. Computer productivity is determined by programs \_\_\_\_\_ are step by step instructions telling the computer what to do.
14. A digital signature ensures that the information \_\_\_\_\_ you received was not altered.
15. Any user \_\_\_\_\_ is interested in registration can use this service.

Sometimes the words **when, where, or why** can act as relative pronouns.

### 37. Read these sentences and complete the table below.

1. It was one of those days **when** everything went wrong.
2. Memory is the space in the computer **where** data and instructions are stored.
3. The faulty device could be the reason **why** your computer shuts down and then freezes.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

is used after place words.

is used to explain the reason.

is used after time words.

**38. Fill in the gaps with who, which, whose, where, when or why.**

1. He marked the point on the map \_\_\_\_\_ we should turn left.
2. I have some letters \_\_\_\_\_ I must answer.
3. He was the first student \_\_\_\_\_ completed the task.
4. To the north of the Arctic Circle there is no sunset or sunrise at least one day of the year, \_\_\_\_\_ the polar day or the polar night persist for 24 hours.
5. Herbert George Wells, \_\_\_\_\_ term "time machine" is now almost universally used, published the novel of the same name in 1895.
6. Nobody knew the student \_\_\_\_\_ had won the competition.
7. Our grandparents lived at the time \_\_\_\_\_ radio shows were popular.
8. The software engineer \_\_\_\_\_ fault was that the program did not work was fined.
9. A flash card, which is sometimes called a memory stick, is a device \_\_\_\_\_ data can be stored.
10. One of the reasons \_\_\_\_\_ flash cards have replaced floppy discs is that they do not require a special disc drive to be used.

**39. Combine the following pairs of sentences using a relative pronoun.**

*Example: This is Ann. She was my best friend at school. → This is Ann who was my best friend at school.*

1. Most of Shakespeare's plays are still popular today. He wrote them more than 400 years ago.
2. Sochi is a famous Russian seaside and ski resort. I've always wanted to go there.
3. The museum is closed on Mondays. We were going to visit it.
4. I bought my laptop long time ago. The laptop has died.
5. Mike had friends at school. He is staying in touch with only few of them.
6. You asked me to get you a cup of coffee. Here's the coffee.
7. Our teachers say that reading books is really useful. They make you think about things.
8. Our project leader is getting back to work. I am doing his job.
9. One of the tips for learning new words is to read English books. I find it really useful.
10. My friend says that she hasn't seen her

parents for a long time. My friend is from Vladivostok. 11. Joanne Rowling is a famous British writer. She wrote Harry Potter children's book series. 12. My colleagues suggested a new technique for detecting bugs. This is a useful technique. 13. A Smart TV is a television set. It allows users to stream music and videos, browse the Internet, and view photos. 14. The word "dexterity" is used by robot manufacturers. They describe their robots as dexterous. 15. Brain-computer interface is a computer-based system. It accepts brain signals, analyses them, and translates them into commands.

**40. Give the definitions of the following words using relative pronouns or adverbs.**

*Example: A builder is someone who builds houses.*

1. a computer
2. machine learning
3. Big Data
4. viruses
5. AI
6. the Internet
7. smart technology
8. an office
9. a keyboard
10. a robot
11. an author

**41. Study the sentences. In which sentence can we omit 'that'? Do you know why?**

- a) The travel guide that I bought at the airport is very useful.
- b) The travel guide that is there on the shelf is very useful.

**STUDY NOTE.** *Who/which/ that* are often omitted when used as the object of the defining<sup>1</sup> relative clause. In sentence a *that* refers to 'travel guide'. It is the object of the relative clause and can be omitted:

*The travel guide I bought at the airport is very useful.*

In sentence b *that* is the subject of the relative clause and cannot be omitted.

*The travel guide that is there on the shelf is very useful. (Not 'The travel guide is there on the shelf is very useful.'*)

<sup>1</sup>**Defining** relative clauses give the information that is **essential** for understanding a sentence.

**42. In what sentences the relative pronoun can/cannot be omitted? Explain why.**

**Example:** 1. Here is the report (that) he brought us yesterday.

2. She is the woman (that) was promoted to sales manager last week.

(Answer: ‘that’ in 1 is an object and can be left out, ‘that’ in 2 is a subject and cannot be left out)

1. That’s the woman who lives next door. 2. Our doctor is a person whom I really respect. 3. The job that he got wasn’t very interesting. 4. That’s the man whom I wanted to see. 5. I’m sorry for the people who haven’t got a sense of humour. 6. A software engineer is a computer specialist who creates software solutions. 7. He is always telling you things which you already know. 8. They never thanked me for the money that I sent them. 9. Have you got a pen that I can use? 10. I’ve never met people who don’t eat meat. 11. The doctor who treated me didn’t know what he was doing. 12. I need a computer that has access to the Internet. 13. Steve Jobs had ideas that changed the world. 14. It’s a new app that solves math problems. 15. Do you know any app that can help you practise grammar and vocabulary?

## ADVERBIAL CLAUSES

**STUDY NOTE.** **Adverbial** clauses are a category of subordinate clauses that tell us **how**, **where**, or **when** something described in the main clause happens.

*He was so tired that he couldn’t concentrate. (result)*

*She was late because she overslept. (reason)*

*They got up early in order to come on time. (purpose)*

*They enjoyed their walk although it was raining. (concession)*

**43. Read the text about how technology has transformed our life paying attention to the adverbial clauses and linking words.**

### Revolutionary Technologies



Technology has revolutionised the way people communicate, linking humans in a real-time network across the globe. Since mobile phones were introduced in

the late 1980s, their capabilities have continued to increase. The rise in communications technology is so fast that we can't follow it. It is indeed a godsend as it allowed users to stay connected even if they are located on the other side of the world and away from their computers.

Bluetooth has further increased the communicative value of cell phones, because it allowed talkers to carry on their conversations hands-free with the use of a small, one-sided headset. Moreover, as technology has evolved, Bluetooth speeds have increased. Likewise, improvements and additions are constantly being made to existing devices in order to maintain the highest quality of communication possible.

Although email is not brand new, there are definitely new and innovative ways for accessing this tool remotely and without the usage of a computer. Technology has changed communication in many ways, and some of them are not for the better. While some of these negative effects are relatively minor, in some cases they have had profound effects on the lives and well-being of users.

**44. Complete the table with the examples of clauses from the text.**

Time	Since mobile phones were introduced in the late 1980s,
Result	
Reason/cause	
Purpose	
Contrast/concession	

**45. Match the type of clause with conjunctions. Write your own examples for each type of adverbial clauses with different conjunctions. Discuss your sentences in mini groups.**

Clauses of	Conjunctions
<b>contrast/concession</b>	a) as, since, because of, for, the reason why, on the grounds that, due to, owing to, in view to, given;
<b>purpose</b>	b) after, as long as, as soon as, just as, once, since, before, by the time, when, while, until/till, the moment (that), whenever, every time, immediately, the first time, the last time, the next time;
<b>reason/cause</b>	c) although/even though/though, despite, in spite of, despite of the fact that..., while, whereas, on the other hand, yet, nevertheless, however, no matter how;
<b>result</b>	d) to, in order to, so, so that, with a view to, with the aim of, in case;
<b>time</b>	e) such/so...that, consequently, for this reason, thus, therefore, so, such a(n), as a result, therefore, consequently.

**46. Complete the sentences using one of the words from the tables. Translate the sentences into Russian. In some examples it is possible to have more than one correct answer.**

*Therefore, in order (to), that's why, though/although, so, consequently, while, because, as soon as, by the time.*

**A.** 1. They had finished the experiment \_\_\_\_\_ the lab assistant came. 2. The secretary contacted me \_\_\_\_\_ to remind me about the meeting. 3. I

never used to play computer games when I was at school \_\_\_\_\_ now I do.

4. \_\_\_\_\_ they are rich, they are not happy. 5. She went to the seaside in summer \_\_\_\_\_ she wanted to swim in the sea. 6. Our teacher gave us an interesting task to do, \_\_\_\_\_ we lost track of time. 7. A computer is a sophisticated machine, \_\_\_\_\_ it can perform complex procedures. 8. Computers can be generally classified by size and power, \_\_\_\_\_ there is a considerable overlap. 9. The central processing unit contains all the circuits needed to process data, \_\_\_\_\_ it is called the ‘brain’ of a computer. 10. I haven’t installed an antivirus software on my computer, \_\_\_\_\_ it has been infected.

*On the one hand/on the other hand, in order (to), that’s why, in spite of/despite, though /although, so, while, consequently, as, with the aim of, as long as.*

B. 11. \_\_\_\_\_ to improve your English you should practice regularly. 12. \_\_\_\_\_ my new mobile phone is not very expensive, it is really good. 13. \_\_\_\_\_ you promise to be careful while driving you can drive my new car. 14. \_\_\_\_\_ a mouse and a keyboard are the most commonly used input devices, there are also other devices that can be used to input data into the computer. 15. Such devices as a mouse or a monitor are attached to a computer, \_\_\_\_\_ they are called peripherals. 16. \_\_\_\_\_ preparing for the conference, I was reading articles about smart technologies. 17. A lot of work is being done \_\_\_\_\_ of improving study facilities at our university. 18. \_\_\_\_\_ he had not studied hard, he failed his exam. 19. \_\_\_\_\_ of the law, people continue to use mobile phones while driving. 20. \_\_\_\_\_, I’d like to have a well-paid job. \_\_\_\_\_, I want to have a job that I would really enjoy doing.

## INDEPENDENT FURTHER STUDY

### DEFINING VS NON-DEFINING RELATIVE CLAUSES

**47. Look at the following pairs of sentences. Which of the two gives extra information about the person or thing it refers to?**

1. a) Memory is the space in the computer where data and instructions are stored.  
b) A new computer system, which is very sophisticated, has been installed in our office.
2. a) Charles Babbage was an English mathematician who designed the first ever digital computer. b) Charles Babbage, who designed the first ever digital computer, was an English mathematician.

**STUDY NOTE.** Relative clauses which give information that helps to **identify** the person or thing we are talking about are called **defining** (*a-sentences* above). Relative clauses that give some **extra** information about the person or thing we are talking about are called **non-defining**. The information is not needed to identify that person or thing. (*b-sentences* above)

**48. Analyse the examples below. Which relative clauses are defining and which are non-defining? Explain why.**

1. This is the colleague who helped me when I was in a difficult situation.
2. Moscow, which is the capital of Russia, is one of the world's top centres in high-tech and creative industries.
3. Our guide, who had been living in Moscow for 40 years, told us a lot of interesting things that he knew about from his personal experience.
4. Most websites use cookies and other tracking technologies which are supposed to improve our browsing experience.
5. Steve Jobs, whose innovative ideas changed our lives, dropped out of university after one semester.
6. This smartphone, which I bought last week, takes great photos.
7. Buckingham palace, where the Queen of England lives, is one of the top tourists' attractions in London.
8. The town where you were born is called your home town.
9. BMSTU, where I study, is one of the top Russian technical universities.
10. Next year we start a number of specialised courses which are essential for future computer engineers.

**49. Choose either 'defining' or 'non-defining' to fill in the gaps.**

\_\_\_\_\_ clauses are not set off from the main clause by commas.

The relative pronoun *that* is not used in \_\_\_\_\_ clauses.

In \_\_\_\_\_ clauses the pronouns *who* and *which* cannot be omitted.

**50.\* Fill in the gaps with the correct relative pronouns or adverbs. Write D (for defining), ND (for non-defining) and say whether the relative pronouns can be omitted or not.**

**Example:** The books \_\_\_\_ I like best are the books by Jack London. → The books that I like best are the books by Jack London. (D-can be omitted)

Peter, \_\_\_\_ brother lives in Paris, has gone to France. → Peter, whose brother lives in Paris, has gone to France. (ND-cannot be omitted)

1. Compared to the first electronic computers, \_\_\_\_\_ were huge machines, today's computers are amazing.
2. Big data, \_\_\_\_\_ also contains a great variety of information about millions of users, is a large volume of data collected from various sources.
3. Programming language is a language \_\_\_\_\_ is used to give instructions to computers.
4. Machine learning, \_\_\_\_\_ is closely related to computational statistics, focuses on making predictions using computers.
5. We visit shops and offices \_\_\_\_\_ engineers have designed with the help of computers.
6. 'Big data' is a new term \_\_\_\_\_ is widely used in every section of science and industry.
7. In general, computers are machines \_\_\_\_\_ perform calculations according to a set of instructions, or programs.
8. A computer, \_\_\_\_\_ is a calculating machine, is also an electronic filing cabinet.
9. Electronic health records, \_\_\_\_\_ are used in medical industry, allow doctors to coordinate the health care and avoid mistakes.
10. My computer, \_\_\_\_\_ I use every day, is an Apple iMac.

## That

**That** can be a determiner, a pronoun, or a conjunction.

That ad should be deleted without opening it.

That is why I've called another meeting.

This is the application that I told you about yesterday.

**That** can also be used to refer to a particular person or thing that has just been mentioned.

*His own opinion was different from that of his colleagues.*

**51. Read the sentences. In each sentence the word ‘that’ is missing. Fill in the missing word ‘that’ in each sentence.**

1. His own experience is different from of his friends.
2. She said she'd come.
3. Is house across the road really yours?
4. Our record exceeded of the most developed countries.
5. Charles Babbage was an English mathematician who designed a calculating machine was able to compute.
6. I can't believe he's passed the driving test.
7. Doesn't it remind you of old house in Oxford?
8. Modern computers range in size and power depending on the tasks they are designed to perform.
9. The letter I got yesterday was from my old friend.
10. She's never been involved in something as exciting as contest.

### **ADVERBIAL CLAUSES OF TIME**

**STUDY NOTE.** We use time clauses to say **when** something happens.

**52. Use the words in the brackets to combine the following sentences.**

**Example:** *She was listening to the music. She could think about her wedding.* →  
*While she was listening to the music she could think about her wedding.*

1. A small enough electromechanical computer was invented. It became possible to use this type of computer on a submarine. (as soon as)
2. The Internet was developed. Smart technologies could not be integrated into our lives. (before)
3. The lectures were over. The students went home. (every time)
4. Anna could come to her parents' house. She could come when she wanted. (whenever)
5. They had finished the work. They went out. (after)
6. He had tidied the room. His mother came home. (by the time)
7. We arrived home. Then they left. (just as)
8. Come in. Could you take off your shoes, please? (before)

**STUDY NOTE.** After time conjunctions in adverbial clauses of time we use **present tenses** to refer to **the future**: *When you finish (present instead of future) this task, you'll receive a bonus. I'll see him when I have time.*

**BUT:** *Do you know when they will come? (when they will come is a reported question).*

**53. Which sentence is correct / incorrect in each pair? Explain why.**

1. When the term ends, we'll have the exams. When the term will end, we'll have the exams.
2. I'll feel more relaxed after I finish my project. I'll feel more relaxed after I'll finish my project.
3. When I finish writing the report, I help you with your homework. When I finish writing the report, I'll help you with your homework.
4. We won't finish the conference until we will answer all the questions. We won't finish the conference until we answer all the questions.
5. As soon as I am ready, I'll make you a cup of coffee. As soon as I will be ready, I'll make you a cup of coffee.

**54. Fill the gaps with future time clauses. Role-play the dialogue.**

*Reporter:* Can you tell us about your latest invention, professor?

*Professor:* Not yet. It is not finished. Before I 1. (tell) anyone about it I 2. (make certain) it 3. (complete).

*R:* But everyone is anxious to know about it, professor. Can't you tell us anything?

*P:* I'm sorry, but I can't at this time. As soon as it 4. (be) ready, I 5. (tell) you all about it.

*R:* Can you at least tell us how much more work you have to do?

*P:* I just have to run a few tests. I 6. (hold) a press conference and answer all your questions after I 7. (conduct) the tests.

*R:* How long will it take you to run the tests?

*P:* Not long. I 8. (run) the first tests as soon as I 9. (get back) to the lab. If all goes well, I should finish it in a week or two.

*R:* So you 10. (not give) us any information about your new invention until you 11. (finish) all the tests?

*P:* I'm sorry, but I just can't. However, I will say this much. You 12. (be) amazed when you 13. (learn) what my latest invention can do.

*R:* Is it true that you are going to retire soon, professor?

P: Yes. This invention will be my last. Once I 14. (introduce) it to the world, I 15. (retire) and spend more time with my wife and children.

## CLAUSES OF REASON, PURPOSE AND RESULT

**STUDY NOTE.** Clauses of **reason** answer the question ‘**why?**’, clauses of **purpose** answer the question ‘for **what purpose?**’ and clauses of **result** explain what the **outcome** of the action mentioned in the main clause is.

### 55. Choose the right word. Identify the types of clauses.

A. 1. *With the aim of /Since* the basic job of computers is processing information, computers can be defined as devices which accept information and then provide the results. 2. People call our era the ‘digital age’ *because/ in order to* computers have become an essential part of our lives. 3. We really need to take care of the future of computers *owing to/ on the grounds that* they are going to have such a big impact our lives. 4. *As/ For* the operation of an integrated circuit depends on microscopic components, the purity of all materials and the cleanliness at the plant they are produced at must be of the highest quality. 5. According to some researchers, many space missions are more suited to telerobotic operation *due to/so that* lower cost and lower risk factors.

B. It’s very important to get the most out of your time when you sit down with your books. Here’s how: find a quiet place to study 1. *so that/as* you could concentrate and switch off your mobile phone 2. *so not /not to* be disturbed while you are working. Many students make a “to do” list before they study 3. *with the aim /with the view to* of reminding themselves how much they should spend on each topic. Another good idea is to give yourself a reward each time you achieve a goal 4. *in order to/in case* stay motivated. If you are studying with friends, agree that you will only talk about the subject you are studying 5. *so as not /not to* waste time. Finally, remember to take regular breaks. You need a short break every 30 minutes or so 6. *to prevent/to avoid* getting too tired.

### 56\*. Combine the two sentences into one with an appropriate linking word from

*the list.*

**Example:** *We are living in a constantly changing world. It is important to learn to adapt to change.* → *As we are living in a constantly changing world, it is important to learn to adapt to change.*

As, since, because, for, the reason why, on the grounds that, due to, owing to, so that, in order to, with the purpose of, with the view to, in case, etc.

1. New technologies are developing rapidly. Dexterous<sup>1</sup> robots might be with us very soon.
2. 3D printing is an advanced method of manufacturing parts. It may be possible to produce parts with high precision.
3. Even slight changes outside the procedure can cause a halt<sup>2</sup> of production line. Robots were introduced at the plant.
4. She went to the supermarket. She wanted to buy some milk.
5. I helped him. He finished early.
6. He bought an exercise bike. He wanted to get fit.
7. I left early. I wanted to be there on time.
8. We are gathered here. We need to reach a decision.
9. I will take some sandwiches. I might get hungry.
10. He opened an account. He wants to save money to buy a car.
11. Smart city is an area that collects different types of electronic data. The aim is to analyse this information.
12. Machine learning models operate with minimal intervention<sup>3</sup> from humans. They greatly reduce the possibility of human error.

<sup>1</sup>dexterous ловкий

<sup>2</sup>halt остановка

<sup>3</sup>intervention вмешательство

## **CLAUSES OF CONTRAST AND CONCESSION**

**STUDY NOTE.** We use clauses of **contrast** when we make two statements, and one statement makes the other seem surprising. They are introduced by the conjunctions **although, as, despite, in spite of, or though**.

**57\*.** *Write a new sentence that combines the two parts using an appropriate conjunction of contrast or concession.*

**Example:** I have been learning English for five years. I can't speak fluently. → Although I have been learning English for five years, I can't speak fluently.

1. There are millions of different types of viruses. Only about 5,000 virus species have been described in detail.
2. Computer Assisted Learning is getting more popular. Some language teachers think that technology can become a distraction in the learning process.
3. She spent all the afternoon on the project. She did not finish it.
4. He has been living in Moscow for a long time. He does not speak Russian.
5. I used to love listening to her. I could only understand about half of what she said.
6. His company is profitable. He still needs to face up to some serious problems with price competition.
7. It was very late. Nobody wanted to leave.
8. It is summer. It is very cold.
9. Measures to slow it down were being taken. Covid -19 continued to spread exponentially.
10. He had a pain in his leg. He completed the marathon.

**STUDY NOTE.** When the adverbial clause comes before the main clause, it is usually separated from the main clause by a comma:

*Though it was rainy, we put on our jackets and went for a walk.*

BUT: *Everyone enjoyed the trip to the final although we lost the match!*

When we use conjunctions as **discourse markers**<sup>1</sup> we can use commas:

A: *You have six hours in the airport between flights!*

B: *I don't mind, though. I have lots of work to do. I'll just bring my laptop with me.*

<sup>1</sup>**Discourse markers** are special words that link, manage and help organise sentences.

## 58. Choose the correct option.

1. Today there are a lot of different types of computers. *So/However* most computers, whether large or small, have basic capabilities.
2. *Despite/owing to* the fact that we are just at the start of the AI age, it is being used in lots of applications from simple games to fully autonomous cars.
3. *With the view to/Although* many approaches and technologies have been developed, it remains difficult to carry out machine learning with big data.
4. Data mining uses many machine learning

methods *despite/while* machine learning also employs data mining methods. 5. *The reason why/Although* many vendors offer off-the-shelf solutions<sup>1</sup> for big data, experts recommend the development of in-house solutions<sup>2</sup> to solve the company's problems at hand. 6. Clever *whereas/as* he is, he failed the test. 7. *Even though/Despite* having little money, he insisted on paying for the meal. 8. *In spite of/Whatever* I say, she doesn't believe me. 9. I invited Sue. She didn't come, *although/though*. 10. Her mother is French *whereas/even though* his father is Polish. 11. Persuasive *though/but* you may be, I won't change my mind. 12. *Even though/Despite* we are good friends, we don't meet very often. 13. For a long time 3D printing has demanded very high entry costs, *however/as* recent market trends have found that this is finally changing. 14. *Although/Whatever* the term 'additive manufacturing' can be used synonymously with '3D printing', they have started using this term to encompass a wider variety of techniques.

<sup>1</sup>off-the-shelf solutions готовое решение

<sup>2</sup> in-house solution собственные решения

## COMBINING NOUNS

**59. Read the information in the box and translate or explain noun combinations below.**

We frequently use two (or sometimes three or more) nouns together. The first noun usually tells us what kind of thing the second (or the last, if there are more than two nouns) noun describes: *a computer virus is a kind of virus*

- 1 data resource, storage resource, network resource, security resource, system resource.
- 2 communication facilities, data base facilities, display facilities, management facilities.
- 3 distance control, device control, keyboard control, position control, program control.
- 4 computer storage, laser storage, file storage, disk storage, data storage

hierarchy.

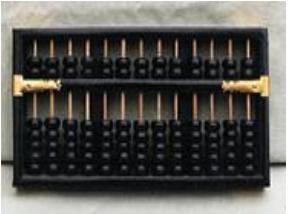
- 5 character sequence, instruction sequence, message sequence, pulse sequence.
- 6 access file, catalogue file, data file, help file, image file, multimedia file, menu file, user file.
- 7 command input, data input, disk input, file input, keyboard input, program input.

## CHECK YOURSELF



### COMPUTERS IN FACTS AND FIGURES

**60. How much do you know about the history of computers? Check yourself.**

1. The first use of the word “computer” was recorded in 1613 referring to \_\_\_\_\_.  
a. a person      b. a system of counting      c. abacus
2. The earliest recorded calculating device is \_\_\_\_\_.  
a. the slide rule    b. an astronomical clock    c. abacus
3. The first mechanical calculator was designed in 1623 by \_\_\_\_\_.  
a. Charles Babbage      b. Wilhelm Schickard      c. Leonardo Da Vinci
4. Analytical engine, generally considered the first computer, was conceptualised and designed by a(n) \_\_\_\_\_ mathematician in the 1830s.  
a. American      b. British      c. French
5. The first machine readable medium for control and data was \_\_\_\_\_.  
a. paper tape    b. electric signals    c. punched cards
6. \_\_\_\_\_ is internationally recognised as the father of the modern digital computer.  
a. Clifford Berry    b. George Stibitz    c. Howard Aiken
7. \_\_\_\_\_ developed the idea of modern computer science and artificial

intelligence.

- a. Claude Ramsay b. Charles Babbage c. Alan Turing

8. Since the 1950's \_\_\_\_\_ generations of computers have evolved.

- a. four b. five c. six

9. The first generation computers used \_\_\_\_\_ as a major piece of technology.

- a. transistors b. integrated circuits c. vacuum tubes

10. The second generation of computers saw the use of transistors, which were widely used \_\_\_\_\_.

- a. from 1943 to 1956 b. from 1956 to 1963 c. from 1953 to 1965

11. The development of integrated circuit technology in the \_\_\_\_\_ further increased the speed and reliability of computers.

- a. 1960s b. 1970s c. 1980s

12. The \_\_\_\_\_ brought the fourth generation of computers as thousands of integrated circuits were built onto a single chip.

- a. microcontroller b. microprocessor c. microprogramming

13. The first personal computer was introduced by IBM in \_\_\_\_\_.

- a. 1975 b. 1977 c. 1981

14. The World Wide Web was invented in \_\_\_\_\_ by computer scientist Tim Berners-Lee.

- a. 1970 b. 1980 c. 1990

15. In \_\_\_\_\_ Motorola engineer Martin Cooper made the world's first public call from a mobile phone, choosing to get in touch with his rival in the race to create the device.

- a. 1973 b. 1979 c. 1987

16. The first iPhone which combined a mobile phone, an iPod and a wireless communication device was launched in \_\_\_\_\_ by Apple.

- a. 2002 b. 2007 c. 2009

**14-16** answers right: Congratulations! You are an expert in the history of computers.

**10-14** answers right: you have a good knowledge of the history of computers.

**1-9** answers right: you need to read more about the history of computers.

**61. Word Quiz. Choose the best word to fill in the gaps.**

1. A lot of tests were \_\_\_\_\_ to check how this method worked.

- a. finished                    b. performed                    c. practised

2. The data is \_\_\_\_\_ on a hard disc and backed up on a flash card.

- a. reserved                    b. deposited                    c. stored

3. The report contains \_\_\_\_\_ errors.

- a. numerous                    b. entire                            c. appropriate

4. Programmers \_\_\_\_\_ and write software.

- a. prepare                    b. code                            c. design

5. It is \_\_\_\_\_ that he has been offered the job of his dream.

- a. amazing                    b. remarkable                    c. appropriate

6. The beginning of the summer was really warm but then the weather suddenly  
\_\_\_\_\_ cold.

- a. transformed                    b. turned                            c. changed

7. One of the reasons we should \_\_\_\_\_ about politics is that it impacts nearly  
every aspect of our lives.

- a. pay attention                    b. be fond                            c. care

8. At some stage we need \_\_\_\_\_ when the project will be finished.

- a. to calculate                    b. to accept                            c. to compare

9. Before it is too late, we need \_\_\_\_\_ the seriousness of the problems we are  
facing.

- a. to calculate                    b. to recognise                            c. to compare

10. Computer simulations might help \_\_\_\_\_ changes in climate with a surprising  
degree of accuracy.

- a. predict                            b. expect                            c. suppose

11. To understand ‘natural languages’ computers must be equipped with artificial  
\_\_\_\_\_.

a. intellect                    b. mind                    c. intelligence

12. They discussed how \_\_\_\_\_ the economic growth.

a. to assess                    b. to help                    c. to assist

13. Compared to the first computers, modern computers are really \_\_\_\_\_ .

a. tiny                        b. mini                        c. small-scale

14. On the basis of the size there are minicomputers, microcomputers, mainframes and \_\_\_\_\_ .

a. great computers            b. large computers            c. super computers.

15. Computer \_\_\_\_\_ are sent to a computer system and are processed by a software program rather than a person.

a. questions                    b. demands                    c. queries

16. The \_\_\_\_\_ of working from home is that you don't see your colleagues.

a. downsize                    b. downside                    c. downshift

17. Modern technologies provide lots of communications \_\_\_\_\_ .

a. abilities                    b. capacities                    c. capabilities

18. The article was \_\_\_\_\_ for publication last week.

a. accepted                    b. recognised                    c. processed

19. One of the important skills today is the ability to judge how \_\_\_\_\_ the information on the Internet is.

a. amazing                    b. reliable                    c. miraculous

20. There is a lot of public \_\_\_\_\_ about the downsides of vaccination.

a. concern                    b. query                        c. care

**62\*. Use an appropriate relative pronoun to link two clauses. Translate the sentences into Russian.**

**Example:** A computer is a machine \_\_\_\_\_ performs operations according to instructions. → A computer is a machine **which/that** performs operations according to the instructions.

1. A virus is a small infectious agent \_\_\_\_\_ replicates only inside the living cells of an organism. 2. Some scientists maintained the view that viruses were liquid in



nature, later there were theorists \_\_\_\_\_ proved that they were particulate. 3. Some viruses \_\_\_\_\_ are dependent on the presence of other virus species in the host cell are called satellites. 4. Internet television is a general term to refer to television \_\_\_\_\_ has a built-in operating system. 5. Smart television refers to the TV set \_\_\_\_\_ enables the delivery of video content over the Internet.

**63. Fill the gaps with who, which, whose, that, where or when. Then choose the correct answer.**

1. Name the scientist \_\_\_\_\_ discovered general theory of relativity.  
a. Albert Einstein                                  b. Stephen William Hawking
2. Name the story \_\_\_\_\_ inspired Sir Isaac Newton to formulate his theory of gravitation.  
a. an apple incident    b. the meeting of Peter I and Sir Isaac Newton
3. Name the year \_\_\_\_\_ Avatar was released.  
a. 2009    b. 2018
4. Name the country \_\_\_\_\_ the film the Lord of the Rings was filmed.  
a. Australia    b. New Zealand
5. Name the philosopher and writer famous for his advocacy of freedom of speech and religion, \_\_\_\_\_ name was ...  
a. Pierre Curie    b. Voltaire
6. Name the film \_\_\_\_\_ tells the story of a robot that collects rubbish.  
a. Wall-E    b. Interstellar
7. Name the book \_\_\_\_\_ is regarded as a central work of world literature.  
a. War and Peace    b. Invisible Man
8. Name the place of interest \_\_\_\_\_ is the most recognisable structure in Moscow.  
a. GUM    b. the Kremlin

9. Name the painter \_\_\_\_\_ is considered the greatest master of marine art.

- a. Serov              b. Aivazovsky

10. Name the city \_\_\_\_\_ Pushkin was born.

- a. Moscow              b. St. Petersburg

**64\*. Complete the second sentence so that it has a similar meaning to the first sentence, using the word given.**

*Example:* This textbook is one of the best self-study resources.

(which) This is the textbook \_\_\_\_\_ is one of the best self-study resources. →  
This is the textbook which is one of the best self-study resources.

1. Although the weather was wet, they still enjoyed their holiday. (despite)

They enjoyed \_\_\_\_\_ weather.

2. Although her arm was broken, she managed to get out of the car. (fact)

In spite \_\_\_\_\_ arm was broken, she managed to get out of the car.

3. He used to work in that institute many years ago. (where)

That's the institute \_\_\_\_\_ many years ago.

4. We only admit the children who have a parent or a guardian with them. (whose)

We only admit the children \_\_\_\_\_ with them.

5. After the discussion with their parents they decided to change the school. (when)

\_\_\_\_\_ with their parents they decided to change the school.

**65. Complete the sentences with one word. Choose from the list of words below.**

Such /so...that,    consequently,    as a result,    thus,    therefore,    so

1. There were \_\_\_\_\_ many people at the party \_\_\_\_\_ I did not have time to talk to everyone.

2. It was \_\_\_\_\_ a bad night \_\_\_\_\_ we'll never forget it.

3. It is \_\_\_\_\_ noisy \_\_\_\_\_ I can't work.

4. It was \_\_\_\_\_ nice weather \_\_\_\_\_ we went to the park.

5. I had forgotten my passport and \_\_\_\_\_ I couldn't go through passport control at the airport.

6. He did not work hard. \_\_\_\_\_ he lost his job.

7. He had been ill for a long time. \_\_\_\_\_ he looked older than he really was.

8. The population is growing. \_\_\_\_\_ we need more food.

of the volcano. \_\_\_\_\_, every building was destroyed. 10. The lecture was \_\_\_\_\_ boring and irrelevant \_\_\_\_\_ some of the students began to fall asleep.

### **66. Underline the correct linking words.**

1. You can use my phone *as long as/apart from* you return it as soon as possible.
2. I'm saving up *in order to/in case* buy a house.
3. I am late *because/in short* I forgot my papers and I had to come back home to get them.
4. Peter and Mary couldn't agree on a film, *so/for example* they went for a walk.
5. *Although/All in all* her grandmother didn't like her present, she pretended she did *so as not/because not* to hurt her granddaughter's feelings.
6. The whole class wanted to see a video *whereas/apart from* Alexander who wanted to read the article.
7. *With respect to/In order to* my colleague's idea, I'd like to offer my support.
8. No man ever became great or good *except/apart* through many and great mistakes.
9. The sisters decided to live in the city *because/whereas* their brother stayed in the country house.
10. The presenter completed his speech and *afterwards/until* he asked if anyone had any questions.

### **67. Answer the following questions. Consult Module 5 texts.**

1. What is a computer?
2. What do you remember about the invention of computers?
3. What generation of computers are we using today?
4. What types of computers are there?
5. Do computers make our life easier?
6. What are the most popular smart devices today?
7. What is Alexa and how can it be used?
8. What are artificial intelligence (AI) and machine learning (ML) technologies?
9. What are the advantages and disadvantages of using AI?
10. What is the future of AI?

## **MODULE 5 PROGRESS TEST**

**Vocabulary. Decide which answer a, b or c best fits into each gap.**

### **What are computers?**

Computers are machines that 1 tasks or calculations 2 to a set of instructions, or programs. The first fully electronic computers, introduced in the

1940s, were huge machines that 3 teams of people to operate. 4 those early machines, today's computers are amazing. Not only are they thousands of times faster, but also they can fit on your desk, in your lap, or even in your pocket. Computers work through an interaction of hardware and software. 5 refers to the parts of a computer that you can see and touch, including the case and everything inside it. The most important piece of hardware is a tiny rectangular 6 inside your computer called the central processing unit (CPU), or 7. It is the "brain" of your computer—the part that translates instructions and performs 8. Hardware items, such as your monitor, keyboard, mouse, printer, and other items are often called hardware devices.

9 refers to the instructions, or programs, that tell the hardware what to do. A word processing program that you can use to write letters on your computer is a type of software. The operating system (OS) is the software that manages your computer and the 10 connected to it. Two well-known operating systems are Microsoft Windows and Apple Mac OS X.

- |    |                    |                  |                   |
|----|--------------------|------------------|-------------------|
| 1  | a. present         | b. produce       | c. perform        |
| 2  | a. according       | b. in accordance | c. in agreement   |
| 3  | a. requested       | b. required      | c. demanded       |
| 4  | a. along with      | b. except for    | c. compared to    |
| 5  | a. software        | b. malware       | c. hardware       |
| 6  | a. chip            | b. cube          | c. plate          |
| 7  | a. microcontroller | b. microcircuit  | c. microprocessor |
| 8  | a. estimations     | b. calculations  | c. sums           |
| 9  | a. software        | b. freeware      | c. shareware      |
| 10 | a. units           | b. applications  | c. devices        |

**Grammar. Decide which answer a, b or c best fits into each gap.**

1. My neighbour, \_\_\_\_\_ I helped to install the application, always forgets his password.
- |             |          |         |
|-------------|----------|---------|
| a. to which | b. whose | c. whom |
|-------------|----------|---------|

2. Dayton is the town \_\_\_\_\_ the Wright brothers were born in.  
a. where                    b. which                    c. in which
3. We continue to drive cars \_\_\_\_\_ we know how dangerous they might be in many respects.  
a. because                    b. though                    c. so
4. Metro in Moscow was designed \_\_\_\_\_ the commuters could travel very quickly around the city.  
a. in order to                b. although                c. so that
5. I was nervous \_\_\_\_\_ I had never been on the stage before,  
a. although                    b. because                    c. thus
6. The plane is fast and comfortable. \_\_\_\_\_ the tickets are too expensive.  
a. However,                  b. Despite                  c. As
7. We use flash memory \_\_\_\_\_ save information quickly and easily in such devices as digital cameras and home video game consoles.  
a. because                    b. in order to                c. which
8. She didn't do her best during the semester and \_\_\_\_\_ she failed the exam.  
a. therefore,                b. since                      c. so that
9. I will walk to work when the days \_\_\_\_\_ longer.  
a. will get                    b. get                        c. will be getting
10. I like chocolate \_\_\_\_\_ is unhealthy.  
a. which                     b. , that                    c. , which

## MODULE 6

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### SPACE TECHNOLOGIES

"Earth is the cradle of humanity, but one cannot remain in the cradle forever." -  
*Konstantin Tsiolkovsky, a Russian rocket scientist.*



#### Learning points for Module 6:

##### **Reading:**

Text A. Why We Explore Space

Text B. Extraterrestrial Life Probably Exists

Text C. Top Space Exploration Accomplishments

**Vocabulary in context:** Collocations/Word forms/Synonyms/Dictionary skills/Word quiz

**Grammar:** Modal verbs/ Semi-modal verbs/ Phrasal modals

**Speaking:** Key Events in the History of Space Exploration

**Listening:** From the History of Space Research

**Skills:** Making Notes

### **Learning aims:**

- to practise reading and speaking about space technologies;
- to learn and practise active vocabulary related to the topic of the module;
- to learn and practise modal verbs;
- to learn and practise the skill of note-making.

### **Lead-in**

***Discuss the following questions in mini groups and share your ideas with others.***

1. How important is space exploration? 2. Can you think of any inventions or benefits which have resulted from space exploration? What are they?

### **READING**

#### **Part 1**

***1. Skim text 6A and identify its main points choosing from the list below.***

***Confirm your answers with the quotes from the text.***

1. Space exploration has provided enormous benefits to our society.
2. The money invested into space exploration could be better spent on more worthy areas.
3. Without space research progress in technology would stop.
4. Space missions cannot help eliminate poverty and hunger on the Earth.
5. Research conducted on board the ISS creates a lot of opportunities to address crucial issues facing mankind.
6. A global network of satellites could enable internet connectivity to most people.
7. Applications of space technologies on Earth are numerous and important.

### **Text 6A**

#### **WHY WE EXPLORE SPACE**

(1) Our interest in the heavens has been universal and enduring<sup>1</sup>. The desire to explore the unknown, discover new worlds, push the boundaries<sup>2</sup> of what we know

and where we have been and then push further has provided benefits to our society for centuries. Space exploration helps answer fundamental questions about our place in the universe and the history of our solar system. Through addressing the challenges related to space exploration we expand the demand for new technology, create new industries, and promote cooperation between nations.

(2) The progress that is made while solving the technical challenges of space exploration is a catalyst for the chain reaction of innovation. While space missions do not directly address poverty and hunger on Earth, they create many spin-offs<sup>3</sup> that might do so, providing a significant return on investment in these efforts. In addition to the need for mankind's technological advancement, these developments are required if we want to continue to improve human life conditions on our ever-crowding<sup>4</sup> Earth.

(3) Each year hundreds of technical innovations generated by space programmes make their way into our earthly technology such as: better home appliances, advancements in farming equipment, faster communications, more precise maritime<sup>5</sup> and aerospace technologies, safety through early warning of extreme weather, improved medical instruments, and other innovations.

(4) The International Space Station, a cooperative working and research environment, allows for experiments to take place in never before possible conditions. Experiments with health and medical technologies on board the ISS, as well as astrobiological experiments, have the potential of dealing with diseases<sup>6</sup> on Earth. Connectivity on Earth is greatly enhanced<sup>7</sup> by using satellite-based communications accessible even through our everyday mobile phone. Terrestrial<sup>8</sup> autonomous vehicles will be coordinated on Earth through growing satellite infrastructure. Earth observation of weather and climate change related issues are now collected by space satellites.

(5) These are just a few of many examples of how spaceflight research is positively impacting the life on Earth. Some may consider space programmes towards the moon, the sun, the planets, and the stars to be a distraction away from our Earth, but it is becoming clear that those programs help us discover more about the planet

that we are living on. The sky is no longer the limit of our knowledge and opportunity.

### Vocabulary notes for Text 6A

<sup>1</sup> enduring	продолжительный
<sup>2</sup> push boundaries	раздвигать границы
<sup>3</sup> spin-offs	побочные продукты
<sup>4</sup> ever-crowding	с растущим населением
<sup>5</sup> maritime	морской
<sup>6</sup> diseases	болезни
<sup>7</sup> enhanced	увеличена
<sup>8</sup> terrestrial	земной

#### **2. Find the words in the text that correspond to the following meanings.**

##### §1

- 1 in the sky
- 2 to do things that no one has been able to do before
- 3 to make available something good
- 4 dealing with difficult tasks
- 5 to develop or increase something

##### §2

- 6 a specific task to explore space
- 7 to deal with poverty and hunger
- 8 the benefit an investor may receive
- 9 the development and growth of technology
- 10 an existing situation

##### §3

- 11 a new idea or method
- 12 devices or machines for home use

##### §4

- 13 created in cooperation, together with other countries

14 communications through devices launched into orbit

15 easy to use

16 means of transport which are able to move on their own without a driver

## §5

17 to think about something, have an opinion

18 something that prevents someone from giving their attention to something else

### **3. Read the text again and answer the following questions.**

1. What is the main idea of the first paragraph? 2. In what way are innovations and technological progress on our planet connected with space exploration? 3. What arguments does the author give to prove the point that space exploration is also beneficial for life on Earth? 4. What examples of using space technologies in everyday life does the author give? 5. What conclusion does the author come to? 6. Did you find the text interesting? 7. Was there any information that surprised you? 8. Do you agree with the author's conclusion? Why?

### **4. In pairs complete the sentences without looking into the text.**

1. Space exploration helps \_\_\_\_\_. 2. If we want to continue to improve human life conditions on our ever-crowding Earth we need \_\_\_\_\_. 3. The International Space Station allows \_\_\_\_\_. 4. Hundreds of technical innovations generated by space programmes \_\_\_\_\_. 5. Some may consider space missions to be a distraction away from Earth, but \_\_\_\_\_.

### **5. Reread text 6A and make notes on its main points. Then summarise this text using your notes.**

**6. Discussion. Students A strongly believe that space exploration is essential for technological progress and it is changing our life for the better; Students B strongly believe that space exploration is very expensive and that the money spent on it should be spent to help solve more important problems on Earth.**

**Change your partner and argue your point.**

## **READING**

### **Part 2**

**7. In pairs / groups discuss these words from text 6B. Explain their meaning or translate them into Russian. Use a dictionary if necessary.**

Search /extraterrestrial /evolution /alien /intelligence /astronomer /telescope / project /laser /signature /chemical /universe /compelling /fiction/mainstream

**8. In groups discuss the following questions and share your ideas with others.**

Is there life on other planets? How do we search for alien life? Do we need to look for aliens? Why? Why not?

**9. Now read the text and compare your ideas with the ideas in the article.**

### **Text 6B**

#### **EXTRATERRESTRIAL LIFE PROBABLY EXISTS**

(1) Is there life on other planets? Are we alone? These are two of the biggest questions humans have been asking for centuries. Scientists have recently launched a major search to find out if there is... anybody out there. They are the researchers from the SETI Institute. (SETI stands for Search for Extraterrestrial Intelligence.) The mission of SETI is to explore, understand and explain the origin and nature of life in the universe and the evolution of intelligence. SETI scientists are using new technologies to scan the heavens for signs of alien life. They intend to share their data with the public. SETI hopes that by sharing data, "citizen scientists" could spot things missed by scientists.

(2) SETI's astronomers are using twenty-eight giant radio telescopes in their search for alien life. The telescopes are located all around the world which enable them to

search the entire sky. The signs they are looking for are called "techno-signatures". These include things like alien chemicals, large amounts of oxygen, non-natural structures, and light from lasers. Astronomers say that determining whether we are alone in the universe is among the most compelling questions in science and that we are getting closer to finding out if alien life exists. According to their opinion, this science is no longer fiction, but is almost mainstream.

**10. Read the text again and match the words with their definitions using the context.**

<b>§1</b>	
1.alone	a. the point where something begins
2.centuries	b. someone who is from a certain country
3.launched	c. having no one else present; on one's own
4.mission	d. periods of one hundred years
5.origin	e. an important task or assignment
6.evolution	f. the process by which different kinds of living things are thought to have developed and changed
7.citizen	g. started a new project or activity
<b>§ 2</b>	
8. mainstream	h. having the ability to do or achieve a specified thing
9. telescope	i. a building or other object constructed from different parts
10. entire	j. a special product, or characteristic that can easily identify something or someone
11. signatures	k. someone who studies space and the universe
12. structure	l. ideas or opinions that are thought of by most people as being normal
13. capable	m. something we look through to make faraway objects look nearer, especially things in space
14. astronomer	n. with no part left out; whole

**11. Read the text and answer the questions.**

1. How do you understand the question asked in the article: ‘Are we alone?’ 2. How long have we been asking questions about aliens? 3. What does ‘SETI’ stand for? 4. What are SETI scientists using to scan the heavens for signs of alien life? 5. Who might spot things missed by scientists? 6. What ‘signs’ are the telescopes looking for? 7. What do you think SETI scientists might find? 8. Did you enjoy reading this article? Why? Why not?

**12. In turns summarise text 6B. Use key words from Exercises 7 and 10 as prompts.**

**READING**

**Part 3**

**13. You are going to read about the key moments in space exploration. In groups match the important events in the history of space exploration with the following dates.**

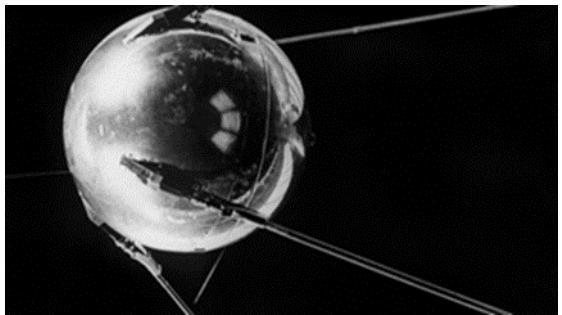
- |                      |   |
|----------------------|---|
| 1. October 4, 1957   | a. first-ever spacewalk                   |
| 2. April 12, 1961    | b. the first man in space                 |
| 3. 18 March 1965     | c. first space tourist                    |
| 4. July 16, 1969     | d. assembly of ISS begins                 |
| 5. November 20, 1998 | e. first man on the Moon                  |
| 6. April 28, 2001    | f. the world's first artificial satellite |

**14. Now scan Text 6C and check your answers.**

**Text 6C**

**TOP SPACE EXPLORATION ACCOMPLISHMENTS**

**Sputnik 1**



“Listen now,” said the presenter of American radio station NBC, “for the sound which forever more separates the old from the new.” He was referring to the “beep beep beep” transmitted from Sputnik - satellite launched on October 4, 1957, by the USSR; the sound heralded<sup>1</sup> the space race.

In fact, the race had already begun. Since the mid-1950s, both the USSR and the US had signalled their intentions to launch artificial satellites as a part of International Geographical Year (IGY), which spanned July 1957 to December 1958. The Soviet launch was timed for maximum political impact; Sputnik first orbited the Earth as scientists from the superpowers were meeting at an IGY reception at the Soviet Embassy in Washington. This led Dr Joseph Kaplan, Chairman of the American IGY committee, to congratulate his Russian rivals on remarkable achievement. The launch was more than remarkable. At 83.5 kilograms, sputnik dwarfed<sup>2</sup> the Americans` satellite-in-waiting, Explorer 1, which would not reach orbit until February of the next year.

### **Yuri Gagarin Is The First Human Sent Into Orbit**

The Soviet cosmonaut Yuri Gagarin became the first human in space and the first to orbit the Earth, in the USSR`s highly successful mission, Vostok 1, on April 12, 1961.Taking off from the Baikonur Cosmodrome in Kazakhstan at 9:07 am, Gagarin was launched into space and completed one full orbit of the Earth before returning back to the Earth by 11:05 am. After his historic feat was announced, Y. Gagarin became an instant worldwide celebrity. The triumph of the Soviet space programme in putting the first man into space was something of a blow for the United States in the ongoing space race. Though they followed right behind by sending their man up a few weeks later, at this point the Soviets already had the upper hand.

### **Leonov Walks In Space**

Alexei Leonov was selected to become one of the Soviet Union's first group of cosmonauts in 1959, along with Yuri Gagarin. After Gagarin's historic first space flight in 1961, the USSR began flying more and more technically complex flights. Voshod 2 was supposed to be no exception. It was the Soviet's eighth manned flight. On the 18<sup>th</sup> of March 1965 Leonov attempted to leave the capsule on a tether <sup>3</sup> and float in space, just in his space suit, while his fellow cosmonaut Pavel Belyaev remained inside. Ten minutes into his space walk, Leonov encountered a problem. His space suit had ballooned and stiffened in the vacuum of outer space, and he was unable to fit back inside the airlock<sup>4</sup>. There was no contingency<sup>5</sup> plan for rescue so if Leonov had not been able to overcome this problem, his fellow cosmonaut would have had to cut him loose and return without him. Leonov decided to make a risky move. He partially deflated<sup>6</sup> his space suit by allowing air to bleed<sup>7</sup> into space, and he was eventually able to squeeze himself back inside the capsule safely.

### **Man On The Moon**



The purpose of the mission was simple: perform a manned lunar landing and return. The Apollo lunar landing program began in the 1950s as a NASA initiative, but it wasn't until the 1960s when it really took off, literally and figuratively. The Apollo 11 mission occurred eight years later. Seventy-six hours after launching on July 16, 1969, the spacecraft reached lunar orbit. Commander Neil Armstrong and a lunar module pilot Buzz Aldrin formed the crew of the lunar module "Eagle" that landed on the Sea of Tranquility. Taking his first step on the Moon at 10:56 pm EDT, Armstrong famously declared to a television audience of approximately 700 million people: "That's one small step for man, one giant leap<sup>8</sup> for mankind". Armstrong was followed by Aldrin, and they both spent about two-and-a-half hours on the Moon, collecting samples, taking photos, planting flags, and performing scientific experiments.

### **International Space Station Takes Shape In Orbit**

Easily visible to the naked eye, the International Space Station is the largest man-made structure ever assembled in space. The research facility weighs over 230 tons, and orbits around 290 kilometers above our heads at over 27,360 kilometers per hour. The International Space Station is a symbol of humanity's prowess and potential for space travel. In the 1980s and 1990s, *Mir*, a major space station built by the Soviet Union, played that role. *Mir* outlasted the USSR, eventually orbiting the Earth for 15 years and hosting crew members from across Europe, the United States, and Canada. The process of assembling the ISS began on November 20, 1998, when Russian module *Zarya* was launched from the Baikonur Cosmodrome in Kazakhstan. Just two weeks later, the USA launched the second piece, a connecting node<sup>9</sup> known as Unity. A Russian life support module followed, allowing habitation from November 2000. Since then the ISS has been permanently manned and has grown considerably in size. As well as sections from two space superpowers, it also includes laboratories from Europe and Japan and a construction boom<sup>10</sup> from Canada. It is both the most sophisticated platform for space sciences ever built and a testing ground for international space collaboration. Among other things the laboratories use microgravity conditions to look for new drugs and investigate effects of weightlessness on the human body.

## **First Tourist In Space**

Hands up those who wanted to be an astronaut when they were young. Well, Dennis Tito did and, forty years after Yuri Gagarin became the first man in space, his wish came true. Tito had always had a strong interest in space exploration. His early career involved working in a jet propulsion lab and tracking NASA's Mars probes<sup>11</sup>. He was in love with space. But he loved money more and ended up running his own investment firm. By the age of sixty, his immense personal fortune would give him the opportunity of a lifetime. He could afford paying the US\$20 million price of the return ticket to space. Tito spent under eight days in space; six days were spent on board the International Space Station and in that time he orbited the Earth 128 times. Apparently he doesn't like the term "tourist" and would rather be called an "independent researcher".

## Vocabulary notes for text 6C

<sup>1</sup> heralded	возвестил
<sup>2</sup> dwarfed	заставил казаться маленьким
<sup>3</sup> tether	трос
<sup>4</sup> airlock	переходный шлюз
<sup>5</sup> contingency	непредвиденное обстоятельство
<sup>6</sup> deflate	спускать
<sup>7</sup> to bleed	спускать лишнее давление
<sup>8</sup> leap	скачок
<sup>9</sup> node	узел
<sup>10</sup> boom	кран
<sup>11</sup> probe	зонд, автоматическая станция

**15. Read text 6C and circle any words you do not understand. In groups, write them down and look them up in the dictionaries.**

**16. Read text 6C in detail and decide if the statements below are 'T'(True), 'F'(False) or 'NG' (Not Given). Say why the false answers are not true.**

1. The space race between the USSR and the US began after Sputnik 1 was launched by the USSR.
2. The launch of the first satellite was of a great political significance for the USSR.
3. The flight of the first human into space was the result of close cooperation of space superpowers.
4. Gagarin's flight was only a temporary defeat of the US in the space race.
5. In the 1960s the space race meant that each new space flight had to be longer than the previous one.
6. If Leonov hadn't overcome the problem with his space suit his partner would have returned home without him.
7. The purpose of the first moon mission was to win the space race.
8. The Apollo lunar landing program was not successful.
9. The ISS is designed for the development of space tourism.
10. The first space tourist paid a huge sum of money for his travel but that was the opportunity of a lifetime for him.

## **17. Answer the questions.**

1. What sound did the presenter of NBC refer to saying that “it separates the old from the new”? What did he mean by that? 2. Why can we say that the launch of Sputnik 1 was timed for maximum political impact? 3. Who became the first man in space? When? 4. In what way Voshod 2 was supposed to be more elaborate and technically complex than the previous flights? 5. What problem did Leonov encounter during his mission in outer space and how did he deal with it? 6. Can you explain the famous words of Neil Armstrong: “That’s one small step for man, one giant leap for mankind.” When and where did he say these words? 7. What is the largest man-made structure in space? 8. What practical applications does the construction of the ISS have? 9. What does the word “space tourism” mean? 10. Who was the first space tourist? Where did he travel to?

## **Listening**

**18. Listen to two episodes from the history of space research. Write down some extra facts and useful words to talk about space exploration.**

<https://www.youtube.com/watch?v=GhAXlR68tL8>

<https://www.youtube.com/watch?v=XHcJIQzmOKQ>

**19. Prepare to talk about one of the key events in space exploration described in Text 6C or from the listening above. Be ready to answer some questions from your group.**

## **VOCABULARY**

### **Module 6 Word List**

<b>Essential Vocabulary</b>	<b>Additional Vocabulary</b>
1. accessible (adj)	1. alien (n, adj)
2. accomplish (v)	2. announce (v)
3. address (v) problems (n)	3. assemble (v)
4. autonomous (adj) vehicle (n)	4. attempt (n)

5. condition (n)	5. be underway (adj)
6. connectivity (n)	6. collaboration (n)
7. deal with (v)	7. compelling (adj)
8. distract (v) / distraction (n)	8. completion (n)
9. earth (n)	9. condition (n)
10. effort (n)	10. crew (n)
11. enhance (v)	11. deliver (v)
12. expand (v)	12. determine (v)
13. exploration (n)	13. establish (v)
14. explore (v) space (n)	14. facility (n)
15. in addition	15. find out (v)
16. innovation (n)	16. investment (n)
17. investigate (v)	17. mainstream (adj)
18. launch (v) (rocket)	18. maintain (v)
19. mankind (n)	19. manned (adj)
20. mission (n)	20. permanently (adv)
21. overcome (v)	21. purpose (n)
22. promote cooperation (n)	22. refer (v) to something
23. push (n) boundaries (n)	23. remarkable (adj)
24. relate (v)	24. sample (n)
25. significant (adj)	25. sign (n)
26. spacecraft (n) (pl. spacecraft)	26. stand (v) for
27. search (v, n)	27. stay (v) on board
28. universe (n)	28. survey (n)
	29. testing ground (n)
	30. weigh (v) /weight (n)

**20. Look at the words below. With your partner, try to recall how they were used in text A.**

Boundaries / benefits / challenges / mission / advancement / conditions / cooperative / accessible / survey / consider / vehicles / access.

**21. Match the words in columns A and B to make up word combinations. Write your own sentences with these phrases.**

*Example: to complete a mission: Once you complete a mission, you become another character to play a different role.*

I.	A	B	II.	A	B
1. to address	a. advancement		1. to launch	a. question	
2. return	b. vehicles		2. to complete	b. samples	
3. technological	c. boundaries		3. to collect	c. ground	
4. to provide	d. challenges		4. to be called into	d. a capsule	
5. to push	e. to space		5. to investigate	e. condition	
6. to expand	f. communication		6. microgravity	f. the effects on	
7. autonomous	g. on investment		7. the research	g. mission	
8. satellite	h. benefits		8. to promote	h. facility	
9. to impact	i. the demand		9. to stay (to be)	i. cooperation	
10. access	j. our life		10. testing	j. on board	

**22. Read the sentences below and underline the key words and expressions from the previous exercise. Translate the sentences into Russian.**

**I.**

1. Technological advancement is the source of economic growth in the long run.
2. He believes 3D displays will push the boundaries of video games, enabling the most immersive experience possible.
3. Geographical boundaries are not important for satellite communication.
4. Lots of scientists are trying to analyse how global warming is impacting our life.
5. People from all over the world make a lot of efforts to address the environmental challenges.
6. During the debate they argued about the benefits for people provided by the vaccination.
7. According to statistics, the demand for new technology is expanding rapidly.
8. Autonomous vehicles are widely employed in space exploration.
9. Energy efficiency is

important as it increases the return on investment. 10. Our students have access to the library resources of the university.

## II.

11. The space center prepared to launch the rocket far into outer space. 12. The company is planning to open a new research facility that will create more opportunities for space exploration. It will also serve as a testing ground for new experiments. 13. This study investigated some common side effects of new vaccines. 14. When all passengers were on board, the train pulled out of the station. 15. More and more artificial satellites are launched into space nowadays to help us communicate. 16. The delegation completed its mission successfully. 17. It is such a serious error that it calls the rest of the results into question. 18. The local charity is trying to collect money to buy Christmas gifts for children in need. 19. Microgravity is the condition in which people or objects appear to be weightless. 20. The accident has left him permanently disabled.

**23. Match the synonyms.** (The words in **bold** are from text 6B)

- |                        |                |                       |              |
|------------------------|----------------|-----------------------|--------------|
| <b>1. alone</b>        | a. information | <b>6. search</b>      | f. powerful  |
| <b>2. launched</b>     | b. aim         | <b>7. entire</b>      | g. is living |
| <b>3. stand(s) for</b> | c. by yourself | <b>8. compelling</b>  | h. common    |
| <b>4. mission</b>      | d. started     | <b>9. exist(s)</b>    | i. whole     |
| <b>5. data</b>         | e. means       | <b>10. mainstream</b> | j. hunt      |

**24. Rewrite each sentence replacing the underlined words by the word from the box so that the new sentence will have the same meaning as the first one.**

*Example:* The epidemic has considerably influenced the country's economy. →  
The epidemic has considerably impacted the country's economy.

Alone / launch / stand for / mission / data / have existed / search /
entire / compelling / mainstream

1. We've been living under the same roof for a long time. 2. His aim in life was to find new sources of energy. 3. I wish the whole world was like that! 4. Video games have become much more common since the introduction of a mobile phone. 5. The police are on the hunt for further clues. 6. What does IBM mean? 7. They managed to start a new business in a difficult situation. 8. Information is transmitted via a modem link to the central office. 9. His speech was a powerful call for action. 10. I knew that I won't be able to do the whole job by myself.

**25. Complete each sentence with the correct form of the word in capitals.**

**Example:** While planning \_\_\_\_\_ missions we need to \_\_\_\_\_ the risks of the effects of space-flight conditions on our immune system. MAN, ASSESSMENT → While planning manned missions we need to assess the risks of the effects of space-flight conditions on our immune system.

1. We need to carry out a full \_\_\_\_\_ of all the new sources of energy. EXPLORE 2. Cyber criminals try to gain \_\_\_\_\_ to your financial details. ACCESSIBLE 3. He said that he could turn the television off if I find it a \_\_\_\_\_. DISTRACT 4. There were no any \_\_\_\_\_ to specific situations in her speech. REFER 5. If you want to learn to be good at arguing you need to be able to think of \_\_\_\_\_. arguments and examples. COMPEL 6. The speaker announced the nearing \_\_\_\_\_. of the project. COMPLETE 7. Old houses need a lot of \_\_\_\_\_. MAINTAIN 8. We need to \_\_\_\_\_ effective communication between all the parties. ESTABLISHMENT 9. After a week of dieting there was only a slight decrease in his \_\_\_\_\_. WEIGH 10. Smoking is damaging your health \_\_\_\_\_. PERMANENT

**26. Work in groups. Prepare 10-15 examples with the words from vocabulary section. Write them down on separate cards using gaps instead of the key words. Exchange your cards with other groups and do the gap filling. Check your answers.**

**27. Summarise in English using some key words from the vocabulary section.**

Орбитальные станции - один из ранних проектов, предложенных К. Циолковским еще в 1903. Основной целью их разработки было создание платформы для космических полётов, что дало бы возможность запускать космические корабли с орбиты. Известно, что и в наше время колонизация человеком планет и их спутников наталкивается на ряд существенных трудностей, связанных с гравитацией, температурным режимом и отсутствием магнитосферы, поэтому идея создания поселений в космосе, используя материал астероидов, спутников, планет получила преимущество перед идеей колонизацией планет. Гипотетическая колонизация Марса всегда вызывала интерес со стороны государственных космических агентств и частных корпораций. Первыми на поверхность Марса вышли два советских зонда: спускаемые аппараты "Марс-2" и "Марс-3". Хотя оба зонда достигли поверхности Марса, ни один из них не сработал успешно. С тех пор на Марс были отправлены десятки космических аппаратов без экипажа для изучения поверхности планеты, климата и геологии. Каждая миссия добилась прогресса. Сегодня у ученых есть целый парк роботизированных космических аппаратов, изучающих Марс со всех сторон.

## SPEAKING AND DISCUSSION



### 28. Discuss the following questions in groups.

1. What other important achievements in space exploration would you add to the list of the “key moments” from Text 6C?
2. Search the Internet and prepare to talk about an important key moment in space exploration which you think should be included into the list.  
[\(https://www.britannica.com/science/space-exploration\)](https://www.britannica.com/science/space-exploration)
3. Would you like to travel into space? Why/Why not?
4. Do you like films about space? Why/Why not?
5. Do you think more people will travel into space in the future? Why/Why not?
6. Do you think space travel will ever become affordable for all people?

7. Do you think that developing space tourism as an industry is a good or a bad thing?
8. Rank these things below with your partner. Put the most interesting things about space from the list at the top. Share your rankings with others.

- |                   |                       |
|-------------------|-----------------------|
| ➤ Aliens          | ➤ The Moon            |
| ➤ Colonising Mars | ➤ The Aurora Borealis |
| ➤ Black Holes     | ➤ Space dust          |
| ➤ Comets          | ➤ Zero gravity        |

**29. Choose one of the points above and prepare a mini presentation about it.**

**30. Use the cards below to prepare for a role-play exercise. In your group decide which mission is the most important/least important after the debate.**

#### **Role A – Aliens**

You think that search for aliens is the most important mission in space exploration. Give three reasons why. Tell the others why you do not agree that their ideas are more interesting than yours. Also, say which mission of these (exploring black holes, zero gravity or colonising Mars) is the least important.

#### **Role B – Black Holes**

You think that exploring black holes is the most important mission in space exploration. Give three reasons why. Tell the others why you do not agree that their ideas are more interesting than yours. Also, say which mission of these (search for aliens, exploring zero gravity or colonising Mars) is the least important.

#### **Role C – Zero Gravity**

You think that exploring zero gravity condition is the most important mission in space exploration. Give three reasons why. Tell the others why you do not agree that their ideas are more interesting than yours. Also, say which mission of these (search for aliens, exploring black holes or colonising Mars) is the least important.

#### **Role D – Colonising Mars**

You think that colonising Mars is the most important mission in space exploration. Give three reasons why. Tell the others why you do not agree that their ideas are

more interesting than yours. Also, say which mission of these (search for aliens, exploring zero gravity or black holes) is the least important.

## GRAMMAR

### Lead-in



*Read the sentences below and discuss the following questions.*

- 
1. What are the highlighted verbs called? What are they used for?
  2. What kind of infinitives are used after them?
  3. What is special about the third person (he, she, it) of these verbs?
  4. What is special about the questions and negative forms?

1. We **can** now ask the digital device Alexa for advice if we are worried about our health. 2. Alexa **will** be able to search the NHS website for information and find the answer that is agreed on by many health experts. 3. Some people think that we **shouldn't** trust the advice of a piece of software. 4. They say we **must** go to a human doctor if we have serious health problems. 5. **Can** Artificial Intelligence replace the humans? 6. Some **may** consider space programs towards the moon, the sun, the planets, and the stars to be a distraction from our Earth. 7. Scientists have revealed that air pollution **might** be responsible for a significant reduction in intelligence. 8. We **could** significantly cut our carbon footprint if we stopped sending unnecessary 'thank you' emails. 9. The experts agreed that the growth of digital technology **would** require more electricity. 10. After studying this topic very thoroughly, the class **ought to** achieve good results in the test.

**STUDY NOTE.** **Modal** auxiliary verbs are also called modals. They are normally followed by a main verb. We use modals to **make an assessment, judgement or interpretation** of what we are speaking or writing about, or to express our

**attitude** to this. *I can play tennis.* (ability); *You should see a doctor.* (advice); *It must be cold outside.* (assumption); etc.

## MODAL VERBS

can      may      will      shall      must

could      might      would      should      ought to<sup>1</sup>

- are not inflected in the third person: *He must go.* not *He musts go*
- are followed by the bare infinitive (except for ought to): *I must go.* not *I must to go*
- are negated by adding not: *I cannot (can't) go.* not *I don't can go*
- are inverted with the subject to form a question: *Can you answer a few questions?*
- have no infinitives or participles.

<sup>1</sup> some grammarians call 'ought to' a semi-modal verb.

### 31. Use the infinitives below to complete the sentences. Translate the sentences.

(to) answer, (to) speak, (to) go, (to) clean up, (to) graduate from, (to) speak, (to) be, (to) rain

1. Can you \_\_\_\_\_ any foreign languages? 2. When will you \_\_\_\_\_ university? 3. Must you \_\_\_\_\_ so loudly! 4. Could you \_\_\_\_\_ a few questions? 5. They may\_\_\_\_\_ to St. Petersburg soon. 6. My keys must \_\_\_\_\_ in the car. 7. It may \_\_\_\_\_ tomorrow. 8. You ought \_\_\_\_\_ your room.

### 32. Change the sentences into questions using the pronouns given in the brackets. Example: *I can speak French.* (you) - *Can you speak French?*

1. He can cook. (she)
2. She can use your phone. (I)
3. I must leave soon. (you)
4. They will answer your questions. (he)
5. I shall go by car. (we)
6. I would like to help. (you)
7. Medicine ought to be free. (it)
8. You should call the police. (I)

### 33. Read the sentences and explain the meaning of modal verbs or translate them into Russian. Use a dictionary if necessary. Put the sentences into negative

*and interrogative forms where possible. You can choose from the following list: possibility, obligation, ability, permission, advice, proposal, necessity, past ability, strong obligation, certainty, polite request.*

**Example:** I can swim. Meaning –Ability. I have learned to swim and I am able to swim. Can you swim? No, I cannot (can't) swim.

1. I can play the piano.
2. You can borrow my dictionary.
3. My friend could ride a bike when he was little.
4. You may ask questions after the meeting.
5. It may rain tonight.
6. You must clean the windows. They are very dirty.
7. What time is it? It must be very late!
8. It is a fantastic film. You must see it.
9. You look tired. You should go to bed earlier.
10. I will carry a bag for you.
11. I would like to ask a few questions.
12. Shall we go to the cinema tonight?
13. They ought to have more parks in the city centre.
14. Everyone ought to do more exercise.

#### **34. Rewrite these sentences in a different way using the modal given.**

**Example:** Let me answer this question. (may) → **May** I answer this question?

1. Your suitcase is very heavy. Let me help you. (can)
2. You worry too much. My advice is ‘take it easy’. (should)
3. It’s not a good idea to eat late at night. (should)
4. I insist you apologise. (must)
5. Why don’t we stay at home tonight? (shall)
6. Is it all right if I use your printer? (may)
7. Do you want tea or coffee? (would)
8. Excuse me, I’m never going to be late again. (will)
9. He was making so many mistakes that it was impossible to understand anything. (could)
10. I refuse to see him again! (won’t)
11. I wasn’t able to read music before going to a music school. (could)
12. I wish I hadn’t told him all those offensive words. (should)
13. I feel it is my responsibility to see my grandparents more often. (ought)
14. It is not necessary to cook vegetables so long. (ought not)
15. Ask Alexander. It is possible he knows the answer, but I’m not sure. (might)

#### **35. Correct the mistakes.**

1. I don’t can speak Chinese.
2. If you want to improve your programming skills you should to work harder.
3. Do you must be so rude?
4. Could you telling me the

difference between modal and ordinary verbs? 5. Every student of our group musts to have regular medical check-ups. 6. You should to see a doctor. 7. When you will graduate from university? 8. We ought be more concerned about the environment.

## TIME REFERENCE

**STUDY NOTE.** Could can be used to refer to the past on its own:

*She can speak French. She could speak French when she was a child.*

Modal verbs can normally refer to either the present or future:

*You should exercise more. You should try to visit us next year.*

We use **to be able to** and **to have to** instead of **can** and **must** to refer to the future and past. We can also use **to be allowed to** instead of **may** and **to be supposed to** instead of **should**.

*I can finish this work. I will be able to finish this work tomorrow. I was able to finish this work on time.*

*Where have you been? You were supposed to be at home.*

We can use **modals** to refer to the past by adding **have + past participle**:

*I must have forgotten to lock the door.*

*She could have found the note.*

*You should have read this book long ago.*

In reported speech we change **can** to **could** or **was able to**, **may** to **might** or **were allowed to**, **must** to **had to**, **will** to **would**:

*He said, "I can help you". He said that he could help me.*

### 36. Rewrite the following sentences in the past.

**Example:** *He may take the sick leave if he gets ill. → He was allowed to take the sick leave because he got ill.*

1. You must show your identity card. → When I wanted to get into the building

\_\_\_\_\_ . 2. We can't buy a new car. → Last year we also\_\_\_\_\_. 3.

Mike may take my laptop for a couple of hours. → When he was writing his report \_\_\_\_\_ . 4. Victor must call his mother immediately. → The doctor said that \_\_\_\_\_. 5. (Walls are not papered). You shouldn't paper the walls. → (Walls are papered) You shouldn't \_\_\_\_\_. 6. "I will be in the office at 9 am". → She said that she \_\_\_\_\_. 7. You may retake the exam in Mathematics today. → After I passed all other exams \_\_\_\_\_. 8. You must be careful when crossing the street. → When we were crossing the street \_\_\_\_\_. 9. The doctor can see you now. → The nurse said that \_\_\_\_\_. 10. You must complete all the assignments on time. → When I was at university I\_\_\_\_\_.

### **37. Rewrite the following sentences in the future.**

**Example:** You may take the sick leave if you get ill. → \_\_\_\_ when you get ill.

**You will be allowed** to take the sick leave when you get ill.

1. He can't get the tickets. → I'm afraid he\_\_\_\_
2. You may use my camera. → Tomorrow I\_\_\_\_\_
3. You must complete a lot of assignments. → When you go to university you \_\_\_\_\_
4. You must tell me the truth. → Very soon you\_\_\_\_\_
5. I can read this book in its original language . → In two years I \_\_\_\_\_
6. I must take this medicine three times a day. → Next week you\_\_\_\_\_
7. Now you can be discharged from hospital. → When you feel better\_\_\_\_\_
8. You must call the police. → If he doesn't pay \_\_\_\_\_
9. The doctor can see you. → The doctor \_\_\_\_\_ in twenty minutes.
10. You may go home now. → You \_\_\_\_\_ only after you finish the job.

### **must/have to**

**Must** expresses duty or internal obligation which is imposed by the speaker:

*I must eat vegetables. The students must speak only English in class.*

**Mustn't** expresses categorical prohibition: *You mustn't eat sugar.*

**Have (to)** means necessity due to circumstances: *We missed the train. We will have to wait long now.*

**Don't have (to)** expresses lack of need: *You don't have to finish the report today.*

**Had (to)** is used instead of **must** in the past tense: *We must finish our work on time.* → *They worked day and night because they had to finish their work on time.* We use **do**, **does**, **did** to form questions and **do not**, **does not**, **did not** in the negative of **have (to)**: *We didn't have to do the exams last year. Do we have to take our shoes off?*

**38. Complete the sentences with the verbs given below. In sentences 7, 8, and 10 two options are possible with a slight difference in meaning or context (spoken/more formal).**

*must, mustn't, have to (3), had to, don't have to, doesn't have to, didn't have to, will have to.*

1. You \_\_\_\_\_ have a passport to travel by train from one Russian region to another.
2. Sorry, I can't come out tonight, I \_\_\_\_\_ do the shopping with my mother.
3. Bob didn't know he \_\_\_\_\_ read about their company before meeting with the boss.
4. That sign means that you \_\_\_\_\_ use your phone here.
5. I've taken some of her luggage, so she \_\_\_\_\_ pay the excess baggage fees.
6. I\_\_\_\_\_ do my project yesterday, because I had already finished it.
7. You \_\_\_\_\_ pay anything, it's a present!
8. I think you \_\_\_\_\_ to read the book if you want to understand the story.
9. You'll \_\_\_\_\_ pay for the book that you have lost.
10. I don't really want to go to work tomorrow but I \_\_\_\_\_.

### **can/could/was able to**

We use **can** for general ability in the present and **could** for general ability in the past: *I can drive. When I was little I could ride a bike.*

We use **was able (to)** for a particular situation in the past which was completed successfully: *He was able to complete the job on time.*

We also use **couldn't** for both general and specific situations: *I couldn't answer all the questions.*

We can use **managed (to)** to suggest a degree of difficulty: *I woke up late but I managed to get to university on time.*

### **39. Choose a better option.**

1. I *have been able to/could* swim since I was five. 2. You *will be able to/ can* speak perfect English if you practice a lot. 3. I would like *to be able/to manage* to play the piano. 4. He *was not able to/couldn't* take part in the race last month because he fell ill. 5. Peggy Whitson, NASA astronaut, said that one of the hardest things about space flight was the fact that she *could not/didn't manage to* speak Russian well enough to understand the other members of the crew. 6. We *managed to/could* find the video about space exploration we wanted to watch after searching for it for an hour. 7. Eventually, the astronaut *was able to/could* squeeze back inside the capsule safely. 8. Christopher Conselice, a professor of astrophysics at the University of Nottingham, believes that one day we'll *be able to/can* find out that there is other life in the universe. 9. Although the pilot was badly hurt he *could/was able* to land the plane. 10. Exercise *can/manages to* reduce stress.

### **40.\* Rewrite the following sentences using the underlined modals or their equivalents in the past and/or the future using the prompts.**

**Example:** Modern computers can operate at high speeds. → Early computers were not able to operate at high speeds. (past) → Next generation computers will be able to operate at even higher speeds. (future)

1. You can add graphics to your website. Your website is not appealing. You \_\_\_\_\_ (add) graphics to make it more visually appealing. (past) OK, it is not too late. You'll still \_\_\_\_\_ to add graphics when you develop it further. (future)
2. Can I use your phone? He asked me if \_\_\_\_\_. (reported speech) I'm afraid you \_\_\_\_\_ to use your mobile phones during the test. (future)
3. My father can drive very well. My father taught me to drive. So, when I was taking my driving exam I \_\_\_\_\_ drive very well. (past) After thirty hours of driving with a driving instructor you \_\_\_\_\_ to drive fairly well. (future).

4. You may ask questions only after the presentation. The speaker said that we \_\_\_\_\_ ask questions after the presentation. (past). You \_\_\_\_\_ to ask questions only after the presentation. (future).

5. If you suspect that an e-mail has a virus, you must delete it immediately. I'm afraid my computer is infected. I \_\_\_\_\_ that suspicious e-mail. (past) If I suspect that an e-mail has a virus, I'll \_\_\_\_\_ it immediately. (future)

6. This sentence looks wrong - there must be a mistake. He said that it looked wrong and that there \_\_\_\_\_ a mistake (past).

**41.\* Complete the sentences using ‘shall, can, may, would, might, should, can’t, or must’ and translate the sentences.**

1. All the e-mails \_\_\_\_\_ start with a friendly greeting. 2. If I knew how to do it I \_\_\_\_\_ add attractive banners to this web page. 3. With Grammarly’s AI powered writing assistant you \_\_\_\_\_ compose mistake-free writing. 4. Our English teacher speaks with an American accent, so she \_\_\_\_\_ be from the USA. 5. He \_\_\_\_\_ be a good researcher. I know some of his projects. 6. You \_\_\_\_\_ a good IT specialist. You don’t even have a working knowledge of the HTWL language. 7. \_\_\_\_\_ I use the printer? I need to print out my report. 8. Before you start to make a website, you \_\_\_\_\_ decide how to organise the content. 9. He said that AI \_\_\_\_\_ replace humans in the future. 10. \_\_\_\_\_ I scan your computer for viruses?

**42. Modal verbs summary. Match the example sentences with modals (1-30) and their meanings and/or functions (a-dd). Write your own examples with modal verbs in different meanings.**

Modal	Example	Meaning
<b>Can</b>	1. Superman can fly. 2. Can I borrow your pen? 3. You can't be hungry! We've just had lunch.	a. doubt/disbelief/surprise/improbability b. request/permission/ prohibition c. physical and mental (in)ability/opportunity

<b>Could</b>	4. He could play the piano before he could read. 5. Could you stop calling me Al? 6. Where have you been? You could have called at least! 7. It couldn't be Ann. She is in St.Petersburg.	d. suggesting/requesting e. expressing/questioning possibility f. past ability/inability g. reproach
<b>May</b>	8. May I go out? 9. You may leave early tomorrow. 10. He may come in the evening.	h. possibility i. permission/prohibition j. formal request/ offer
<b>Might</b>	11. You might pick me up on your way to the airport. 12. It might be very cold in winter in Moscow. 13. You might have warned me.	k. expressing/questioning possibility. l. reproach with have +past participle m. making a tentative request
<b>Would</b>	14. Would you please be quiet? Would you like me to help? 15. He would spend all his free time in the lab when he was doing his research. 16. He said he would answer all the questions after the presentation. 17. I would never consider changing careers.	n. future in the past o. hypothetical meaning p. habitual events /repeated state in the past q. offering something/requesting/commanding
<b>Should</b>	18. You should try to watch films in English. 19. You should have come to that party.	r. in certain that clauses s. reproach with have+past participle t. recommendation /advice/obligation

	20. He suggested that we should go there immediately.	
<b>Must</b>	21. I really must be going now. 22. You must never see her again. You mustn't smoke here. 23. He must be at home now. Jeremy must have left the city.	u. confident assumption/ high probability v. strong command/recommendation/prohibition. w. 'internal' obligation/necessity
<b>Shall</b>	24. Shall I close the window? 25. Shall we go out tonight?	x. asking for instructions or permission (formal) y. making a suggestion
<b>Will</b>	26. Will you please stop speaking to me like that. 27. I will do my best. 28. It won't be easy to find another secretary.	z. talking about the future aa. command or request bb. promise or determination to do something
<b>Ought to</b>	29. She ought to be at home by nine. 30. You ought to have told her the truth.	cc. used to say that you expect something to be true dd. used to say what is the correct or best thing to do

**43. Define the function/ meaning of the missing modals and fill in the gaps choosing from the modal verbs in the box.**

**A.**

mustn't (2), couldn't, can, must (2), can't (3), should

1. He is overweight, so, he \_\_\_\_\_ run so fast. 2. He is very tall, so he \_\_\_\_\_ play basketball. 3. You \_\_\_\_\_ park your car here it is no-parking zone. 4. Many schoolchildren \_\_\_\_\_ wear a uniform. 5. I \_\_\_\_\_ come with you now because I'm studying for my test. 6. Footballers \_\_\_\_\_ touch the ball with their hands. 7. I'm sorry I \_\_\_\_\_ come to your party, I had to do some urgent work. 8. I'm very tired. I \_\_\_\_\_ do anything. I'll do my homework tomorrow. 9. If you have a bad

headache you \_\_\_\_\_ go to bed. 10. When you travel you \_\_\_\_\_ carry your passport everywhere.

**B.**

must (2), may/might (2), can't (2), mustn't, should (2), would

1. You really \_\_\_\_\_ see that new TV programme. It is fantastic.
2. You \_\_\_\_\_ speak so loudly, people are working here.
3. We \_\_\_\_\_ watch TV or go to the cinema tonight.
4. According to the weather report it \_\_\_\_\_ rain this afternoon.
5. You \_\_\_\_\_ take your English exam seriously, even if your level of English is high.
6. You \_\_\_\_\_ take your student card with you, otherwise you won't get in.
7. Mike \_\_\_\_\_ have left the house. His mobile is here, and he never leaves without it.
8. You \_\_\_\_\_ go without a ticket. All seats are reserved.
9. You \_\_\_\_\_ have gone to the doctor when you started feeling ill.
10. I \_\_\_\_\_ like to go the cinema with you this weekend. What do you think?

**C.**

could, could/can, couldn't, must (2), mustn't, will (2), should, would

1. When I went to Turkey for the first time, I \_\_\_\_\_ understand a word of Turkish.
2. They \_\_\_\_\_ have informed us about the flight delay.
3. You \_\_\_\_\_ smoke in public places or restaurants. It is against the law.
4. They \_\_\_\_\_ have left without saying good bye. Nobody saw them leave.
5. I promise I \_\_\_\_\_ do my best to help you.
- 6-7. You \_\_\_\_\_ have taken my advice and gone to the doctor. You \_\_\_\_\_ feel better now.
8. If you insist, she \_\_\_\_\_ probably tell you the truth.
9. I \_\_\_\_\_ play tennis a few years ago, but I haven't practiced since then so I'm not sure if I \_\_\_\_\_ play anymore.
10. All candidates \_\_\_\_\_ send in their application forms by Friday

**D.**

must (2), mustn't, might not, ought, can't (2), shouldn't/may, won't, shall

1. You \_\_\_\_\_ touch the oven. It is very hot and you \_\_\_\_\_ hurt yourself. 2. You look tired. You \_\_\_\_\_ to stop training. Take a break. 3. He \_\_\_\_\_ have eaten all the food. The fridge was full. 4. Everyone passed the first test. So it \_\_\_\_\_ have been difficult. 5. Students \_\_\_\_\_ leave the room during the exam. It is against the rules. 6. We \_\_\_\_\_ have taken the wrong turn. We are lost. 7. There are signs all over the place, so you \_\_\_\_\_ have any trouble getting there. 8. Leaving without an umbrella \_\_\_\_\_ be such a good idea. В ключах должно быть not It looks like it is going to rain. 9. You still haven't finished your homework. It \_\_\_\_\_ be very difficult then. 10. I don't think I'll be able to do the job on time. What \_\_\_\_\_ I do?

## SEMI-MODALS AND PHRASAL MODALS

**44. Read the following sentences paying attention to the meaning and form of the highlighted words. What are they called? How are they similar and different from the 'pure' modal verbs? How are questions and negative forms with these expressions formed? Use your dictionaries if necessary.**

1. You **needn't** buy your own textbooks. 2. Nothing **needs** to be changed on this page. 3. How **dare** you suggest that I was lying! 4. Would you **dare** to tell him the news? 5. You'd **better** get here soon or they won't let you in. 6. **Had I better** speak to my colleagues before I send this form off? 7. **Hadn't you better** switch your computer off? It might overheat if you leave it on. 8. **Are** parents who have a lot of money **likely** to spoil their children? 9. People **are not likely** to listen to him now because they know he lied. 10. **Am I supposed** to be at the meeting on Tuesday? 11. The train **is to** leave in 10 minutes. 12. This amount of work **is not** to be done in one month. 13. This average schoolboy **was** to become a world-famous football star. 14. **Does** your son **have** to do exams this year? 15. When we have morning classes I **have** to get up very early. 16. When I was preparing for my exams last spring I **had** to work really hard. 17. Luckily, I **don't have** to get up early every day. 18. One of the requirements for this job is that you should **be able** to work in a

team. 19. Only one person was able to beat the record. 20. Speak louder or she won't be able to hear you.

**STUDY NOTE.** Some of these words belong to a group of so called ‘semi-modals’ and others are called ‘phrasal modals’. (see the table below)

Similar to ‘pure’ modals they are used to show if we believe something is **certain, possible, impossible, etc.**

**Have (got) to** and **be able to** are modal in meaning but not in form and are often used instead of **can and must**. **Need** and **dare** can be used both as modal and ordinary verbs.

## SEMI-MODAL VERBS

**need dare to have (got) to to be able to to be to**

## PHRASAL MODALS

**To be bound to, to be supposed to, to be likely to, to be certain, had better, would rather, to be allowed to, it is possible, used to, etc.**

### 45. Rewrite these sentences in a different way using the word given in brackets.

*Example:* You may use a dictionary in class. (*to be allowed*) → You are allowed to use a dictionary in class.

- A. 1. Last term we had online classes. It wasn't necessary to go to university. (*have to*) 2. I'm afraid I haven't studied properly during the term so now it is necessary for me to work really hard. (*have to*) 3. We've completed the experiment. It isn't necessary to worry about the deadlines. (*need*) 4. It isn't necessary to know the name of the person who complained. (*nobody/need*) 5. This topic isn't going to be in the exam. It is not necessary to spend much time on it. (*need*) 6. You waited for me but it wasn't necessary. (*need*) 7. You bought a lot of food but it wasn't necessary. (*need*) 8. I managed to get to the meeting on time, despite the fact that the train was late. (*be able*) 9. I can swim. I learned to swim at the age of five. (*be able*) 10. After completing this course we will learn to speak English fluently. (*be able*)

able) 11. Strangers are not allowed to enter this building. (be) 12. I wish she got here soon or she will miss the opening ceremony. (had better) 13. I'm even afraid to think how much it is going to cost. (dare)

B. 14. It was expected that it would rain today. (be supposed) 15. It is late. You should take a taxi. (had better) 16. Robert has worked hard lately. It looks as if he will get a bonus this month. (be likely) 17. They say we may leave when we finish. (be allowed) 18. I'm sure it will result in extremely serious circumstances. (to be bound to) 19. You ought to take your dog to the vet. (had better) 20. I think the journey will take about two hours. (be likely) 21. There's no necessity for anyone to come in tomorrow. (need) 22. There is no need to go now. We still have some time left. (need not) 23. It is not necessary for us to go to school on Saturday. We have a five-day week at school (not to have to) 24. It was not necessary for him to explain the situation. Everyone knew what was happening. (need not) 25. She must work hard, because she is a single parent. (have to) 26. The weather is awful, so I prefer to stay at home rather than go out tonight. (would rather)

**46. Complete the sentences with the expressions from the box.**

**Been allowed, (to) have to (3), be allowed, (to) be able (2), been able**

1. I'd like \_\_\_\_\_ to see my family more often. 2. He's never \_\_\_\_\_ to understand statistics. 3. My younger sister has never \_\_\_\_\_ to go out alone. 4. I'm sorry \_\_\_\_\_ tell you the truth as it is. 5. After the exams we'll \_\_\_\_\_ to do what we want. 6. I'm afraid we will \_\_\_\_\_ study day and night to prepare for the exams. 7. They don't \_\_\_\_\_ go to school tomorrow. It is Sunday. 8. That must not \_\_\_\_\_ to happen.

**INDEPENDENT FURTHER STUDY**

**47. Match the words on the left with the definitions on the right.**

- |                |  |
|----------------|--|
| 1. in orbit    | a. an artificial or celestial body in space that moves |
| 2. a satellite | around a planet  |
|                | b. travelling around a planet, star, etc.              |

- |                   |  |
|-------------------|--|
| 3.to lift off     | c. space travel with a human crew                                    |
| 4.a crew          | d. an event in which people land on the moon                         |
| 5.a capsule       | e. a condition where the force of gravity is weak                    |
| 6.spacecraft      | f. to leave the ground   |
| 7.a mission       | g. a group of people who work closely together                       |
| 8.a manned flight | h. a vehicle used for transporting people in space                   |
| 9.a lunar landing | i. a piece of clothing to protect the body when outside a spacecraft |
| 10.microgravity   | j. an important task   |
| 11.weightlessness | k. the state of having no weight                                     |
| 12.a space suit   | l. the part of the spacecraft in which the people on it live         |

**48. Match the underlined verbs from the sentences with their definitions.**

**Practice giving the definitions of ‘space’ verbs.**

- |  |   |
|--|---|
| 1. It is hard <u>to discover</u> a new planet.                                       | a. to search to learn about something                   |
| 2. The rocket will <u>be launched</u> this afternoon.                                | b. to find something, usually for the first time        |
| 3. You need a telescope <u>to watch</u> the stars.                                   | c. to go around a planet or star                        |
| 4. The aim of this program is <u>to explore</u> life on Mars.                        | d. to go on a journey to a place that is far away       |
| 5. Space tourists would like <u>to travel into</u> space.                            | e. to keep in good condition                            |
| 6. All planets in the Solar system <u>orbit</u> the Sun.                             | f. to start a company or a project                      |
| 7. Mir station was built and <u>maintained</u> by Russian rocket scientists.         | g. to remain in the same place                          |
| 8. Special capsules are used <u>to deliver</u> cargo to the ISS.                     | h. to look at something for a longer time               |
| 9. Some astronauts have <u>stayed</u> on the ISS up to 187 days.                     | i. to take goods, food, parcels etc. to a certain place |
| 10. It was believed that the ISS would <u>establish</u> the base for a trip to Mars. | j. to send something into space                         |

## DEGREES OF PROBABILITY

**STUDY NOTE.** When we express our **assessment** of the possibility/probability/likelihood of a situation or event we usually use these modals:

- + That must be the wrong address. (very certain, based on deduction)
- ↑ That should /could/may/may not/ might/ might not be the wrong address. (probably, based on expectation, or likely, based on speculation)
- That can't be the wrong address. (highly unlikely/impossible)

**49.** *Study the following examples. Match them with the expressions (a-d) according to the degree of probability they describe.*

<ol style="list-style-type: none"><li>1. You've been working since early morning. You <u>must be</u> tired!</li><li>2. I can't find my iPod! It <u>should</u> be on your desk.</li><li>3. It <u>may well be</u> in your bag.</li><li>4. It <u>might</u> be under the table.</li><li>5. You <u>could</u> have left it at home.</li><li>6. You <u>can't have</u> left it at school!</li></ol>	<ul style="list-style-type: none"><li>➤ very certain</li><li>➤ probably (based on expectation)</li><li>➤ possibly/likely (based on speculation)</li><li>➤ impossibility/disbelief</li></ul>
---	---

**50.** *Rewrite these sentences in another way using the modal given. Explain the difference in the degree of probability in the examples below.*

**Example:** I am sure they are ready for their exams. → They **must** be ready for their exams.

**A.** 1. I'm sure this is the film we saw last week. (**must**) 2. This definitely is not the agency where we booked our trip. (**can**) 3. Maybe this is the number that he gave. (**could**) 4. I'm sure we are going to have cold weather in winter. (**will**) 5. Someone is calling. Perhaps it's Mike. (**might**) 6. The speed of light is 186282 kilometres per

second? I'm sure that's wrong. (must) 7. Two thousand roubles? I'm sure this bill isn't right. (can) 8. There is a possibility of having longer holidays in summer. (might) 9. I'm sure you're going to pass your exams. (will) 10. I don't believe that is the right answer. (can)

B. 11. I know you didn't see me yesterday because I wasn't at university. (can) 12. He has a beautiful house. I'm sure he's very rich. (must) 13. Maybe Nick is ill. (could) 14. I can't find my phone. Perhaps I've left it at home. (might) 15. Why do you think Alexander hasn't arrived yet? Has he missed the train? (must) 16. Possibly Sam will join his father's company. (may) 17. I don't think it is easy to pass this exam. (cannot) 18. Perhaps we'll meet soon. (might) 19. Who knows? Possibly we'll go on holiday in July. (may) 20. Maybe we'll go to the seaside. (could)

**51.\* Use the right modal (*may*, *might*, *can't*, *could*, or *couldn't*).**

1. He \_\_\_\_\_ have been busy. (probable) 2. He \_\_\_\_\_ have been sick. (possible). 3. It \_\_\_\_\_ be true. (disbelief) 4. She \_\_\_\_\_ have said it. (disbelief about the past) 5. She \_\_\_\_\_ be waiting for you at the main entrance. (weak possibility) 6. They play brilliantly. They \_\_\_\_\_ lose. (impossible) 7. They \_\_\_\_\_ be watching a video at the moment. (probable) 8. They \_\_\_\_\_ be poor. Look at their huge house. (impossible) 9. I really have no idea why he hasn't come. He \_\_\_\_\_ have been too tired to go to the party. (assumption) 10. I've lost my keys, they \_\_\_\_\_ be at work or they \_\_\_\_\_ be in the car. (possible)

**52\*. Read the text and fill in the gaps with the modals from the box. Retell the text.**

Could (2), will, should, would (4), wouldn't, may not (2), had, needed, are likely

**Scientists Say Most Likely Number of Contactable Alien Civilisations Is 36**

According to new calculations there (1)\_\_\_\_\_ be more than 30 intelligent civilisations in our galaxy today capable of communicating with others. Experts

say the new work not only offers insights into the chances of life beyond Earth but (2) \_\_\_\_\_ shed light on our own future and place in the cosmos.

In 1961 the astronomer Frank Drake proposed what became known as the Drake equation, setting out seven factors that (3) \_\_\_\_\_ to be known to come up with an estimate for the number of intelligent civilisations out there. Researchers from the University of Nottingham refined the equation and made the assumption that intelligent life (4)\_\_\_\_\_ form on other [Earth-like] planets like it did on Earth and (5)\_\_\_\_\_ automatically form as a natural part of evolution.

Under the strictest set of assumptions there (6)\_\_\_\_\_ between four and 211 civilisations in the Milky Way today capable of communicating with others, with 36 the most likely figure. The team of researchers add that our civilisation (7)\_\_\_\_\_ need to survive at least another 6,120 years for two-way communication. They believe alien life (8)\_\_\_\_\_ have similarities in appearance to life on Earth and we (9)\_\_\_\_\_ be super shocked by seeing them. They (10)\_\_\_\_\_ be little green men. They (11) \_\_\_\_\_ arrive in a vast spaceship.

Prof Andrew Coates, from University College of London, said the assumptions made by his colleagues were reasonable, but the quest to find life (12)\_\_\_\_\_ to take place closer to home for now. “This new estimate (13)\_\_\_\_\_ be impossible to test using current techniques,” he said. “In the meantime, research on whether we are alone in the universe (14) \_\_\_\_\_ focus on visiting likely objects within our own solar system, for example, missions to Mars. It’s a fascinating time in the search for life elsewhere.”

### **53. Read an extract from the article about Konstantin Tsiolkovsky and answer the questions.**

- What is Tsiolkovsky famous for?
- Was there any new information for you in this text? What information was it?

KONSTANTIN TSIOLKOVSKY is considered the father of spaceflight. Working as a teacher he spent most of his time conducting research on **many** aspects of future space travel and rocket propulsion. In 1903 he published the rocket equation

in a Russian aviation magazine. This equation is the basis of **much** of the spacecraft engineering done today. Though he did not get any financial support, he designed airships, developed the first Russian wind tunnel, and proposed the idea of a fully metal aircraft. The other ideas that Tsiolkovsky proposed included steering rockets in flight with graphite rudders, pumps to drive fuel from storage tanks to the combustion chamber, and the need for pressurised suits which astronauts have to wear outside spacecraft.

His ideas preceded the Space Age by **several** decades, and **some** of his innovations materialised later. He was simply ahead of his time. Shortly before his death, he wrote: “**All** my life I have dreamed that mankind will become at least **a little** more advanced because of my work”. **A few** years after his death leading Russian rocket-engine designer Valentin Glushko and rocket designer Sergey Korolyov studied Tsiolkovsky’s work, and **both** tried and succeeded in turning Tsiolkovsky’s theories into reality. **Every** day, the people who work in the field of space research share new designs, build test models, and try to imagine better ways to explore the vast deep mystery that is outer space.

**54. Look at the words in bold in Exercise 53. What are they called? Can you give more examples of the same class of words?**

**STUDY NOTE.** We call these words **quantifiers**. They come at the beginning of a noun phrase and tell us something about quantity. The most common quantifiers include **all, another, any, both, each, either, enough, every, (a) few, (a) little, no, several, some, many, much, (a) lot(s) of.**

**55. Decide which quantifiers can be used with countable nouns, uncountable nouns or both. Complete the table.**

Uncountable Nouns	Countable Nouns	Countable and uncountable nouns
<i>much</i>	<i>many</i>	

### **56. Complete the rules with can or cannot.**

1. We \_\_\_\_\_ use **many/several/a number of** with countable nouns.
2. We \_\_\_\_\_ use **many/ several/a number of** with uncountable nouns.
3. **Both/neither** \_\_\_\_\_ refer to a group of two.
4. **Little/a little** \_\_\_\_\_ refer to countable nouns.
5. **Most/some/all** \_\_\_\_\_ refer to both countable and uncountable nouns.

### **57. Choose the correct option.**

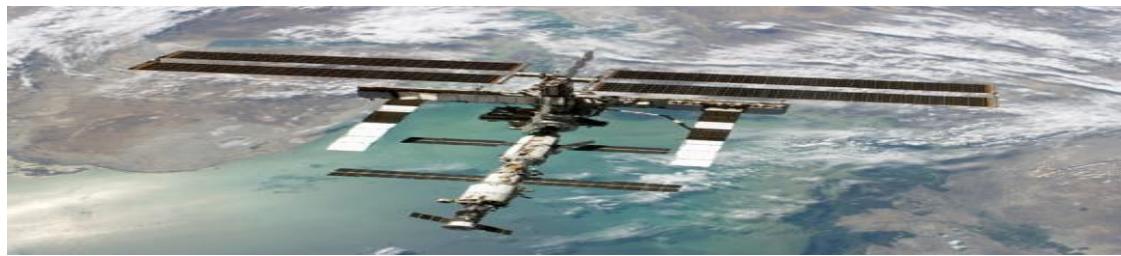
1. I need some/many information. 2. How many/much travel will the job require?
3. Ann and her brother are athletes. They all/both won gold medals. 4. Before setting up your business, ask experienced people for several/some advice. 5. If you need some/a number of cash, use an ATM machine. 6. Do you think there is too many/much sport on TV? 7. Climate is changing as there's too much/little carbon dioxide in the air. 8. How much/many data can the hard drive of your computer store? 9. Her hardware is fine, but she needs to get some/any new software. 10. The customs officer at the airport checked all/every our baggage. 11. We spent many/much time in the hotel room because of the bad weather. 12. Jack is keen on football but unfortunately he has no/few ability to play it. 13. There isn't any/some point in getting upset about it. 14. A number of /a little changes have been made in the test. 15. Every/all student has to fill in the questionnaire.

### **58. Reread texts 6A, 6B, 6C and answer the following questions.**

1. What do you think of the importance of space exploration? 2. Name a few inventions or benefits which resulted from space exploration. 3. Which industries benefit the most from space exploration? 4. How different would be the world without satellites in orbit? 5. What experiments are carried out on board the ISS?
6. What does the abbreviation SETI stand for? 7. What is the aim of SETI Institute? 8. What do you think of the idea of looking for signs of life in space? 9. Name three top key events in the history of space exploration. 10. What are the most important achievements in space research that have been made over the past years?

## CHECK YOURSELF

### 59. The ISS Quiz. *How much do you know about the ISS?*



1. Which word best describes the building of the International Space Station?  
A. Competitive;                           C. Cosmetic;  
B. Collaborative;                         D. Corrosive.
  
2. What does it mean when you say “the ISS was assembled in piecemeal fashion?”  
A. It was put together piece by piece. C. It was put together on an assembly line.  
B. It was put together on Earth and     D. It consists of different modules.  
then sent into space.
  
3. What was the first component of the ISS?  
A. Unity;                                   C. Zarya;  
B. Mir;                                      D. Zvezda.
  
4. Which of the following is true about the ISS?  
A. More than 20 countries have helped build and maintain it.  
B. It proves that space travel is worth the time and effort.  
C. Many scientific experiments are carried out onboard.  
D. The Columbia space shuttle disaster caused delays in its construction.
  
5. Which of the following countries did not participate in the ISS construction?  
A. Brazil;                                   C. China;  
B. Canada;                                 D. Sweden.

6. How do astronauts breathe on board the ISS?

- A. They carry oxygen tanks around with them at all times.
- B. They wear special masks that filter oxygen from the ambient air for them.
- C. They use generators that split water molecules into hydrogen and oxygen.
- D. The space station carries its own very large supply of oxygen.

7. The ISS must be constructed in space because

- A. It is cheaper.
- B. It is easier.
- C. It can only be done in microgravity.
- D. Other blocks are not ready yet.

8. If you wanted to go to the ISS, how would you get there?

- A. On a Soyuz spacecraft;
- B. On a Boeing 767;
- C. On an Apollo module;
- D. On a Voyager spacecraft.

9. If you weighed 100 newtons on Earth, how much would you weigh on the ISS?

- A. 100 newtons;
- B. 10 newtons;
- C. 1 newton;
- D. less than 1 newton.

10. If the ISS closes in 2025, how many years will have passed since the first modules were launched?

- A. 7 years;
- B. 11 years;
- C. 27 years;
- D. 29 years.

**60. Vocabulary Quiz. Choose the best answer a, b, or c.**

1. We need a significant \_\_\_\_\_ of time and energy in order to achieve success.
  - a. spending
  - b. investigation
  - c. investment
2. The government expanded the police force in their \_\_\_\_\_ to reduce crime.
  - a. achievement
  - b. effort
  - c. investigation
3. All employees receive paid holiday. \_\_\_\_\_ , they are offered a range of benefits for children.

- a. therefore      b. nevertheless      c. in addition
4. Good education \_\_\_\_\_ your career prospects.
- a. enhances      b. enlarges      c. incorporates
5. All the texts in this unit \_\_\_\_\_ to space exploration topics.
- a. regard      b. relate      c. respond
6. A recent \_\_\_\_\_ showed that 50 percent of respondents were against investing into space exploration.
- a. survey      b. assessment      c. estimation
7. Trying to be in touch with your friends any minute might \_\_\_\_\_ you from preparing your assignments.
- a. delay      b. destroy      c. distract
8. One of the purposes of the Mars Exploration program was \_\_\_\_\_ if Mars was suitable for life.
- a. to overcome      b. to address      c. to find out
9. The film ‘Attraction’ is about a(n) \_\_\_\_\_ spacecraft that crash-lands in the Chertanovo district of Moscow.
- a. alien      b. foreign      c. overseas
10. The word ‘extraterrestrial’ \_\_\_\_\_ to something coming from a place outside the planet Earth.
- a. relays      b. responds      c. refers
11. When he \_\_\_\_\_ his studies, he will be able to find a better job.
- a. overcomes      b. graduates      c. completes
12. The government set up a commission \_\_\_\_\_ the reasons for the accident.
- a. to overcome      b. to search      c. to investigate
13. The figures show that a number of research projects are \_\_\_\_\_.  
a. along the way    b. underway    c. out of the way
14. The spacecraft carrying a \_\_\_\_\_ of three was launched from Baikonur.
- a. group      b. crew      c. company
15. Online education can be the environment for \_\_\_\_\_ and intellectual development.

a. collaboration    b. coordination    c. collocation

16. Available oxygen (O<sub>2</sub>) is an essential \_\_\_\_\_ for life on other planets.

a. quality              b. property              c. condition

17. Thanks to the Lunokhod program lunar soil \_\_\_\_\_ were successfully brought to Earth to study.

a. tests              b. patterns              c. samples

18. Yuri Gagarin was \_\_\_\_\_ out of 20 other perspective cosmonauts for the first launch.

a. determined      b. selected      c. favoured

**61. Match the descriptions of the meanings of the modal verbs with the examples below.**

ability / possibility / strong command / ability / disbelief / logical deduction / disapproval / necessity / prediction / necessity

1. She can swim. 2. It can't be her. 3. You must do as your father says. 4. It might rain tomorrow. 5. The family should be home soon. 6. It will rain in the North. 7. You must try to get here earlier in the future. 8. You might at least have talked to him. 9. I'm afraid I must be going now. 10. We can see the lake from our bedroom window.

**62. Give the descriptions of the functions of the modal verbs in the examples below. The first letter is given.**

1. Can you please give me a hand? (r.....) 2. May I help you? ( o..... h....) 3. Can I take a day off tomorrow? (a..... f... p...) 4. You should stay in bed. (a.....) 5. You could buy a smaller one. (s.....) 6. Would you like to join us? (i.....) 7. I'm afraid you can't swim here if you are not a member of the club. (r..... p.....) 8. You should learn how to be more polite. ( a.....) 9. You must stop. (c.....) 10. Shall we go to the cinema tonight? (s.....)

*Choose from: offering help, advice, invitation, suggestion, request, asking for permission, refusing permission, command.*

**63. Choose the correct option. Translate the sentences into Russian.**

**A.**

1. We'll (must/have to) be in the office at 8 o'clock. 2. In the morning when I (was/could) (to) meet my future colleagues I felt excited and a bit nervous. 3. Every member of a trade union (must/ may) pay a union membership fee. 4. Why are you late? You (should/had to) have come at 10 a.m. 5. I've got a terrible headache. – You (should/have to) take an aspirin. 6. Don't make so much noise. We (can't/shouldn't) wake up the baby. 7. I'm sorry I didn't come yesterday. I (must/had to) work late. 8. I feel ill. – You (should /would) go home. 9. It (must/may) rain tomorrow. 10. You (can't/mustn't) be tired you've only been working for half an hour. 11. You (mustn't/can't) be rude to your parents. 12. You (should/ought) to eat more fruit and vegetables if you want to be healthy. 13. I (couldn't/ can't) read or write when I was four years old. 14. I was feeling so nervous before the exam that I (could/might) hardly speak. 15. (Can/will) I borrow your pen?

**B.**

1. Our teacher (can/must/may) speak three languages. 2. They (were allowed to/might/had to) take every Friday off last year. 3. Your coat is quite new. You (mustn't/needn't/can't) buy another one. 4. I'd like (to have to/to be able to/ can) play chess. 5. Students (cannot/needn't/ mustn't) interrupt their teachers. 6. I think I'll (must/have to/can) go and explain everything. 7. You (can't/needn't/mustn't) water the plants. I've already watered them. 8. We (might/had to/could) not get the medicine and returned home without it. 9. (Will/must/may) I have your book for a moment? 10. He'll (may/can/be allowed to) drive when he is 18. 11. (Can/may/must) you play the guitar? 12. They live in a huge house and own three cars. They (can't/can/must) be rich. 13. (Will/shall/would you like) I help you to carry the bags? 14. Are you sure you'll (can/be able to/may) get to the bottom of it? 15. He had studied hard so he (had to/was able to/might) answer all the questions in the test.

## MODULE 6 PROGRESS TEST

**Vocabulary.** Decide which answer a, b or c best fits into each gap.

### The Invention of Space Travel

During the first half of the 20th century there was a general (1)\_\_\_\_\_ that space travelling would soon be happening. In the historic (2)\_\_\_\_\_ between America and the Soviet Union the Soviets won the first round when Yuri Gagarin was (3)\_\_\_\_\_ into space on April 12, 1961. He orbited the Earth in his (4)\_\_\_\_\_ Vostok 1, in a flight that lasted under 2 hours.

Other (5)\_\_\_\_\_ demonstrated the sophistication and precision that was possible in modern rocket science. Devices, whether (6)\_\_\_\_\_ , could be sent to explore the solar system, gather data and (7)\_\_\_\_\_ useful samples. It was very much the beginning of a new age, an age of physical reaching-out into the cosmos.

The (8)\_\_\_\_\_ of space continues. The competition has shifted gradually into (9)\_\_\_\_\_ with the US to build the ISS. There are also teams of research astronomers involved in systematic (10)\_\_\_\_\_ to find life elsewhere in the Universe. The project is called SETI, the Search for Extra-Terrestrial Intelligence.

- |                                |                         |                        |
|--------------------------------|-------------------------|------------------------|
| 1 a. exploration               | b. investigation        | c. expectation         |
| 2 a. cooperation               | b. completion           | c. space race          |
| 3 a. launched                  | b. sent                 | c. lifted              |
| 4 a. spacecraft                | b. space rocket         | c. space station       |
| 5 a. assignments               | b. missions             | c. adventures          |
| 6 a. inhabited and uninhabited | b. with and without men | c. manned and unmanned |
| 7 a. maintain                  | b. collect              | c. assess              |
| 8 a. exploration               | b. examination          | c. survey              |
| 9 a. relations                 | b. race                 | c. collaboration       |

- 10 a. tries                    b. efforts                    c. samples

**Grammar. Decide which answer a, b or c best fits into each gap.**

1. He \_\_\_\_\_ see the doctor last week because he was very ill.  
a. must                    b. must have                    c. had to
2. I \_\_\_\_\_ that bicycle because I didn't have space in the car for it.  
a. couldn't take            b. cannot take                    c. can't have  
taken
3. You \_\_\_\_\_ me about it. It wasn't nice to hear the truth from somebody else.  
a. can have told            b. could have                    c. could tell  
told
4. I \_\_\_\_\_ stop reading. It's too dark here.  
a. can                    b. have to                    c. am to
5. The meeting \_\_\_\_\_ at 4 p.m. but the professor didn't show up.  
a. was to have            b. had to start                    c. was to start  
started
6. Soon home appliances \_\_\_\_\_ to report any breakdowns for repair.  
a. might be able            b. will have                    c. must be able
7. The secretary can prepare the report. You \_\_\_\_\_ it.  
a. don't have to do            b. mustn't do                    c. can't do
8. You \_\_\_\_\_ stay in hospital! You haven't recovered yet.  
a. can                    b. should                    c. may
9. Marconi was an Italian inventor and engineer who \_\_\_\_\_ broadcast the first transatlantic radio signal.  
a. could                    b. was able to                    c. was to
10. Some people fear that AI \_\_\_\_\_ replace humans in a few years.  
a. should                    b. ought to                    c. will

## END OF THE YEAR GRAMMAR TEST

1. "How long does it take you to write the thesis?" "By May I.....on this one for 3 weeks."	13. "Have you ever been to Hungary?" "Yes, I..... there last year."
a. will worked b. will have been working c. will work d. will be working	a. have gone b. have been going c. went d. have been
2. "Why is Peter so upset?" "He.....problems at work lately."	14. He hasn't left the laboratory..... . a. already b. before c. just d. yet
a. was having b. 'll be having c. has been having d. will have	15. We ..... be going to China this spring, but we're not sure yet. a. might b.must c. would d. can
3. I'm afraid I .....to come to the meeting. a. can't b. won't c. won't be able d. don't	16. Voronezh,..... my father was brought up, is a beautiful city.
4. When I was a child I.....cycling every day. a. had gone b. used to go c. was going d. have gone	a. which in b. where c. that d. which
5. She..... for 12 hours before she finished everything. a. 'd been studying b. 's been studying c. is studying d. has studied	17. "My books are wet from the rain." "You.....the windows!" a. shouldn't have shut b. must have shut c. would have shut d. should have shut
6. What .....at 9 am yesterday? a. have you done b. were you doing c. have you been doing d. had you done	18. Do you know .....that man sitting near Allan is? a. who's b. which c. whose d. who
7. "How long have you been staying here?" "..... 3 months." a. – b. For	19. Did you play tennis yesterday?" "Yes, we did .....the rain." a. however b. despite

c. From	d. Since	c. in spite	d. although
8. "Have you ever eaten lobster?"	"Yes. I ..... once."	20. She said that her Dad.....a new car.	
a. eat	b. ate	a. was going to buy	b. will buy
c. have been eating	d. have	c. would have bought	d. is going to buy
9. "She looks slimmer." "Yes, she.....8 kilos."		21. You can't leave the lab ..... you finish the experiment.	
a. have been losing	b. lost	a. by the time	b. before
c. has lost	d. have lost	c. while	d. during
10. ....I help you with the drawing?		22. Dan asked Mary when .....finish the task.	
a. Will	b. Am	a. would she	b. she had
c. Shall	d. Have	c. will she	d. she would
11. "What's Alex doing? He must....."		23. The scooter has a bad battery. You shouldn't.....it.	
a. to be reading.	b. reading.	a. buying	b. to buy
c. have read.	d. be reading.	c. bought	d. have bought
12. She works ..... than anyone else in the world!		24. How long .... here?	
a. slowly	b. slowest	a. you study	b. do you study
c. slower	d. more slow	c. have you studied	d. are you studying

### Glossary of grammar terms

**Active Voice** - активный залог - форма глагола которая означает, что подлежащее само совершает действие.

**Adjectives** - прилагательные - слова, которые описывают существительные или местоимения.

**Adverbs** - наречия - описывают или дают дополнительную информацию о

глаголе, прилагательном, причастии.

**Adverbial Modifier** - обстоятельство - второстепенный член предложения, который описывает как, когда, при каких обстоятельствах и. т. д. совершается действие.

**Adverbial Clause** - обстоятельственное придаточное предложение – выполняет в сложном предложении функцию различных обстоятельств, даёт информацию о том, каким образом, когда и. т. д. происходит действие главного предложения.

**Adverbial Clause of Time** - придаточное предложение времени - описывает, когда происходит действие главного предложения и присоединяется связующими словами: до тех пор; как только; однажды; до того как; к моменту; когда и т. д.

**Adverbial Clause of Reason/Cause** - придаточное предложение причины - указывает причину, объясняющую почему происходит действие главного предложения, и присоединяется связующими словами: поскольку; из-за; по причине и. т. д.

**Adverbial Clause of Purpose** - придаточное предложение цели - выражает цель действия главного предложения и присоединяется связующими словами: для того, чтобы; с целью, и. т. д.

**Adverbial Clause of Concession** - придаточное предложение уступительное - выражает контраст с главным предложением и присоединяется связующими словами: хотя; несмотря на и. т. д.

**Antonym** - антоним - слово, имеющее значение, противоположное другому слову.

**Articles** - артикли - главные определители существительного.

**Attribute** - определение - обозначает качество или характеристику.

**Auxiliary verbs** - вспомогательные глаголы - передают дополнительную грамматическую и семантическую информацию в сочетании со смысловыми (главными) глаголами.

**Clause** - часть предложения - группа слов, содержащая подлежащее и

сказуемое

**Collocation** - типичное словосочетание - слово или фраза, которая часто используется с другим словом или фразой.

**Common Nouns** - имена нарицательные - существительные, которые являются названием группы похожих вещей, таких как “стол” или “книга”.

**Comparative and Superlative Adjectives** - прилагательные в **сравнительной степени** сравнивают человека или предмет с другим человеком или предметом; прилагательные в **превосходной степени** сравнивают человека или вещь со всей группой, членом которой является этот человек или предмет.

**Compound Sentence** - сложносочиненное предложение - состоит из равных простых предложений, не зависящих друг от друга.

**Complex Sentence** - сложноподчиненное предложение - состоит из неравноправных предложений, то есть одно предложение является главным (**Main Clause**), а другое зависимым (**Subordinate Clause**). Придаточное присоединяется к главному с помощью союзов и союзных слов (**Linking Words**).

**Conditional Sentence** - условное предложение - рассматривает воображаемые или неопределенные ситуации и возможные результаты этих ситуаций.

**Countable Nouns** - исчисляемые существительные - класс существительных, которые относятся к предметам, рассматриваемым, как отдельные, которые можно сосчитать.

**Defining / Non-defining Relative Clause** - индивидуализирующее (defining) придаточное предложение дает необходимую информацию и играет важную роль в основном предложении. Описательное (non-defining) придаточное предложение дает дополнительную информацию, несущественную для значения основного предложения.

**Determiners** - определители существительного, например, артикли, притяжательные местоимения, и т. д.

**Direct Object** - прямое дополнение обозначает лицо или предмет, на которые

непосредственно переходит действие глагола.

**Direct Speech** - прямая речь - речь человека передается буквально так, как она была произнесена. Обозначается на письме кавычками.

**Gerund** - слово, оканчивающееся на «-ing», образованное от глагола и употребляемое как существительное, выражает название действия и обладает как свойствами существительного, так и свойствами глагола.

**Idiom** - идиома - группа слов в фиксированном порядке, которые имеют определенное значение, отличное от значений каждого слова в отдельности.

**Imperative Clause** - повелительное предложение - выражает команды, инструкции или приказы.

**Indirect Object** - косвенное беспредложное дополнение - соответствует в русском языке косвенному дополнению в дательном падеже без предлога.

**Indirect (Reported) speech** - косвенная речь - передает содержание сказанного, а не точные слова.

**Infinitive** - инфинитив - неличная форма глагола, которая только называет действие, но не указывает ни лица, ни числа.

**Linking Words** - связующие слова - связывают придаточное предложение с главным предложением.

**Main clause** - главное предложение - группа слов, которая может существовать самостоятельно.

**Modal Verbs** - модальные глаголы - глаголы, которые не называют действие, а используются с другими глаголами для выражения таких значений, как: наличие способности; совет; критика; логические предположения; необходимость; предложение; обязательство; запрет, просьба и. т. д.,

**Nouns** - существительные - слова, относящиеся к человеку, месту, вещи, событию, сущности или качеству.

**Participle** - причастие - безличная форма глагола, которая может использоваться как прилагательное или наречие.

**Parts of Speech** - части речи – основные грамматические категории слов такие как глагол, прилагательное, наречие, числительное, местоимение,

предлог, союз, междометие.

**Passive Voice** – страдательный залог - форма глагола, которая означает, что подлежащее является лицом (или предметом) подвергающимся действию.

**Possessive 's** - притяжательный падеж, обозначает принадлежность.

**Predicate Clause** - придаточное предложение сказуемое.

**Pronouns** - местоимения - группа слов, заменяющих существительные.

**Prepositions** - предлоги - служебные слова, которые служат для связи слов в предложении или словосочетании.

**Proper Nouns** - имена собственные - обозначают имена, фамилии, названия стран, городов, морей и т.д.

**Relative (Attributive) Subordinate Clause** - относительное (определительное) придаточное предложение. В составе сложного предложения определяют или идентифицируют лицо или предмет, о котором идет речь.

**Relative pronouns** - относительные местоимения - присоединяют определительное придаточное к главному предложению.

**Sequence of Tenses** - согласование времен - заключается в том, что если в главном предложении глагол стоит в прошедшем времени, то и в придаточном предложении глагол должен употребляться в одном из прошедших времен.

**Sentence** - предложение - грамматически организованное соединение слов, обладающее смысловой и интонационной законченностью.

**Subject** - подлежащее - главный член предложения, обозначающий предмет, которому приписывается действие, обозначаемое сказуемым.

**Subject Clause** - придаточное предложение подлежащее.

**Subordinate Clause** - придаточное предложение - является зависимой частью главного предложения в сложноподчиненном предложении.

**Synonym** - синоним - слово или фраза, имеющая такое же или почти такое же значение, как и другое слово или фраза на том же языке.

**Tense** - время (грамматическая категория) - мы используем различные глагольные времена, чтобы выразить настоящее, прошедшее, будущее.

**Verbs** - глаголы - слова, обозначающие действия или состояния лица или предмета.

**Voice** - залог – формы залога показывают, является ли подлежащее лицом (или предметом) совершающим действие, или лицом или предметом, которое подвергается действию.

**Uncountable Nouns** - неисчисляемые существительные - не имеют различия между единственным и множественным числом, и их нельзя сосчитать, разделить.

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### **ИНТЕРНЕТ-ИСТОЧНИКИ**

- |          |           |            |      |
|----------|-----------|------------|------|
| 1. Extra | Listening | Materials. | URL: |
|----------|-----------|------------|------|
- //<https://www.bbc.co.uk/learningenglish/features/6-minute-english/>)
- |   |      |
|---|------|
| 2. Materials for extra reading and preparing for discussions and presentations. | URL: |
|---|------|
- //<https://breakingnewsenglish.com/> ; <https://www.britannica.com/>
- |                               |      |
|-------------------------------|------|
| 3. The history of inventions. | URL: |
|-------------------------------|------|
- //<https://www.britannica.com/technology>.  
<https://www.bbc.com/news/technology/>
- |                       |      |
|-----------------------|------|
| 4. Online dictionary. | URL: |
|-----------------------|------|
- //<https://dictionary.cambridge.org/ru/>

### PRACTICAL SKILLS

#### MODULE 1

#### MAKING A PRESENTATION

##### HOW TO PREPARE A TALK. SOME TIPS.

- Introduce your topic and explain why you think it is important. Some experts say this is the most important part of your talk: you either get your audience's attention or you don't.
- In the main part choose the way of listing your ideas (chronological, the order of importance, problem-solution, compare-contrast, cause-effect, analytical, logical) and follow this plan. Use linking words and signposting expressions that help the audience to follow you.
- Think of some effective conclusion. Make a good last impression. Don't forget that last impressions are as important as first impressions.
- Make use of some of the following words and word combinations:

Introduction:      ➤ I'm going to talk about ...  
                        ➤ The subject of my talk is...  
                        ➤ The topic is of particular interest to us because ...  
                        ➤ By the end of this talk you will be familiar with...  
                        ➤ First (first and foremost), second , third... last but not least  
                        ➤ First, next, then, after that, finally...  
                        ➤ On the one hand/ on the other hand

Main Part:      ➤ And, in addition, besides, also, on the whole, so...  
                        ➤ Like/unlike, for example, in fact, such as...  
                        ➤ To sum up, I'd like to say that...  
                        ➤ In conclusion, let me summarize the main points of my talk...

## Conclusion:

Remember: To give an effective talk you need to prepare well. Learn your text by heart and try to keep eye contact with your audience while you speak.

If possible, prepare and use some visual aids: charts, graphs, slides, pictures etc.

## LINKING WORDS

### 1. Ordering ideas.

First, at first, first of all, at the beginning, to begin with

Second, secondly

Next, further on, then

Finally, lastly, at last, in conclusion, in the end

### 2. Adding information.

In addition, consequently, as a consequence, accordingly, therefore, moreover, furthermore, also, again, likewise, similarly, besides, now

### 3. Contrasting.

However, still, yet, on the contrary, in (by) contrast, conversely, alternatively, rather, on the one hand, on the other hand, nevertheless, otherwise

### 4. Concluding.

Hence, thus, as a result, in brief, in short, briefly, in a few words, to sum up

## *Presentation design*



- It is not necessary to fill one slide with too much information: a person on average can remember at most three facts, conclusions, definitions at a time.
- One slide is calculated on average for 1.5-2 minutes.

- To achieve the greatest efficiency, key points are displayed one on each separate slide.
- It is desirable to have blocks with different types of information on the slide (text, graphs, charts, tables, pictures) that complement each other.
- Headlines should be concise and attract the attention of the audience.
- In text blocks, you must use short words and sentences.
- It is recommended to minimise the number of prepositions, adverbs, adjectives.
- It is recommended to use a minimum of rows and columns in the tables.
- All verbal information should be carefully checked for spelling, grammatical and stylistic errors.



## MODULE 2

### HOW TO WRITE A SUMMARY

**The ability** to write an effective summary might be the most important writing skill a college/ university student can possess. You need to be able to summarize before you can be successful at most of the other kinds of writing that will be demanded of you in college/ university, and it is an important part of note taking, too. Writing a good summary demonstrates that you clearly understand a text and that you can communicate your understanding to your readers.

**A summary** expresses the most important facts and ideas of a text or an article in a short and clear form. It should be expository i.e. it shouldn't include opinions and judgments. It is an objective condensation of the author's ideas. It should include major points and support for each of these points. It should be smooth and logical.

A good summary should:

- Answer the question what the author or speaker is really saying?

- Convey the speaker's or author's message.
- Be written as a coherent (связный, понятный), unified text.

### **Writing a summary.**

1. Read and understand the text. Try to understand the main purpose of the author (message). It should be pointed out in the introductory sentence.
2. Underline the important points/subpoins.
3. Make a list of these points in your own words.
4. Work out a logical sequence for the listed words.
5. Write the summary linking the key points together.

### **Possible outline.**

- 1**-the topic
- 2**– the problem and its topicality
- 3-5**– the main points of the article (here some of the author's examples can be mentioned)
- 6**– the author's conclusion (not your own)

### **Useful expressions:**

- The text (article) under review is about...(or gives the information about)
- The article deals with the problem...
- The subject of this text is...
- At the beginning the author describes...(explains, touches upon, analyses, comments
- The article begins with the description of....
- The article opens with...
- Then (next, after that, further on) the author describes, passes on to..., gives a detailed (thorough) analysis (description), goes on to say that...
- To finish with, the author points out...
- At the end of the article the author comes to the conclusion that..., sums it all up by saying...

- In conclusion the author...

**Sample Summary.** *Read the summary of text B from this unit and put some of the expressions from the list above to complete this summary.*

The article ‘Air Pollution and Intelligence’ \_\_\_\_\_ about how pollution affects intelligence. \_\_\_\_\_ the author \_\_\_\_\_ research conducted for the WHO that showed that pollution was responsible for the worse students’ test results in language and arithmetic. \_\_\_\_\_ on/\_\_\_\_\_, the author \_\_\_\_\_ that polluted air impedes cognitive ability and \_\_\_\_\_ some examples to prove his point of view. \_\_\_\_\_ the author \_\_\_\_\_ that governments need to take measures to reduce air pollution as it is one of the worst forms of pollution

## MODULE 3

### EXPLAINING HOW SOMETHING WORKS

*Describing how something works.*

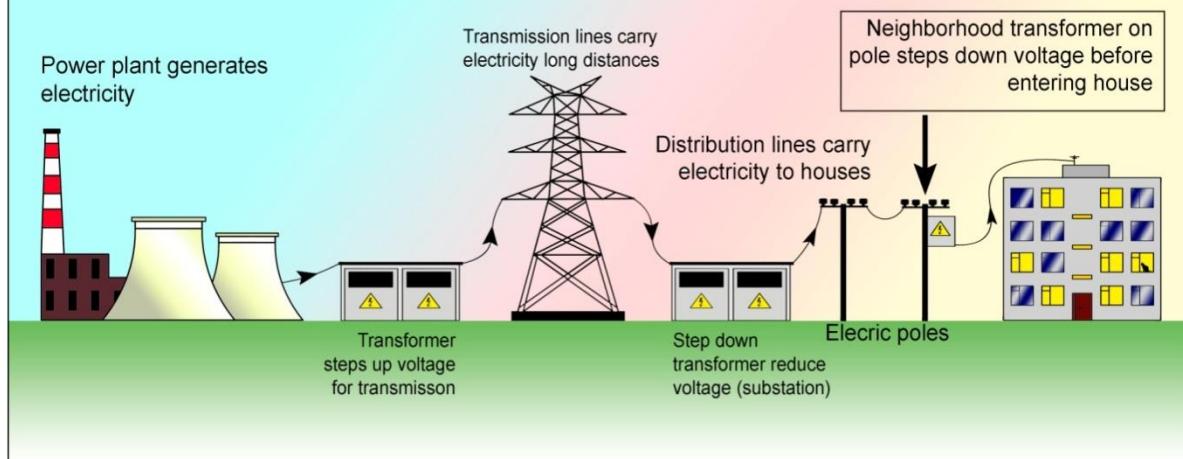
- *Study the diagram.*
- *Begin with an introductory sentence, summarising the whole process.*
- *Describe each stage.*
- *Use the Present Simple Tense. Passive construction is the most appropriate. But try not to overuse the passive.*

*Do you know how electricity gets to your home?*

Have you ever considered how electricity gets to your home? Hopefully, your answer is ‘yes’. But most people never stop to think about where their electricity comes from, while understanding the electricity generation process keeps us from taking it for granted. Power doesn’t happen by magic, but through technology. Do you know how this technology works? Label the components of the power grid. Describe this process - from how it’s generated to how it reaches your light switch.

- a. power plant    b. transformer    c. transmission line    d. transformer
- e. distribution line    f. neighbourhood transformer

# Transporting electricity



## Useful words

adjusts the voltage

running and supplying electricity

take electricity

overhead and underground wires

transmission network

distribution network

lowers the voltage of the power

is converted into circuits

the electricity passes through the wires

light sockets, and switches

to receive our energy

fuel sources

## Now watch the video



Transformers - How does electricity reach our home\_.mp4

[https://www.youtube.com/watch?v=4ZHd\\_Bqz-TA](https://www.youtube.com/watch?v=4ZHd_Bqz-TA)

After watching give more details about the process.

## Now read the passage and find five factual mistakes.

The transformer usually consists of an iron core. The sides of the iron core are wrapped up with a coil, termed as *primary winding* and *secondary winding*. For a stepdown transformer, the primary winding has less turns than the secondary winding. Now when a high DC Voltage is given at the input, it excites the primary winding. After this excitation, alternating current circulates the winding and

creates an alternating magnetic flux, which passes through the superconducting iron core. This alternating magnetic flux induces a voltage in the secondary winding. Since the number of turns in the secondary winding is higher, the induced voltage will be high. So, without making an electrical contact, the voltage in the primary winding is transferred to the secondary winding. Conversely, for a step up transformer, the number of winding turns in the primary winding is less compared to the secondary winding. In our daily lives, transformers are everywhere: from the utility provider lines to the mobile phone chargers.

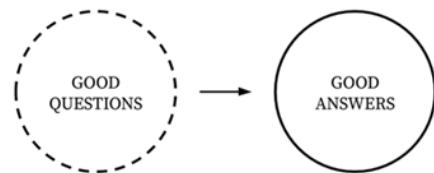
## MODULE 4

### HOW TO ASK GOOD QUESTIONS

*Read the quotes below. Do you agree with the authors' opinions? Why?*

“Judge a man by his questions, not by his answers.” **Voltaire**

“If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes.” **Albert Einstein**



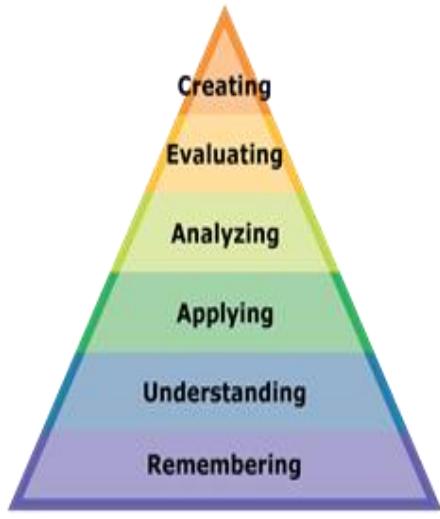
#### Why

Questions play a very important role in language learning. In this course you are supposed to ask and answer a lot of questions, to learn to participate in discussions and questionnaires. The ability to ask good questions could be beneficial personally and professionally as it unlocks learning and improves social skills. Some authors compare asking questions with opening the right doors to see what's behind.

## A few tips

- 1.Think carefully before you ask your question, decide what you want to know. One way to improve your question is to ask it to yourself out loud. That will give you an idea what question type you should use. Are you looking for specific facts, for an explanation, for an opinion?
- 2.Ask more *open* questions, which don't usually have one single answer but involve giving opinions, predicting, summarising.
3. If you have a conversation, try to think of some questions that will allow you to control the conversation.
- 4.In a conversation try not to go off-topic, listen to the answers genuinely and react in different ways (e.g. remarks, body language) to what your partners say.
- 5.Don't be afraid to ask stupid questions, you might get a clever answer. Show that you really want to understand what other people are talking about.
6. When asking questions in a foreign language, double check your grammar or you might be misunderstood.
- 7.While learning, you can also think about asking questions of different types to yourself.

One of the most well-known ways to categorise questions is according to Bloom's Taxonomy. To learn effectively, you should regularly ask and answer questions which relate to all the levels of the range.



*For example:*

**Remember:** *When was TV invented?*

**Understand:** *How did people feel about this invention?*

**Apply:** *How would you have felt about TV then.*

**Analyse:** *How did the life of people change with the appearance of television?*

**Evaluate:** *Was television an invention which really changed people's life for the better?*

**Create:** *Write a timeline of the history of television for your younger brother or sister.*

**Decide which of the recommendations below can be considered 'good' or 'bad' tip to make questions.**

- 1 Ask vague questions, if you don't know what to ask.
- 2 Ask complex questions, they will make you look smarter.
- 3 Try to keep question text as short as possible.
- 4 Ask 'easy' questions that focus on trivial information or can be answered by just lifting some words from a text. E.g.: *John got up early. Did John get up early?*
- 5 Create questions that require thought.
- 6 Focus on one item in each question.
- 7 If you need your conversation to go to a deeper level (you argue or need to take a decision) you might want to ask questions about how the other person relates to the subject and why.
- 8 Ask closed questions, which have one correct answer.
- 9 Only ask relevant questions.
- 10 Add positive feedback.

## **And last but not least, how to give good answers?**

***When you answer your teacher's or your groupmates' questions also think about***

- What do you mean by what you say?
- How does that relate to the question?
- Why do you think that?
- What evidence do you have for that?
- How can you justify what you have said?
- Why should we accept your answer?

## **MODULE 5**

### **HOW TO READ THE RIGHT WAY**

#### **Why?**

Do you agree with the opinion that your approach to reading should be different depending on the type of the text and your purpose of reading? For example, in order to understand academic texts, which sometimes contain large bodies of information, you do not always need to read them from beginning to end, rather you need to learn to apply different reading techniques for different contexts. Different reading techniques will allow you to read in a more selective and focused manner, which in turn, may reduce the overall amount of time that you spend on reading.

#### **1. Scanning - looking over material quite quickly in order to pick out specific information.**

When using this technique, you should:

- Decide what keywords you need to look for before you start reading.
- While reading, let your eyes move quickly over the page and try to pick out the keywords rather than focusing on the meaning of individual sentences.
- When you see relevant words, stop and read more closely (but only if needed).

## **2. Skimming (or reading for gist) - reading something fairly quickly in order to get the general idea.**

This reading technique can save you hours of reading! You will not read every word, as it involves a quick preview of a reading by skimming through the sections. For example, you could try:

- Read the chapter overview or table of contents to get a good idea of the topics being covered in the text.
- Notice the headings and other typographical points such as the: abstract, headings, intro, keywords, bibliography, index etc. These will give you a good indication of the points that the author discusses.
- Read the first (topic) sentence and last (concluding) sentence of a paragraph because these usually contain the main message of the paragraph.
- Quickly read over any sentences containing emphasised points, such as bold or italic type font styles that stand out.
- When you find information that might be useful, stop and read the entire sentence to see if it is relevant. Try to resist the urge to read unnecessary details as it is important to continue on with your skim reading.

## **3. In-depth reading (or close reading) - reading something in detail.**

This particular technique takes time, but using the first two techniques lets you identify the main ideas from a source reading. Doing this allows you to focus on the information that specifically relates to your study purpose.

Depending on your study purpose, this technique can be applied to a few sentences, a few paragraphs, or an entire reading. Here you are seeking to *understand* the text by looking at the relationships, connections, common themes, or points of difference, etc. There are many different strategies that you can use for in-depth reading.

### **Reading Techniques Quiz**

***Match up the reading tasks with the most appropriate reading technique.***

Which technique should you use when ...

- 1 looking for detailed information about a specific topic?
- 2 doing an early search for relevant sources to read and cite in your writing?
- 3 when you have found a possible source and need to decide whether or not it is worth reading any further?
- 4 for understanding a difficult section of text?
- 5 for finding an answer to a particular question?
- 6 you need to understand the relationship between one text and other literature on related topics?
- 7 when you are short of time but realise that one of your assignments needs to be supported by a relevant source?
- 8 you are revising readings that you are familiar with?

## **MODULE 6**

### **MAKING NOTES**

#### **Why?**

University requires active learning. Making notes will activate your thought process. Noting down your thoughts and questions before you read or listen, making notes while you read or listen and then adding further notes and comments will help you not only to understand and memorise the information but also to engage critically with it.

***Which of the following purposes of making notes have you been using or think you are going to use in the future?***

**To remember:** recording ideas when you read, write or think about a certain topic.

**To generate ideas:** brainstorming on paper, for example using a mind map.



**To understand:** using notes to help you understand a complicated idea or text.

**To plan:** reordering your notes into a hierarchy or outline.

### Note-making formats

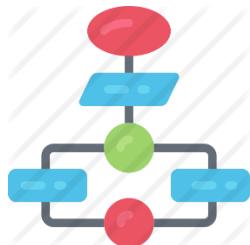
You can employ your own style of note-making. There are as many note-making systems as there are note-makers. Some well-known formats for notes are:

**Freeform:** you simply write down items without any pattern.

**List:** a number of connected items or names written or printed consecutively, typically one below the other.

**Table:** a set of facts or figures systematically displayed.

**Flowchart:** a type of diagram that represents a workflow or process.



**Concept map or mind map:** a diagram in which information is represented visually, usually with a central idea placed in the middle and associated ideas arranged around it.

Today you also have a choice between pen and paper to make notes or computer based or digital way of making notes. There is a wide range of software available for note-making. The programmes can be categorized as hierarchical, concept-mapping, database, hybrid. Computer-based note-making makes it easy to organise

large amounts of information, while paper-based note-making is cheap and has no constrictions.

Task. Use one of the note-making formats to make notes on Text A in Module 6.

## APPENDIX 2

### Irregular verbs

1 форма (Present)	2 форма (Past simple)	3 форма (Past participle)	Перевод
be	was / were	been	быть
become	became	become	становиться
begin	began	begun	начинать
break	broke	broken	ломать
bring	brought	brought	приносить
build	built	built	строить
buy	bought	bought	покупать
can	could	—	мочь
catch	caught	caught	поймать
choose	chose	chosen	выбирать
come	came	come	прийти
cost	cost	cost	стоить
cut	cut	cut	резать

do	did	done	делать
drink	drank	drunk	пить
drive	drove	driven	водить
eat	ate	eaten	есть
fall	fell	fallen	падать
feel	felt	felt	чувствовать
find	found	found	искать
fly	flew	flown	летать
forget	forgot	forgotten	забывать
get	got	got	получать
give	gave	given	давать
go	went	gone	ходить
have	had	had	иметь
hear	heard	heard	слушать
hit	hit	hit	ударить
keep	kept	kept	держать
know	knew	known	знать
leave	left	left	уходить
lose	lost	lost	терять
make	made	made	делать

meet	met	met	встречать
mean	meant	meant	означать
pay	paid	paid	платить
put	put	put	класть
read	read	read	читать
run	ran	run	бежать
say	said	said	сказать
see	saw	seen	видеть
send	sent	sent	отправлять
sing	sang	sung	петь
shoot	shot	shot	стрелять
sit	sat	sat	сидеть
sleep	slept	slept	спать
speak	spoke	spoken	говорить
spend	spent	spent	проводить
stand	stood	stood	стоять
swim	swam	swum	плавать
teach	taught	taught	учить
take	took	taken	брать
tell	told	told	рассказывать

think	thought	thought	думать
understand	understood	understood	понимать
wake	woke	woken	будить
wear	wore	worn	носить
win	won	won	выигрывать
write	wrote	written	писать

### APPENDIX 3

## Грамматический справочник

1. Части речи. Степени сравнения прилагательного. Порядок слов.
2. Времена английского глагола.
3. Пассивный залог
4. Согласование времен. Косвенная речь.
5. Сложноподчиненное предложение. Виды придаточных предложений.
6. Модальные глаголы.

## Модули 1-3



Parts of Speech

В английском языке различаются следующие части речи: Существительные (nouns), глаголы (verbs), прилагательные (adjectives), наречия (adverbs),

числительные (numerals), предлоги (prepositions), местоимения (pronouns), артикли (articles), союзы (conjunctions) и междометия (interjections). Существительные, глаголы, прилагательные, наречия, числительные являются самостоятельными частями речи, а предлоги, местоимения, артикли, союзы и междометия являются служебными частями речи.

Многие слова могут принадлежать более чем к одному классу слов. Например, слово “book” может использоваться как существительное или как глагол; “fast” может использоваться как прилагательное или наречие:

*It's an interesting book.* (noun)

*We ought to book a holiday soon.* (verb)

*He loves fast cars.* (adjective)

*Don't drive so fast!* (adverb)

### **Noun ( Имя существительное)**

#### ***Собственные и нарицательные существительные (Proper and Common Nouns)***

Имя собственное (Proper Noun) - это имя конкретного человека, места или объекта, которое пишется с заглавной буквы, а нарицательное существительное (Common Noun) - существительное, которое является названием группы похожих вещей, таких как: “стол” или “книга”.

#### ***Исчисляемые и неисчисляемые (Countable and uncountable)***

Определенный класс существительных относятся к предметам, рассматриваемым, как отдельные, которые можно сосчитать. Они называются исчисляемыми (countable) существительными: *a book, three books; my uncle, my two uncles; a town, several small towns.*

Исчисляемые существительные могут быть единственного или множественного числа. Их можно употреблять с неопределенным артиклем, числительными и другими определителями:

*She's got two sisters and a younger brother.* - У нее две сестры и младший брат.

Другой класс существительных называют неисчисляемыми существительными, например, существительные, обозначающие:

1. идеи и опыт: *advice, information, progress, news, luck, fun, work* (совет, информация, успехи, новости, удача, веселье, работа)
2. материалы и вещества: *water, rice, cement, gold, milk* (вода, рис, цемент, золото, молоко).
3. понятия, связанные с погодой: *weather, thunder, lightning, rain, snow* (погода, гром, молния, дождь, снег).
4. названия групп или коллекций вещей: *furniture, equipment, rubbish, luggage* (мебель, оборудование, мусор, багаж).
5. другие распространенные неисчислимые существительные: *accommodation, baggage, homework, knowledge, money, permission, research, traffic, travel* (проживание, багаж, домашнее задание, знания, деньги, разрешение, исследования, движение, путешествия).

Эти существительные не употребляются с неопределенным артиклем, числами и во множественном числе.

*We're going to buy new furniture.* - Мы собираемся купить новую мебель.

*We had terrible weather last week.* - На прошлой неделе у нас была ужасная погода.

Некоторые существительные имеют только форму множественного числа: *shorts, pants, pajamas, glasses, binoculars, scissors* (шорты, штаны, пижамы, очки, бинокли, ножницы).

*I bought two pairs of trousers.* - Я купила две пары брюк.

### ***Притяжательный падеж (Possessive case)***

Притяжательный падеж служит определением к другому существительному и отвечает на вопрос ***Whose? (Чей?)***.

Мы используем 's после существительного в единственном числе и ' после

существительного во множественном числе.

*Единственное число- singular noun+ 's: The sister's room. – Комната сестры.*

*Множественное число-plural noun+ 's: The sisters' room. - Комната сестёр.*

Мы используем с некоторыми существительными во множественном числе 's например, *children, men, people, women*): дети, мужчины, люди, женщины):

*The children's parents decided which university they would go to.*

Spoken English (Разговорный английский):

Когда мы говорим о местах, которые знакомы и говорящему, и слушателю, мы иногда не используем существительное после существительных в притяжательном падеже:

*the hairdresser's salon – the hairdresser's; the doctor's surgery – the doctor's*

*We had to take our cat to the vet's twice last month. - В прошлом месяце нам дважды приходилось водить кошку к ветеринару.*

### ***Определители существительного (Determinatives)***

1. указательные местоимения (this, these, that, those – этот, эти, тот, те)
2. притяжательные местоимения (my, his, her, its, our, your, their - мой, его, ее, ее, наш, ваш, их)
3. существительные в притяжательном падеже (Peter's father – отец Петера)
4. неопределенные местоимения (much, many, little, few, some, any, each, every, either, neither - много, мало, некоторые, любой, каждый, ни один)
5. вопросительные местоимения (what, which, whose - что, чей)

### **Adjective**

Имя прилагательное

Степени  
сравнения

## Degrees of Comparison

Имена прилагательные образуют, как и в русском языке, две степени сравнения: сравнительную (the Comparative Degree) и превосходную (the Superlative Degree). Основная форма прилагательного не выражает сравнения и называется положительной степенью (the Positive Degree)

### Односложные прилагательные (*big, cold, hot, long, nice, old, tall, etc.*)

1) Для того, чтобы образовать сравнительную степень односложных прилагательных, а также двусложных прилагательных, оканчивающихся на -e, -er, -ow, мы используем суффикс **-er**.

*It's colder today than yesterday.*

*It was a longer holiday than the one we had last year.*

*Sasha is older than Mark.*

Превосходная степень образуется путем прибавления суффикса **-est**. Мы обычно ставим определенный artikel *the* перед прилагательным в превосходной степени.

*I think that's the biggest apple I've ever seen!*

*At one time, the Empire State building in New York was the tallest building in the world.*

*They have three boys. Richard is the oldest and Simon is the youngest.*

Положительная степень Positive Degree	Сравнительная степень Comparative Degree	Превосходная степень Superlative Degree
sharp	sharper	sharpest
cold	colder	coldest

deep	deeper	deepest
dirty narrow	dirtier narrower	dirtiest narrowest

2) Большинство прилагательных двусложных, а также прилагательные, состоящие из трех и более слов, образуют сравнительную степень при помощи слова **more**, а в превосходной степени – **most**.

Положительная степень Positive Degree	Сравнительная степень Comparative Degree	Превосходная степень Superlative Degree
active	more active	most active
famous	more famous	most famous
comfortable	more comfortable	most comfortable
difficult	more difficult	most difficult

3) Некоторые прилагательные образуют степени сравнения от другого корня.

Положительная степень Positive Degree	Сравнительная степень Comparative degree	Превосходная степень Superlative Degree
--	---	--

Good	Better	the best
Bad	Worse	the worst
Little	Less	the least
much, many	More	most
Far	farther further	the farthest the furthest

*Farther, the farthest и further the furthest* употребляются параллельно для обозначения расстояния.

*Further* – также употребляется в значении *дальнейший*.

*Please send the books back without further delay.* - Пожалуйста, отошлите книги без дальнейшей задержки.

Мы можем усилить или подчеркнуть сравнительное прилагательное, используя такие слова, как *much, a lot, far, even or rather*.

*This food is **much better** than the food we had yesterday.*

*The town is **a lot more crowded** these days because of the new shopping centre.*

*Alex is **far less intelligent** than the other kids in the class.*

*We've been **busier than ever** at work this last month or so.*

Мы используем *than*, когда упоминаем второго человека или предмет в сравнении. Если второе упомянутое лицо принимает форму личного местоимения, мы обычно используем объектную форму местоимения (*me, you, him, her, us, them*).

*Could you carry this? You're stronger **than me**.*

*Why did you choose Robert? Marie is more experienced **than him**.*

Мы можем также усилить прилагательное в превосходной степени с помощью *by far*, *easily* или *of all*.

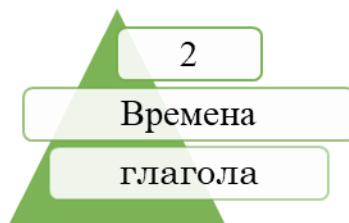
*This method is by far the least complicated.*

*She's easily the best dancer in the group. No one is as elegant as her.*

*There were a number of excellent poems entered for the competition, but the best poem of all was written by a ten-year-old boy.*

## Verb (Глагол)

Глагол в английском языке как и в русском, это часть речи, которая обозначает состояние или действие предмета и отвечает на вопрос ‘что делать?’ Глагольные времена делятся на четыре группы: 1) группа неопределенных времен (Indefinite Tenses) – употребляются для констатации факта совершения действия в настоящем, прошедшем и будущем; 2) группа длительных времен (Continuous Tenses) – употребляются для обозначения действия в процессе его совершения; 3) группа совершенных времен (Perfect Tenses) – выражают действие, совершенное к определенному моменту в настоящем, прошедшем или будущим; 4) группа совершенных длительных времен (Perfect Continuous Tense) – употребляются для выражения длительного действия, начавшегося до определенного момента в настоящем, прошедшем или будущем и длившееся известный период времени.



**Present Tenses** (Времена, обозначающие совершение действия в настоящем).

**Present Simple or Indefinite Tense** (Настоящее неопределенное или простое время)

Утвердительная форма		Вопросительная форма		Отрицательная форма	
I, you, we, they He, she, it	work works	<b>Do</b> I, you, we, they <b>Does</b> he, she, it	work?	I, you, we, they <b>don't</b> He, she, it <b>doesn't</b>	work

1. выражает действия, обозначающие общеизвестные факты.

*Time passes very quickly when you get older.* – Время проходит очень быстро, когда стареешь.

2. выражает действия обычные, постоянные, свойственные подлежащему, происходящие вообще, а не в момент речи.

*I really love my job.* - Я действительно люблю свою работу.

*He speaks German well.* - Он хорошо говорит по-немецки.

3. выражает действия, обозначающие регулярные, рутинные события.

(Мы часто используем наречия *always* - всегда, *often* - часто, *usually* – обычно, *sometimes* - иногда, *never*- никогда и др.).

*We always have a holiday in the summer.*

Летом у нас всегда отпуск.

*We never work in August.*

Мы никогда не работаем в августе.

*We usually fly to France when we go on holiday.*

Мы обычно летаем во Францию, когда уезжаем.

4. выражает действия, обозначающие инструкции и указания.

*You take the train into the city center and then you take a number five bus.* Чтобы попасть в центр сядьте на поезд, а потом езжайте на автобусе номер 5.

5. выражает действия, обозначающие расписания и планы.

*The lesson starts at 9.30 tomorrow instead of 10.30.* - Урок завтра в 9.30 вместо 10.30.

6. используется в новостных заголовках.

*Taiwanese envoys arrive in China.* - Тайваньские посланники прибывают в Китай.

### **Present Continuous (Настоящее продолженное время)**

Утвердительная форма		Отрицательная форма		Вопросительная форма	
I am (I'm)		I'm not		Am I	
He is (He's)		He isn't		Is he	
She is (She's)	working	She isn't	working	Are we	working?
It is (It's)		It isn't		Are you	
We are (We're)		We aren't		Are we	
You are (You're)		You aren't		Are you	
They are (They're)		They aren't		Are they	

1. используется для обозначения длительных действий, совершающихся в момент речи.

*He is reading a book.* – Он читает книгу. (*в настоящий момент*)

2. обозначает временные действия (сстояния), совершающиеся в настоящий период времени, хотя и не обязательно в момент речи.

*He is writing a new play.* – Он пишет новую пьесу.

*I'm not drinking much coffee these days. I'm trying to cut down.* - Сейчас я не пью много кофе. Я пытаюсь уменьшить.

3. используется для описания постепенных изменений.

*The economic situation is improving.* – Экономическая ситуация улучшается.

4. используется для обозначения будущего, когда говорим об уже составленных планах и достигнутых договоренностях.

*Aren't you playing tennis on Saturday?* - Ты не играешь в теннис в субботу?

### Present Perfect Tense (Настоящее совершенное время)

Утвердительная форма		Отрицательная форма		Вопросительная форма	
I have		I haven't		Have I	
She, he, it has	worked	She, he, it hasn't	worked	Has she, he, it	worked?
We have		We haven't		Have we	
You have		You haven't		Have you	
They have		They haven't		Have they	

1. употребляется для выражения действия, совершившегося к настоящему моменту, результат которого имеется налицо. Говорящий обращает внимание собеседника на *результат*, вытекающий из определенного действия, а не на *время* его совершения.

*We have reached an agreement.* – Мы достигли соглашения.

- часто употребляется с наречиями неопределенного времени: *ever, never, just, already, yet.*

*Don't wash up that cup. I haven't finished my coffee yet.* - Не мойте чашку. Я еще не допила кофе.

**Haven't you done your homework yet?** (You intend to do it.) - Вы еще не сделали уроки? (Вы собираетесь это сделать.)

- употребляется с обстоятельственными словами, обозначающими еще не истекшие периоды времени: *today, this week, this month, this year*; с наречиями: *lately, recently*; с предлогами *since и for*; со словами *before, in my life, so far, up until now, How long?*

*That house on the corner has been empty for three years.* - Этот дом на углу пустует уже три года.

**How long have you worked there?** - Как долго ты там работал?

2. употребляется, чтобы рассказать о нашем опыте, о том, что мы пережили до настоящего момента; или когда говорим о каком-либо уникальном опыте, используя превосходную степень, часто с такими словами как *the first time*.

*And I've seen 'Buddy' and I've seen 'Starlight Express' in London. And I want to see 'Phantom of the Opera' next.* - И я видел «Бадди», и я видел «Старлайт Экспресс» в Лондоне. А дальше я хочу увидеть «Призрак оперы».

*It was the best decision I have ever made in my life.* — Это было лучшее решение, которое я когда-либо принимал в своей жизни.

*That's the first time I've seen you get angry.* - Я впервые вижу, как ты злишься.

### **Future Forms** (Формы будущего)

Мы используем несколько разных способов, чтобы говорить о будущем в английском языке. Наиболее распространены:

1. оборот ***be going to*** - когда выражается намерение совершить действие - *собираться делать что-то*.

*They're going to build a new shopping centre here.* - Здесь собираются построить новый торговый центр.

2. ***Present Continuous*** - выражает планы, если есть договоренность и установлено время события.

*She is working in the evenings next week.* - На следующей неделе она будет работать по вечерам.

*I'm leaving tomorrow.* - Я уезжаю завтра.

3. **modal verb will** – Передает действие, которое совершится после момента речи (например, обещание, предсказание, мнение и т. д.), не ограничено никаким промежутком времени и не подразумевает законченности действия к определенному моменту в будущем.

*This bus will take you to the main street.* - Этот автобус доставит вас на главную улицу.

*I think they will phone me.* - Думаю, они мне позвонят.

4. **Present Simple** - когда речь идет о четких договоренностях, расписаниях, а также в придаточных предложениях времени и условия для обозначения действия в будущем.

*John arrives in about half-an-hour from now.* - Джон приедет примерно через полчаса.

*When we are ready we'll let you know.* - Мы сообщим вам, когда будем готовы.

5. **Future Continuous** (*Настоящее длительное время*) – обозначает длительное действие, которое будет совершаться в определенный момент в будущем или недлительное действие (вместо Future Simple), когда выражается намерение совершить действие или уверенность в его совершении.

*I'll be running ten kilometers a day for the next two weeks to get ready for the marathon.* - Следующие две недели я буду бегать по десять километров в день, чтобы подготовиться к марафону.

*He will still be working at five o'clock tomorrow.* – Он все еще будет работать завтра в пять часов.

*He will be preparing for certification in April.* – Он будет готовиться к

аттестации в апреле.

*He will be meeting us at the station.* – Он будет встречать нас на вокзале.

6. **Future Perfect** – выражает будущее действие, которое совершится до определенного момента или ранее другого действия в будущем. Может быть определено такими обозначениями времени, как *by 5 o'clock, by Saturday, by the end of the year, etc.*

*We're late. Do you think the lecture will have started when we arrive?* - Мы опаздываем. Как вы думаете, лекция уже начнется?

*We will have shipped the goods by Saturday.* – Мы уже отгрузим товар к субботе.

В придаточных предложениях времени и условия вместо Future Perfect употребляется Present Perfect.

*You will have to pay only after we have shipped the goods.*

\*\*\*

### Past Tenses

Времена, обозначающие совершение действия в прошлом.

**Past Indefinite (Simple) Tense** (Прошедшее неопределенное (простое) время)

Утвердительная форма		Вопросительная Форма		Отрицательная Форма	
I		Did I		I didn't	
He, She, It	worked	Did he, she, it	work	You didn't	work
We	spoke	Did we	speak	He, she, it didn't	speak
You		Did you			
They		Did they		We didn't	

				They didn't	
--	--	--	--	-------------	--

*Past Simple* правильных глаголов образуется путем прибавления во всех лицах окончания **-ed** к форме инфинитива: to live - I **lived**; to work – I **worked**.

*Past Simple* неправильных глаголов образуется различными другими способами. to speak – I **spoke**; to begin – I **began**. (см. таблицу неправильных глаголов Appendix 2).

**Past Simple** выражает:

1. однократные действия совершившиеся в прошлом с такими обозначениями времени как *yesterday, last week, an hour ago, the other day, on Monday, in 1917, during the war u. m.d.*

*I met him yesterday.* - Я встретил его вчера.

2. для выражения ряда последовательных действий в прошлом.

*He left the hotel, took a taxi and went to the station.* - Он покинул отель, взял такси, и поехал на станцию.

3. для обозначения обычного, повторявшегося действия в прошлом.

*Last winter I spent a lot of time in the laboratory.* - Я много работал в лаборатории прошлой зимой.

*Last year I often went to the theatre.* - Я часто ходил в театр в прошлом году.

**Past Simple or Present Perfect**

Мы используем *Past Simple* для обозначения действия, совершенного в определенное время в прошлом и обычно с указанием конкретного времени совершения действия, например: *yesterday, two weeks ago, last year, etc.*

*I saw her last time in 2019 .* - Я видел ее последний раз в 2019 году.

Мы используем *Present Perfect*, чтобы говорить о действиях, имевших место в прошлом, но которые связаны с настоящим. Настоящее совершенное часто используется с выражениями неопределенного времени, или обстоятельствами, обозначающими период времени, не истекший к моменту речи: *today, this year, since 2020, for two weeks, already, etc.*

*I haven't seen her since January 2020.* - Я не видел ее с января 2020 года.

*I haven't eaten anything today.* - Я еще не ел сегодня.

\*\*\*

### **Past Continuous Tense (Прошедшее длительное время)**

***Was, were + V-ing***

Утвердительная форма	Вопросительная форма	Отрицательная форма
I was working.	Was I working?	I wasn't working
He, she, it was working.	Was he, she, it working?	He, she, it wasn't working.
We, you, they were working.	Were we, you, they working?	We, you, they weren't working.

#### **Значение и употребление.**

*Past Continuous Tense* употребляется для выражения действия в прошлом в процессе его совершения:

1. для обозначения действия, совершившегося в определенный момент или период в прошлом.

*It was raining at 5 o'clock.* – В 5 часов шел дождь.

*We were cooking all morning.* – Мы готовили все утро.

2. для обозначения прерванного действия в прошлом.

*I was reading this book when the telephone rang.* – Я читал книгу, когда

зазвонил телефон.

3. для обозначения повторявшихся событий в прошлом, которые носили временный характер.

*She was feeding her neighbors' cat every morning while they were on holiday.* -  
Она кормила соседскую кошку каждое утро, пока они были в отпуске.

\*\*\*

### Past Perfect Tense (Прошедшее завершенное время)

#### *Had + Past Participle*

Утвердительная форма		Вопросительная форма		Отрицательная форма	
I had		Had I		I hadn't	
He, she, it had		Had he, she, it		He, she, it hadn't	
We had	worked	Had you	worked?	We hadn't	worked
You had		Had we		You hadn't	
They had		Had they		They hadn't	

### Значение и употребление

*Past Perfect* употребляется:

1. для обозначения действия, которое закончилось к определенному моменту в прошлом. Момент в прошлом, с которым соотносится Past Perfect, обычно обозначается обстоятельством времени, выраженным существительным с предлогом *by* или другим действием в прошлом.

*By 6 o'clock we hadn't yet packed all the things.* - Мы еще не упаковали вещи к 6 часам.

*When I got home, my sister had already gone to the concert.* - Когда я пришел домой, моя сестра уже ушла на концерт.

2. для выражения действия, которое совершилось раньше другого

прошедшего действия, длилось в течение некоторого времени в прошлом и могло длиться в указанный момент в прошлом.

*When we parted, we **had known** each other already for five years.* - Когда мы расстались, мы были знакомы 5 лет.

В этом значении также часто употребляется *Past Perfect Continuous*, когда говорящий хочет подчеркнуть длительность совершения действия.

*It had been working at the company for five years when I got the promotion.* - Я проработал в компании пять лет, прежде чем получил повышение.

3. в сложноподчиненных предложениях с придаточными временем, вводимым союзами: *when, before, after, until, by the time, now that, as soon as;* с составными союзами *hardly....when, scarcely....when, no sooner...than.* в основном предложении употребляется Past Perfect, а в придаточном – Past Simple.

*They **had left** before I could speak to them.* - Они ушли, прежде чем я успел переговорить с ними.

*I had hardly read the first text when my friend rang me up.* – Не успел я прочесть первый текст до конца, как мой друг позвонил мне



## Passive Voice (страдательный залог)

Время	Форма глагола to be		Past Participle of the main verb	Примеры
Present Simple	am are is			<p><i>Am I invited too?</i></p> <p><i>One or two new types of insect are found in Britain each year.</i></p> <p><i>It is (it's) not made in China.</i></p>
Present Continuous	am are is	being	Past Participle of the main verb	<p><i>Am I being recorded?</i></p> <p><i>We're already being served, thanks.</i></p> <p><i>That computer isn't being used any more.</i></p>
Past Simple	was were		Past Participle of the main verb	<p><i>The story was reported in yesterday's paper.</i></p> <p><i>We didn't know what was in the boxes. They weren't labelled.</i></p>
Past Continuous	was were	being		<p><i>Was he being examined?</i></p> <p><i>They were being watched carefully.</i></p>
Present Perfect Simple	have has	been		<p><i>Haven't they been asked to the wedding?</i></p> <p><i>He's been hurt.</i></p>

Время	Форма глагола to be		Past Participle of the main verb	Примеры
Past Perfect Simple	had been			<i>An important discovery had been made.</i> <i>Had he been injured in the war?</i>
Modal Simple	can will might should would etc.	be		<i>Reservations can be accepted up to 24 hours before arrival.</i> <i>I don't think I'll ever be paid.</i> <i>Might we not be allowed to go in?</i>

Глагол стоит в форме *действительного залога*, если подлежащим в предложении является лицо или предмет, производящий действие.

Глагол стоит в форме *страдательного залога*, если действие глагола-сказуемого направлено на лицо или предмет, выступающий в предложении в роли подлежащего.

*University published this book.* (active) - Университет опубликовал книгу.

*This book was published by University.* (passive) – Книга была опубликована.

Мы можем не указывать агента действия, или указать агента с помощью предлога.

*These houses were designed in the 1880s.* (passive without an agent)

*These houses were designed in the 1880s by Edward Barnes.* (passive + *by* + an agent)

Мы используем пассивные формы времен точно так же, как и их активные эквиваленты. Например, мы используем Present Simple Passive, чтобы говорить об общих фактах, которые, по нашему мнению, верны в настоящее время.

Использование пассивного залога позволяет говорящему или писателю делать выбор в отношении того, что является более важным, объект или субъект действия. Кроме того, мы используем пассивный залог, для более формального стиля общения. Мы часто используем пассив без агентов действия в академическом и техническом контексте, когда процесс или действие более значимы, чем тот кто их совершил:

*A sample was taken and injected into a tube.* - Образец был взят и впрыснут в трубку.

*In this study, participants' eye movements were recorded while they listened to a series of messages.* – В исследовании были записаны движения глаз участников в процессе чтения.

### **Особенности употребления страдательного залога в английском языке**

В русском языке только переходные глаголы могут выступать в форме страдательного залога, а, следовательно, только прямое дополнение глагола в действительном залоге может соответствовать подлежащему предложения, в котором сказуемое выражено страдательной формой глагола.

В английском языке страдательный залог имеет гораздо более широкую сферу применения по сравнению с русским языком. В английском языке не только переходные, но и непереходные глаголы, выступающие с закрепленным предлогом, могут употребляться в страдательном залоге, такие как:

to speak about

to depend on

to operate on

to look at	to comment on	to send for
to agree upon	to insist on	to listen to
to rely on	to laugh at	to wait for
to refer to	to object to	to dream of, etc.

*His report is much spoken of.* - О его докладе много говорят.

*Your child will be looked after.* - За вашим ребенком присмотрят.

Перевод таких предложений начинается с предлога.

Если в страдательном залоге выступает переходный глагол, имеющий два дополнения – косвенное и прямое (например: to give, to show, to send, to tell, to promise, to offer, etc.), то в английском языке возможны две параллельные конструкции: с подлежащим, соответствующим прямому дополнению глагола в действительном залоге, и с подлежащим, соответствующим косвенному дополнению глагола в действительном залоге.

*A good job was offered to him.* - Ему была предложена хорошая работа.

*He was offered a good job.* - Ему предложили хорошую работу.

### **Word order. (Порядок слов)**

Отличительной чертой английского языка является твердый порядок слов в предложении. В английском языке твердый порядок слов имеет большое значение, так как он является одним из основных способов выражения отношений между словами в предложении, члены которого часто определяются только по занимаемому ими месту в предложении.

Порядок слов в утвердительном предложении таков: подлежащее, сказуемое, дополнение и обстоятельства (при наличии косвенного дополнения оно стоит после прямого). Обстоятельства места и времени могут быть также и перед подлежащим. Определение, выраженное прилагательным или местоимением, всегда стоит перед определяемым им существительным.

*The students* (подлежащее) are reading (сказуемое). We have three or four lectures (дополнение) on Monday (обстоятельство). Our university is one of the best Russian technical (определение) universities.

В вопросительных предложениях перед подлежащим ставится вспомогательный глагол или имеет место инверсия – сказуемое (или его часть) ставится перед подлежащим.

*Do* (вспомогательный глагол) *you study foreign languages at university?*

*Are* (инверсия) *you a student?*

## Модули 4-6



### Sequence of Tenses

В английском языке время сказуемого в дополнительном придаточном предложении зависит от времени, в котором употреблено сказуемое в главном предложении.

1. Если сказуемое главного предложения выражено одной из форм настоящего времени (обычно Present Simple или Present Perfect) или будущего времени (обычно Future Simple), правило согласования времен не действует и сказуемое придаточного предложения употребляется в любом времени, которое требуется по смыслу:

He knows that

- you are busy.*
- you were busy.*
- you will be busy.*
- receives letters from her.*

Он знает, что

- вы заняты.
- вы были заняты.
- вы будете заняты.
- он получает от нее письма.

He has said that

- he has received a letter.*
- he received a letter yesterday.*
- he will receive a letter tomorrow.*

He will think that

- you do it.*
- you have done it.*
- you did it yesterday.*
- you will do it.*

Он сказал, что

- он получил письмо.
- он получил письмо вчера.
- он получит письмо завтра.

Он подумает, что

- вы это делаете.
- вы это сделали
- вы это сделали вчера.
- вы это сделаете.

2. Правило согласования времен действует в том случае, если глагол в главном предложении стоит в прошедшем времени (обычно в Past Indefinite или Past Continuous). В этом случае:

a) для выражения действия, одновременного с действием главного предложения, глагол придаточного предложения употребляется в **Past Indefinite** или в **Past Continuous**.

*I was sure that you knew her address.*

Я был уверен, что он знает ее адрес.

*I thought that he was waiting for me.*

Я думал, что он ждет меня.

б) для выражения действия, предшествующего действию главного предложения, глагол придаточного предложения употребляется в **Past Perfect** или в **Past Perfect Continuous**.

*I was sure that he had left Moscow.*

Я был уверен, что он уехал из Москвы.

*I was told that he had been staying at his aunt's at least for a week.*

Мне сказали, что он проживал у своей тети по крайней мере неделю.

в) для выражения будущего действия по отношению к действию главного предложения, глагол придаточного предложения употребляется в одной из форм **Future in the Past**.

*He said that he would try to come in time.* Он сказал, что попробует прийти вовремя.

*I supposed that you would have packed by 6 o'clock.* Я предполагал, что вы соберетесь к 6 часам.

*I was sure that you would be packing at 6 o'clock.*

Я был уверен, что они будут собираться в 6 часов.

Если в предложении есть несколько придаточных дополнительных предложений, то правило согласования времен соблюдается в каждом из них. Если вы столкнетесь с нижеперечисленными условиями, вы можете не соблюдать правила согласования времен в английском языке:

- В придаточном предложении говорится о всемирно известной истине или факте.

*The children were told that the Earth moves around the Sun.* Детям сказали, что Земля вращается вокруг Солнца.

- Если говорящий ссылается на слова, которые только что были сказаны.  
*Kate to Mark, "I will cook something delicious."* Кейт Марку: “Я приготовлю что-нибудь вкусное”.

*Mark to Elza: Kate said she will* Марк Эльзе: Кейт сказала, что

*cook something delicious.*

приготовит что-то вкусное.

### Косвенная речь

#### Глаголы, вводящие косвенную речь

Наряду с глаголами *to tell*, *to say*, многие другие глаголы английского языка употребляются для введения косвенной речи.

**Косвенные утверждения** вводятся глаголами: *to inform*, *to think*, *to explain*, *to assure*, *to point out*, *to confess*, *to admit*, *to promise*, *to suspect*, *to boast*, *to claim*, *to reply*, *to warn*, etc.

“*I’ll stay if you want me to,*” he said.

*He promised that he would stay if I wanted him to.*

“*He is a very nice person,*” he said.

*He assured us that his fiend was a very nice person.*

“*Honestly, I have no idea why he has come,*” she said

*She swore that she had no idea why he had come.*

Наиболее часто **косвенные вопросы** вводятся глаголами: *to ask*, *to inquire*, *to wonder*, *to find out*, etc. В косвенных вопросах сохраняется прямой порядок слов, то есть порядок слов такой же, как в утвердительных предложениях.

“*Where is the salt, please?*” Father said.

*Father asked where the salt was.*

“*Is this yours or John’s?*” she said.

*She inquired if that was mine or John’s.*

“*What topic did Professor Brown bring up?*” she asked.

*She wanted to know what topic professor Brown had brought up.*

“*Has there been an accident?*” she

*She tried to find out whether there had*

*said.*

*been an accident.*

**Просьбы и приказания**, переданные в косвенной речи, могут вводиться разнообразными глаголами: *to ask, to request, to beg, to urge, to tell, to demand, etc.*

*"Will you pass me your plate, please," she said.*      *She asked me to pass her my plate.*

*"Could you please be quiet for a moment," she said.*

*She begged them to be quiet for a moment.*

5

Сложноподчиненные  
предложения

**Complex Sentences (Сложноподчиненные предложения)**

Сложноподчиненные предложения - это сложные предложения, состоящие из главного предложения (**Main Clause**) и придаточного предложения (**Subordinate Clause**), которое зависит от главного. Придаточное присоединяется к главному с помощью союзов и союзных слов (**Linking Words**).

*The book that you gave me is very interesting.* Книга, которую вы мне дали, очень интересна.

*The book is very interesting* - main Книга очень интересная - главное  
clause предложение

которую вы мне дали - придаточное  
*that you gave me* - subordinate clause предложение

**Relative (Attributive) Clauses (Определительные придаточные предложения)**

Определительные придаточные предложения отвечают на вопрос *какой?* (*what/what kind of*) и присоединяются к основному предложению с помощью союзных слов: *who, whom, whose, which, that, when, where, why*. Связующие слова можно опустить, если они являются дополнением в придаточном предложении. Когда связующее слово является подлежащим придаточного предложения, они не могут быть опущены.

*He is the specialist who/that* Это тот специалист, который закончил *graduated from the university last* университет в прошлом году.

*year.*

Лодка, которую он купил, прекрасна.

*The boat (which/that) he bought (which/that* - это дополнение, и его можно *is beautiful.* опустить)

*The students who failed the exam* Студенты, которые не сдали экзамен, могут *can pass it again in May.* сдать его снова в мае. (*who* является

подлежащим, и это слово не может быть опущено)

### Defining/Non-Defining Relative Clauses

(Индивидуализирующие и описательные определительные придаточные предложения)

Индивидуализирующие (*defining*) придаточные предложения дают необходимую информацию и играют важную роль в основном предложении.

Описательные (*non-defining*) придаточные предложения дают дополнительную информацию, несущественную для значения основного предложения. Эти предложения обычно отделяются запятыми.

*I had a math tutor who gave me private lessons after school.* - У меня был репетитор по математике, который давал мне частные уроки после школы.  
(Необходимая информация, данная в придаточном предложении.)

*Mr. Jones, who teaches Sciences, is popular in our school.* - Мистер Джонс, преподающий естественные науки, популярен в нашей школе. (Придаточное предложение здесь необязательно, потому что мы знаем, о каком учителе идет речь).

В индивидуализирующем (*defining*) придаточном предложении *who*, *which* или *that* можно опустить при использовании в качестве дополнения. В описательном (*non-defining*) придаточном предложении *who/which* не опускаются. *That* не может заменить *who* или *which*.

*Here is the report (which/that) he brought us yesterday.* - Вот отчет (который/что) он принес нам вчера (*which / that* в качестве дополнения можно опустить).

*She is the woman who/that was promoted to sales manager last week.* - Это женщина, которую на прошлой неделе повысили до должности менеджера по продажам. (В данном случае связующее слово *who*, которое здесь является подлежащим, не может быть опущено)

*David, who works hard, got a promotion.*

(*NOT: David, that works hard, got a promotion.*)- Дэвид, который много работает, получил повышение.

## **Adverbial Clauses** (Обстоятельственные придаточные предложения)

### **Adverbial Clauses of Time** (Придаточные времени)

Эти придаточные отвечают на вопрос *когда?* (*when*). Они вводятся следующими связующими словами: *after, as long as, as soon as, just as, once, since, before, by the time, when, while, until/till, the moment (that), whenever, every time, immediately, the first time, the last time, the next time*. В придаточных предложениях времени используется настоящее время вместо будущего.

*After they had finished the work,* Закончив работу, они вышли.

*they went out.*

Он вернулся домой так же, как они ушли.

*He arrived home just as they left.*

Прежде, чем часы пробили, она прибыла.

*You can go home whenever you want*

Вы можете пойти домой, когда захотите.

*When you finish this task, you'll receive a bonus*

Когда вы выполните это задание, вы получите бонус.

*When I have time, I'll see to it.*

Когда у меня будет время, я позабочусь об этом.

*I'll stay until I finish the project.*

Я останусь, пока не закончу проект.

### **Adverbial Clauses of Reason/Cause** (Придаточные причины)

Придаточные причины отвечают на вопрос: *почему?* (why). Они вводятся связующими словами: *as, since, because, for, the reason why, on the grounds that, due to, owing to, etc.*

*As the newest technologies are developing, our life is changing.* По мере развития новейших технологий наша жизнь меняется.

*I couldn't feel anger against him because I liked him too much.* Я не мог злиться на него, потому что он мне слишком нравился.

### **Adverbial Clauses of Purpose** (Придаточные цели)

Придаточные цели выражают цель действия, отвечают на вопрос с *какой целью?* (for what purpose/why) и вводятся связующими словами: *in order to, so as, so that, with the aim of, in case, etc.*

*She went to the supermarket **to buy** some milk.*

Она пошла в супермаркет, чтобы купить молока.

*I helped him **so (that)** he could finish early.*

Я помог ему, чтобы он раньше закончил.

*He bought an exercise bike **in order to** get fit.*

Он купил велотренажер, чтобы тренироваться.

*I left early **so that** I could be there on time.*

Я уехал рано, чтобы успеть вовремя.

*I will take some sandwiches **in case** I get hungry.*

Я возьму бутерброды, на случай, если проголодаясь.

*He opened an account **with the aim of** saving money to buy a car.*

Он открыл счет, чтобы сэкономить деньги на покупку машины.

### **Adverbial Clauses of Concession** (Уступительные придаточные предложения)

Уступительные придаточные предложения выражают контраст и вводятся связующими словами: *although, even though, though, in spite of / despite the fact that..., while, whereas, but, on the one/other hand, yet, nevertheless, however, no matter how, etc.*

*Although she spent all the afternoon on the project, she didn't finish it.*

Хотя она потратила на проект весь день, она не закончила его.

*She spent all the afternoon on the project, she didn't finish it, **though.***

Весь день она провела над проектом, но так и не доделала.

*Despite the fact that they are rich,*

Несмотря на то, что они богаты, они

*they aren't happy.*

несчастны.

### Adverbial Clauses of Result (Придаточные предложения следствия)

Придаточные предложения следствия используются для выражения следствия и вводятся связующими словами: *such/so...that; consequently, for this reason, thus, therefore, so*.

*There were so many people that I did not have a chance to talk to everyone.*

Было так много людей, что у меня не было возможности поговорить со всеми.

*It was such a bad day that we'll never forget it.*

Это был такой плохой день, что мы никогда его не забудем.

*I had forgotten my passport and as a result / therefore I couldn't board the plane.*

Я забыл свой паспорт и, следовательно, не смог сесть в самолет.



### Modal Verbs

Модальные глаголы – это глаголы, которые называют не само действие, а выражают отношение к нему. Например, желательность, возможность, необходимость действия, выраженного смысловым глаголом. Модальные глаголы *can (could), may (might), must, will, shall, should, would, ought to* – используются с инфинитивом смыслового глагола, который употребляется

без частицы *to* (кроме глагола *ought*). Они не изменяются по лицам и числам, не имеют форм инфинитива и причастия, некоторые из них не имеют форм прошедшего и будущего времени, при образовании их вопросительной и отрицательной форм не используются вспомогательные глаголы.

### **Can/Could**

Наиболее распространенное значение глагола **can** - возможность или способность. Форма прошедшего времени - **could**. Для выражения будущего и прошлого используются эквиваленты “**be able to**” and “**be allowed to**”.

Некоторые значения:

1. физическая или умственная способность, возможность в зависимости от объективных причин:

*I can swim.* Я умею плавать

*You can come on time if you leave now.* Вы сможете успеть, если пойдете сейчас.

2. просьба / разрешение / запрет:

*He could (was allowed to) visit the patient.* Ему разрешили навестить пациента.

*Could I have your passport?* Вы могли бы показать ваш паспорт.

3. сомнение и удивление (только отрицательная и вопросительная форма):

*Emmy can't/couldn't be your sister!* Неужели Эми твоя сестра?

*He can't/couldn't be sleeping so long!* Неужели он спит так долго?

4. упрек (употребляется только **could**):

*You could help me.* Вы могли бы помочь мне.

*Where have you been? You could have called at least!* Где вы были? Вы могли бы и позвонить.

**May/Might** употребляются для выражения:

1. просьбы:

*May I ask you a question?*      Можно спросить вас?

2. разрешения / запрета:

*You may leave early tomorrow.*      Вы можете ехать завтра.

3. формального предложения:

*May I help you?*      Могу ли я помочь вам?

4. возможности / предположения;

*He may come in the evening.*      Возможно, он приедет вечером.

*He might have come earlier, if he had caught the train.* Он мог бы приехать раньше, если бы успел на поезд. (в сочетании с *Perfect Infinitive* используются для выражения прошедшего действия)

5. упрек (используется только **might**):

*You might help me!*      Ты мог бы и помочь мне!

*You might have visited me when I was in hospital.*      Ты мог бы навестить меня в больнице.

(Глагол **might** употребляется в сочетании с *Perfect Infinitive* для выражения действия в прошлом.)

В значении *просьбы, разрешения, запрета* в будущем времени используются эквиваленты глагола *may*: “*be allowed to*”, “*be permitted to*”.

*You will be allowed to enter the country again as soon as you prolong your visa.*

Вам будет разрешен въезд в страну снова, как только вы продлите визу.

*You will be permitted to make only one call.*

Вам будет разрешено сделать только один звонок.

**Must** выражает:

1. обязательство / необходимость / команду:

*I must finish it.* Я обязан закончить это.

2. категорический запрет:

*You mustn't smoke here!* Курить запрещается!

3. приказ:

*You must call the manager at once.* Вы должны сейчас же позвонить менеджеру.

4. уверенное предположение, высокую вероятность:

*He must be at home now.* Должно быть он дома сейчас. (*настоящее время: must в сочетании с Indefinite Infinitive*)

*Jeremy must have left the city.* Должно быть, Джереми уехал из города. (*прошедшее время: must в сочетании с Perfect Infinitive*)

Эквивалент **must** – глагол **have to** употребляется, когда мы говорим о необходимости совершения действия в силу определенных обстоятельств.

Сравните:

<b>Must</b>	<b>Have to</b>
1. осознанная необходимость:  <i>I must eat vegetables.</i>  Мне необходимо есть овощи.	1. необходимость, вызванная внешними обстоятельствами:  <i>We missed the train. We will have to wait long now.</i>  Мы опоздали на поезд. Теперь нам придется долго ждать.
2. обязанность, порядок:  <i>The students must speak only English in class.</i>  Студенты должны говорить в классе только на английском языке.	2. отсутствие необходимости:  <i>You don't have to finish the report today.</i>  Вам не нужно завершать отчет сегодня.
3. категорический запрет:  <i>You mustn't eat sugar.</i>	

Вам нельзя есть сахар

**Will** используется для обозначения:

1. действия в будущем:

*Will you be at home tonight?*      Вы будете дома вечером?

2. в условных предложениях 1 типа для обозначения возможной ситуации в будущем:

*If she gets the job, she will have to move to Germany.*    Если она получит работу, то ей придется переехать в Германию.

3. предложения/просьбы/обещания:

*Will you pass me the salt?*      Передайте соль, пожалуйста.

*This tastes good. Will you give me the recipe?*    Это вкусно. Не дадите рецепт?

*Will you come for dinner on Saturday?*      Приходите на обед в воскресенье, придёте?

Глагол **would** может выражать:

1. вежливую просьбу:

*Would you make dinner?* Не мог бы ты приготовить обед?

2. нереальные действия в условных предложениях 2 и 3 типа:

*If we had left earlier, we would have been able to stop off for a coffee on the way.*  
Если бы мы выехали раньше, то смогли бы остановиться, чтобы выпить кофе.

3. обычные и повторяющиеся действия в прошлом (в этом значении он является синонимом выражению **used to**):

*He would spend hours in the park.*    Он, бывало, проводил многие часы в парке.

4. упорное нежелание выполнить какое-то действие.

*I asked him to do that, but he wouldn't.*

ни за что не хотел.

Я попросил его сделать это, но он

5. присущее свойство, характеристику (часто встречается в технической литературе).

*Paper would burn.*

Бумага хорошо горит.

Глагол **shall** может выражать:

1. предложение:

*Shall I carry your bag?* Тебе помочь с сумкой?

*Shall I call again on Thursday?*

Мне перезвонить в четверг?

2. обращение за советом, инструкцией:

*What shall we do with this?* Что нам с этим делать?

### **Should / Ought to**

Модальные глаголы **Should / Ought to** очень близки по значению. Эти глаголы переводятся как «следует», «следовало бы». Глагол **ought (to)** имеет более формальное значение. Основные значения:

1. рекомендация, совет:

*You should try to watch films in English* Тебе следует попробовать смотреть

*You ought to try to watch films in English* фильмы на английском.

2. упрек в сочетании с Perfect Infinitive:

*You ought to have told me immediately.* Вам следовало бы сразу же сказать мне.

Вам стоило пойти на эту вечеринку.

*You should have come to that party.*

3. в значении ‘с какой стати’ (why on earth?):

*Why should I help him?* С какой стати я должна помогать ему?

## APPENDIX 4

### ANSWERS TO INDEPENDENT FURTHER STUDY AND CHECK YOURSELF TASKS

#### MODULE 1

#### INDEPENDENT FURTHER STUDY

**59.** Complete the table with the words from the list below.

**Uncountable nouns:** behavior, advice, economics, accommodation, information, physics, gymnastics, news, knowledge, athletics, beauty, justice, help, mathematics, freedom, education, love.

**Countable nouns:** scientist, woman, glove, means, house, university.

**Always in the plural:** scissors, binoculars, jeans, clothes.

**Collective nouns:** group, crew, crowd.

**Words that can be used as countable nouns with difference in meaning:** time, hair, light, wood, iron, glasses.

**60.** Which nouns from the previous exercise can be used with the words in the table? Give three examples for each line. Use plural forms if necessary.

much, little, a little, some, any, a lot	Uncountable: little information, much love, some advice
many, few, a few, some, any, a lot	Countable: many houses, a few women, some means

**61.** Complete the rules with words from the list above.

a) We use *some, any, a lot* with uncountable nouns and the plural form of

countable nouns.

- b) We use *much*, *little*, *a little* only with uncountable nouns.
- c) We use *many*, *few*, *a few* only with the plural form of countable nouns.

**62. Fill in ‘is’ or ‘are’.**

- 
- 1. are 2. is 3. is 4. is 5. is 6. is 7. are 8. is 9. are 10. is 11. are 12. is 13. is 14. are
  - 15. is 16. are 17. is 18. are 19. is 20. are

**63. Open the brackets. Match the questions and the answers.**

*To have your eyes tested you should go to the optician’s.*

- 1. To have your picture taken you should go to the photographer’s.
- 2. To have your tooth filled you should go to the dentist’s.
- 3. To have your overcoat cleaned you should go to the cleaner’s.
- 4. To have your hair cut you should go to the hairdresser’s.
- 5. To have your prescription made you should go to the chemist’s.
- 6. To have your lenses fitted you should go to the optician’s.

**64. Complete the second sentence using the verb and any other words given.**

**Use the causative form with have.**

- 1. Bricklayers are building a garage for our neighbors. Our neighbors are having their garage built.
- 2. An electrician has installed a burglar alarm for us. We have had an alarm installed.
- 3. Builders always check our roof after a storm. We always have our roof checked after the storm.
- 4. Problems with wiring appeared. So, I had new wiring, new sockets, new doorbell installed.
- 5. The dentist removed my tooth yesterday. I had my tooth removed.

**66. Present Tenses Summary. Read the letter and use the verbs in brackets in the correct Present Tense form.**

- 1) I’m writing 2) I get on 3) I enjoy/am enjoying 4) I study/am studying 5) I’m spending 6) I’m still staying 7) I’m looking for 8) live/are living 9) I seem 10) I

go 11) I am 12) I'm writing (13) I think 14) costs 15) I'm saving 16) It's getting/gets 17) I'm not lonely 18) I've got to know 19) we are having 20) I learn

**67. Put the words in order.**

1. Undergraduates study six subjects in the first term. 2. They have classes on four days each week. 3. On Monday they have mathematics and mathematical analysis. 4. Tuesday is a free day for home study. 5. They have drawing and geometry (or geometry and drawing) on Wednesday. 6. They study computer science on Thursday. 7. Programming happens on Friday morning. 8. Social science takes place once a week on Friday afternoon. 9. Physical education is an important part of the curriculum. 10. Most of the students particularly like physical culture lessons. 11. Students have a 10- or 15-minute coffee break after each class. 12. They can also have lunch in the afternoon in a student canteen.

**CHECK YOURSELF**

**69. BMSTU in Facts and Figures Quiz. Choose the right answer.**

1-B, 2-C, 3-B, 4-C, 5-A, 6-C, 7-C, 8-B, 9-C, 10-C

**70. Look at the sentences below and fill in the gaps using the appropriate word from A, B or C.**

1-a, 2-b, 3-b, 4-c, 5-c, 6-a, 7-a, 8-b, 9-b, 10-c, 11-b, 12-a, 13-b, 14-a

**71. Complete the passage with a suitable word or phrase from the box.**

1-kindergarten, 2-primary, 3-skills, 4-5-numeracy/literacy, 6-secondary, 7-discipline, 8-passed, 9-course, 10-enrolled, 11-graded, 12-degree, 13-on-line, 14-qualifications, 15-day release, 16-evening class

**72. Put these expressions in the correct part of the table. Some of them can go in more than one box.**

Present Simple: *occasionally, frequently, from time to time, usually, rarely, on Mondays, always*.

Present Continuous *at the moment, at 9 p.m, currently, now, today, these days, nowadays*.

Present Perfect: *just, these days, for ages, so far, already, since my birthday, this year, today.*

Present Perfect Continuous: *how long, for a long time.*

**73. Put the verbs in brackets into the correct present tense form.**

1-goes, 2-has just found, 3-am feeling, 4-have travelled/have been travelling, 5-have arrived, 6-play, 7-have you ever been, 8-speaks/has been studying, 9-has been working, 10-do/are doing, 11-is cleaned, 12-visit, 13-is corroded, 14-have been sold, 15. am doing.

**74. Match the sentences (1-5) with the situations (a-e).**

1-d, 2-e, 3-a, 4-c, 5-b

**Progress Test**

**Vocabulary.** 1-a, 2-b, 3-c, 4-a, 5-b, 6-c, 7-b, 8-c, 9-a, 10-b

**Grammar.**

1-a, 2-a, 3-b, 4-b, 5-b, 6-b, 7-c, 8-b, 9-c, 10-c

**MODULE 2**

**INDEPENDENT FURTHER STUDY**

**65. Fill in the missing letters in the words from Module 2 word list.**

pollution, environment, rainforests, consumption, damage, threat, population, waste, fuel, disaster

**66. For each number, circle the word that does not belong to the group and explain why.**

1-problem, 2-emission, 3-environmental, 4- to mitigate, 5-fuel, 6-effect, 7-draught, 8-extinct, 9-to impede, 10-to eliminate, 11-to improve, 12-nature, 13-important, 14-issue.

**DEGREES OF COMPARISON OF ADJECTIVES AND ADVERBS**

**68. Study the information in the table below and divide the words from the previous exercise into 4 classes presented in the first column of the table.**

Type 1: the oldest, the biggest, higher, longer, warmer, ruder, heavier.

(самый старый, самый большой, выше, длиннее, теплее, грубее. тяжелее)

*Type 3: the most famous, more efficient, the most dangerous.*

(самый знаменитый, более эффективный, самый опасный)

*Type 4: further, the worst. ( дальнийшии, худший)*

**70. Write comparative and superlative forms of these adjectives.**

Big-bigger-the biggest, early-earlier-the earliest, good-better-the best, far-farther/further-farthest, bad-worse-the worst, famous-more famous-the most famous, thin-thinner-the thinnest, cheap-cheaper-the cheapest, expensive-more expensive-the most expensive, high-higher-the highest, low-lower-the lowest, fast-faster-the fastest, dangerous-more dangerous-the most dangerous, pretty-prettier-the prettiest, safe-safer-the safest, sad-sadder-the saddest, mad-madder-the maddest, busy-busier-the busiest, modern-more modern-the most modern, fashionable-more fashionable- the most fashionable, late-later-the latest, little-less-the least, old-older-the oldest, long-longer-the longest, practical-more practical-the most practical, simple-simpler-the simplest, light-lighter-the lightest, great-greater-the greatest, thick-thicker-the thickest, nice-nicer-the nicest, cold-colder-the coldest, merry-merrier-the merriest, small-smaller-the smallest, tall-taller-the tallest, strong-stronger-the strongest, green-greener-the greenest, dry-drier-the driest, clean-cleaner-the cleanest, dirty-dirtier-the dirtiest, wide-wider-widest, deep-deeper-the deepest, brave-braver-the bravest

**71. Use the correct comparative or superlative form of the words in brackets.**

1. more harmful
2. the worst
3. higher, lower
4. the best
5. stricter
6. the most serious
7. more
8. the most common
9. one of the most endangered
10. less
11. slower
12. most dangerous
13. the largest/ the deepest
14. thinner
15. deadliest.

**72. Compare the words in the following pairs.**

*Example: Moscow vs St. Petersburg*

*Moscow is larger than St. Petersburg, it is well over twice the size of the northern*

*Russian capital of Russia.*

Elbrus is higher than Kazbek. The Volga and the Lena are among the top longest rivers in Russia. Siberia has longer winters than the Far East. The population of Moscow is considerably larger than the population of Novosibirsk. The Black Sea is warmer than the Baltic Sea. Agriculture is developing as quickly as oil mining in Russia. The climate in Moscow is colder than the climate in Sochi.

### **CHECK YOURSELF**

**74. Fill in each gap with one of the words below.**

1. increasing; 2. scale; 3. achieve; 4. dealt; 5. evident; 6. causing; 7. similar; 8. considerable; 9. realise/change; 10. measures/pollution

**75. Put these time phrases in the correct part of the table. Some of them can go into more than one box.**

*Suggested answers:*

<b>Past Simple</b>	yesterday, last week, ten days ago, in 1957, when,
<b>Past Continuous</b>	from... to, yesterday at 5 o'clock,
<b>Past Perfect</b>	by the time, after, before, as soon as, hardly ... when
<b>Past Perfect Continuous</b>	for, since, ever since

**76. Write sentences from the words in the given tense.**

1. I had read the book before I saw the film. (Past Perfect Simple) 2. While he was taking pictures, his girlfriend watching him. (Past Continuous) 3. Have you ever been to the Tretyakov Gallery? (Present Perfect Simple) 4. They had been writing an essay for two hours when the bell rang. (Past Perfect Continuous) 5. It was reported that the process of global warming had been slowing down over the past few years. (Past Perfect Continuous) 6. With the appearance of electric buses less carbon dioxide has been emitted into the atmosphere. (Present Perfect)

Passive) 7. The environmentalists were concerned that the ozone layer was getting thinner over the densely populated areas. (Past Continuous) 8. During the deadliest flood in history in Central China, in 1931 about five million people were killed. (Past Simple Passive) 9. After the eruption of the volcano thousands of people were seen fleeing Goma overnight. (Past Simple Passive) 10. They informed that in the result of the volcano's deadliest eruption more than 600 people had died. (Past Perfect Simple)

**77. Fill in the gaps with the verb from the box in Past Simple, Past Perfect Simple or Past Perfect Continuous. Use each verb once.**

1. It was raining, 2. had been working, 3. did they build, 4. climbing, 5. had started, 6. collected, put, planted, 7. was sleeping, 8. made, 9. was happening, 10. had lost.

**MODULE 2 PROGRESS TEST**

**Vocabulary.**

1-b; 2-a; 3-c; 4-c; 5-a; 6-b; 7-a; 8-c; 9-a; 10-b

**Grammar**

1-a; 2-b; 3-a; 4-c; 5-b; 6-a; 7-a; 8-c; 9-b; 10-c

**MODULE 3**

**INDEPENDENT FURTHER STUDY**

**37. Note the difference between the words in the examples below and complete the sentences with the right word in the correct form.**

1-electric, 2-electrical, 3-electric, 4-electrical, 5-lighten, 6-lightning, 7-lighting, 8-lighting, 9-invented, 10-discovery

**38. Odd one out. For each number, circle the word that does not belong to the group and explain why.**

1. sight 2. property 3. web 4. copper 5. physician 6. car 7. pass 8. metre 9. particle  
10. coal

**39. Identify the forms of the Passive structures (Present Simple, Past Simple, Future Simple, Present Continuous, Past Continuous, Present Perfect, Past Perfect, Future Perfect)**

Present Simple-is developed; Past Simple-was developed; Future Simple-will be developed, Present Continuous-is being developed, Past Continuous-was being developed; Present Perfect-has been developed; Past Perfect –had been developed; Future Perfect-will have been developed.

**40. Read the sentences below. Identify the tense forms and explain their meaning.**

to be charged –Passive Infinitive; has been found –Present Perfect Passive; has grown - Present Perfect Active; are required-Present Simple Passive; may be harvested –Modal+Passive infinitive; are processed and manufactured-Present Simple Passive; is applied- Present Simple Passive; had been discovered Past Perfect Passive; is applied- Present Simple Passive; were used-Past Simple ; can be found - Modal+Passive infinitive; it has been reported –Present Perfect Passive, is using –Present Continuous Active; is being developed - Present Continuous Passive.

**41. Change the following sentences into Passive.**

6. The buildings were cooled by this process during the summer.
7. This buildings will be cooled ...
8. The buildings are being cooled ...
9. The buildings have been cooled...
10. They informed that the buildings had already been cooled...

**42. Rewrite the sentences in the Passive Voice.**

1. An idea to see if the universe is a computer simulation is being tested by physicists.
2. A lot of successful films have been directed by Nikita Mikhalkov.
3. Christmas is celebrated by Christians in Great Britain on December 25.
4. "The girl with peaches" was painted by Valentin Serov.
5. Submerged (находящийся под

водой) volcanoes on Earth for a long time have been explored by scientists . 6.

Lectures in a variety of subjects will be delivered highly-qualified professors.

**43\*. Rewrite the newspaper headlines as complete sentences.**

1. Job crisis is being faced by young people. 2. The planet hasn't been faced the toughest virus restrictions yet. 3. A child has been (is, was) rescued from fire today. 4. Officials were accused of breaking the quarantine rules yesterday. 5. This week council has been warned of enforcing adopted rules. 6. An exhibition will be held by local elite representatives tomorrow. 7. First living robots have just been created in breakthrough. 8. People will be made telepathic by brain-computer interface, scientists say.

**44. Correct the mistakes in the text.**

(1) situated-is situated (2) had opened-was opened (3) can been accessed-can be accessed (4) have been installed-had been installed (5) are building built-are being built (6) implements-is implemented (7) is appeared-appears (8) represents-is represented (9) has given-has been given (10) clean-are cleaned

**45. ‘By’ or ‘With’. Fill in the gaps choosing ‘by’ or ‘with’.**

1. by 2. with 3. with 4. by 5. by 6. by

**48. Put the words from reading into the appropriate column. Add 2-3 examples of your own to each class.**

<b>Nouns (n)</b>	Economy, flow, property, chance, method
<b>Verbs (v)</b>	To convert, to flow, to become, to include
<b>Adjectives (adj)</b>	High, renewable, intelligent, important, common, modern, industrial
<b>Adverbs (adv)</b>	Additionally, constantly

<b>Determiners (articles, numerals, quantifiers)</b>	This, the , second, more, a few
<b>Pronouns (pron)</b>	It, they, this
<b>Prepositions (prep)</b>	With, for, apart from
<b>Conjunctions (conj)</b>	But, or

## CHECK YOURSELF

**49.** Use the given words to fill in the blanks.

### UBIQUITOUS ELECTRICITY

1-phenomena, 2-attracted, 3-occur, 4-manifestations, 5-motion, 6-charge, 7-particles, 8-sources, 9-nuclear, 10-generation, 11-bulb, 12-available, 13-carried out, 14-plants, 15-converting, 16-solar cells, 17-current, 18-imbalance, 19-surface, 20-interaction.

**50.** Choose the best option to complete the sentences.

1-b, 2-a, 3-c, 4-b, 5-a, 6-b, 7-b, 8-b, 9-b, 10-a, 11-b, 12-c, 13-c, 14-a, 15-c, 16-c.

**51.** Verb tense review. Complete the sentences putting the verbs in brackets into the right tense form.

- 1 discovered /was thinking
- 2 has been teaching
- 3 has already been/ is going/will go
- 4 is writing/ has been writing/ he has written
- 5 had broken down/ had been waiting
- 6 was trying
- 7 is peeling/ is cooking/ were doing/ are going to have/ they will be sitting
- 8 is doing/ will have completed/ found
- 9 will be taught
- 10 had been browsing

**52. Read the text and put the verbs in brackets into the right tense form (Present Perfect, Present Continuous, Present Simple, Past Simple, Future Simple).**

### **90-YEAR-OLD STARTS ELEMENTARY SCHOOL**

1-has become, 2-is studying, 3-has spent, 4-uses, 5-wants, 6-didn't have, 7-was. 8-tried, 10-didn't think, 11-is, 12-is doing/ 13-have seen, 14-came, 15-will be

**53. Read the text and put the verbs in brackets into the right tense form (Past Simple, Past Perfect, Past Perfect Continuous, Past Continuous, Active or Passive.**

### **LET US KNOW MORE ABOUT THE 'FATHER OF ELECTRICITY'**

1-was born, 2-had been studying, 3-received, 4-was appointed, 6-held, 7-got interested, 8-had conducted/had been conducting, 9-published, 10-became, 11-explained, 12-had used, 13-was continuing, 14-died

## **MODULE 3 PROGRESS TEST**

### **Vocabulary**

1-c -cells, 2-b-electric, 3-a-regarded, 4-c-source, 5-a-harnessing, 6-b-associated, 7-a-charges, 8-c-lightning, 9-b-prevalent, 10-c-benefits

### **Grammar**

#### **Part 1**

1-c, 2-a, 3-c, 4-c, 5-a, 6-c, 7-c, 8-b, 9-a, 10-c

#### **Part 2**

1-b-have been, 2-b-doesn't rain, 3-a-have seen, 4-c-rained, 5-a-had been caused, 6-a-was eating, 7-c-told, 8-a-were falling, 9-a-were running, 10-c-collected/preserved

## **MODULE 4**

### **INDEPENDENT FURTHER STUDY**

**47. Television technology and other stuff. All the sentences are from the articles**  
373

*about television. Match the sentences with the pictures.*

1d 2e 3a 4b 5c 6h 7f 8g

**48.** *Read the text below and think of the word which best fits each space. The missing words may include: prepositions, quantifiers, unit of measurement or may be evident from the abbreviation.*

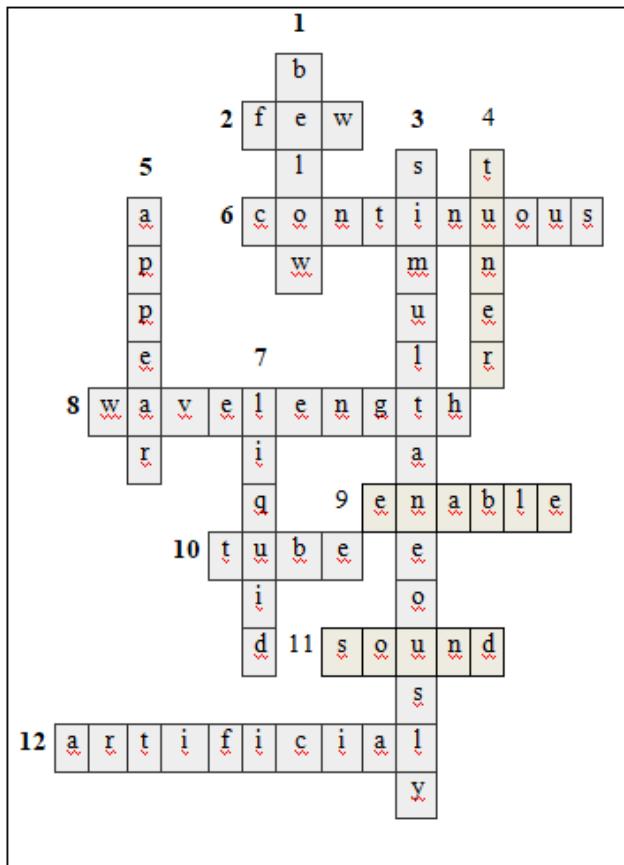
### How Remote Control Works

1frequency; 2 pulses; 3 waves; 4 way; 5 biggest;6 through;7 meters; 8 Emitting; 9 press/push; 10 required

**49\*.** *Complete the sentences with the words in bold from the text in exercise 48\*.*

1 circuit 2 flash 3 remote 4 receiving 5 corresponding 6 akin 7 require

**50.** *Do the crossword.*



**52.** *Look at the list of words below. Define their meaning and function in a text. Then use them to fill in the gaps in the text. Retell the text.*

1-In addition 2-also 3-However 4-Firstly 5-For example 6-Secondly 7-This is why  
8-Thirdly 9-Besides 10-So 11-What's more 12-because 13-And last but not least

### Degrees of Comparison. Other Points

#### 53. Read the texts and fill in the gaps with the words from the box.

##### Two Cities

(1) completely (2) much more (3) a bit (4) much (5) slightly (6) a bit more (7) just as

##### Working at Home vs Working in an Office

(1) much more (2) just as much (3) slightly more (4) a bit more (5) nearly as much

#### 54. Open the brackets.

1-as old as, 2-harder and harder, 3-as good as, 4-careful, 5-important, 6.heavier and heavier, 7-successful, 8-angrier and angrier, 9-well, 10-longer and longer

#### 55. Correct the mistakes and translate the sentences into Russian.

1. The more electricity you use, the higher your bill will be. 2. The sooner, the better. 3. The more I thought about the plan, the less I liked it. 4. The earlier we get going, the better. 5. The faster you drive, the much dangerous the situation is. 6. The less money you spend, the more you save. 7. The older we grow, the wiser we become. 8. The more I learn, the more I realise how much I do not know.

1. Чем больше электроэнергии вы используете, тем выше будет ваш счет. 2. Чем скорее, тем лучше. 3. Чем больше я думал о плане, тем меньше он мне нравился. 4. Чем раньше мы начнем, тем лучше. 5. Чем быстрее вы едете, тем опаснее ситуация. 6. Чем меньше денег вы тратите, тем больше вы экономите. 7. Чем старше мы становимся, тем мудрее. 8. Чем больше я узнаю, тем больше понимаю, как многого я не знаю.

#### 56. Complete the second sentence in each pair so that it has a similar meaning to the first one.

1. The new timetable is not as nice as the one they had last year.
2. The world has never changed as fast as it has over the last two centuries.
3. Hearing ultrasound is not as pleasant as you might think.
4. She is the most knowledgeable in her group.
5. The weather in Sochi was better than in Moscow.

## Question Forms Summary

**58. Look at the questions from task 57. Put them into the right section in the table below.**

Type 1. Is a Cathode Ray Tube a part of modern TV sets?

Type 2. How are students' academic achievements assessed?

What degree are you studying for?

How is electricity used and received?

Type 3. How do alternative energy sources help solve the problem of greenhouse effect?

Did Alexander Bell invent radio?

Type 4. Who owns the discovery of electricity?

What waves make possible most of our everyday communication?

What courses contribute the most to the career of an engineer?

Who taught at IMTS?

**59. Read some facts from the history of the invention of television and practise asking different types of questions to the sentences below. Answer the questions without looking at the text.**

1. When did the earliest experiments in television begin?
2. What gave the idea of the electrical transmission of moving pictures?
3. Had a means of electrical transmission of sound to be found?
4. When was a major breakthrough to convert light into electronic signal made?
5. Who invented the technology to create the first genuine television picture?
6. Why had the problem of transmitting sound been solved by 1926?
7. Who developed his cathode ray tube into a television receiver?
8. When did NBC begin regular broadcasts?
9. Did television begin to play an

increasingly important role After the end of WWII? 10. Has television become a major mass entertainment medium nowadays?

### **CHECK YOURSELF**

**60. Choose the right answer. For some questions more than one answer may be correct.**

1 b, 2 b, 3 a, 4 a, 5 c, 6 a, 7 a, 8 a, b, 9 a, 10 b

**61. Fill in the missing letters in the words from Module 4 word list. Read and translate the words.**

1-relation 2-breakthrough 3-broadcast 4-application 5-integrated circuit 6-satellite  
7-transmission 8-technique 9-threat 10-network

**62. Fill in the gaps in the sentences below using the words in the box.**

A. 1. growing 2. broadcast 3. lead 4. ancient 5. push 6. carry 7. place 8. dealing 9. encouraged 10. technique

B. 11. medium 12. effect 13. role 14. rise 15. transmitted 16. breakthroughs 17. point 18. expand 19. enable 20. advances

**63. Complete the sentences with the correct form of the verbs in brackets.**

*Answers may vary.*

### **The Job Interview.**

(1) was (2) was (3) went (4) had (5) had worked/was working (6) had finished (7) had worked/had been working (8) could (9) had been doing/was doing/would do (10) would get

**64. Put the verbs in brackets into the correct tense form. In some sentences answers may vary.**

1-had never seen, 2-was playing, 3-had locked, 4-would be able, 5-had enjoyed or were enjoying, 6-would finish, 7-have not come, 8- was, 9-did not know, had phoned or was phoning 10-has not been seeing or has not seen, 11-had come, 12-would never speak, 13-had just bought, 14-would never drink, 15-had already

found, 16-were sleeping, 17-are still discussing, 18-had gathered, 19-was or am (exception), 20-would pass

**65. Rewrite the sentences beginning from the words given in brackets.**

1. She said that she could get home on her own.
2. They said that they hadn't been to the art gallery for ages.
3. He asked me when I had left the house that morning.
4. He said he would think about that.
5. She said that she hadn't been in touch with her mother since the end of the summer.
6. The doctor told him to cut down on smoking.
7. He asked me if I understood the rules of reported speech.
8. She asked him when she would see him again.
9. She said that they were going on holiday the next day.
10. She told him to wait there until she got back.

**66. Put the adjectives in brackets into the correct comparative or superlative form.**

- 1-older/better/largest, 3. further 3-farthest, 4-nearest, 5-less, 6-more efficient, 7-biggest, 8-less

**67\*. Read a passage from “David Copperfield” and put the verbs in brackets into the correct tense form.**

informed, was coming, is easy, had been waiting, slept, woke up, had, didn't come, arrived, came, was, would have/had, cannot, saw, had caused, had, had tried, could, had not been able.

**68. Answer the following questions. Consult Module 4 texts if necessary.**

Suggested answers:

1. cave-painting, hieroglyph, paper, printing;
2. communication over long distances;
3. telegraph, telephone;
4. radio, telephone, microwave oven, X-ray machine, copy-machine etc;
5. smart phone;
6. text messaging;

7. It uses WWW;
8. electromagnetic field, electricity;
9. laser, holography;
10. The waves emitted by our physical world make it possible for us to communicate over vast distances, see objects in the dark that are deep beneath the surface of the earth and sea, and even look deep into outer space.

## **MODULE 4 PROGRESS TEST**

### **Vocabulary**

1-a, 2-c, 3-c, 4-a, 5-b, 6-c, 7-b, 8-a, 9-b, 10-c.

### **Grammar**

1-a, 2-b, 3-b, 4-a, 5-c, 6-c, 7-a, 8-b, 9-a, 10-c

## **MODULE 5**

### **INDEPENDENT FURTHER STUDY**

#### **Defining Vs Non-defining Relative Clauses**

**48. Analyse the examples below. Which relative clauses are defining and which are non-defining? Explain why.**

In 1, 4, 8, 10 sentences relative clauses are defining, they give the information that is essential for understanding a sentence.

In 2, 3, 5-7, 9 sentences relative clauses are non-defining, they give some extra information.

**49. Choose either ‘defining’ or ‘non-defining’ to fill in the gaps.**

*Defining clauses* are not set off from the main clause by commas.

The relative pronoun *that* is not used in *non-defining clauses*.

*In non-defining clauses* the pronouns *who* and *which* cannot be omitted.

**50.\* Fill in the gaps with the correct relative pronouns or adverbs. Write D (for defining), ND (for non-defining) and say whether the relative pronouns can be omitted or not.**

1. Compared to the first electronic computers, **which** were huge machines, today's computers are amazing. (ND) 2. Big data, **which** also contains a great variety of information about millions of users, is a large volume of data collected from various sources. (ND) 3. Programming language is a language **that/which** is used to give instructions to computers. (D) 4. Machine learning, **which** is closely related to computational statistics, focuses on making predictions using computers. (ND) 5. We visit shops and offices **which/that** engineers have designed with the help of computers. (D) 6. 'Big data' is a new term **which/that** is widely used in every section of science and industry. (D) 7. In general, computers are machines **which/that** perform calculations according to a set of instructions, or programs. (D) 8. A computer, **which** is a calculating machine, is also an electronic filing cabinet. (ND) 9. Electronic health records, **which** are used in medical industry, allow doctors to coordinate health care and avoid mistakes. (ND) 10. My computer, **which** I use every day, is an Apple iMac. (ND)

**51. Read the sentences. In each sentence the word 'that' is missing. Fill in the missing word 'that' in each sentence.**

1. His own experience is different from **that** of his friends. 2. She said **that** she'd come. 3. Is **that** house across the road really yours? 4. Our record exceeded **that** of the most developed countries. 5. Charles Babbage was an English mathematician who designed a calculating machine **that** was able to compute. 6. I can't believe **that** he's passed the driving test. 7. Doesn't it remind you of **that** old house in Oxford? 8. Modern computers range in size and power depending on the tasks **that** they are designed to perform. 9. The letter **that** I got yesterday was from my old friend. 10. She's never been involved in something as exciting as **that** contest.

**52. Use the words in the brackets to combine the following sentences.**

1. **As soon as** a small enough electromechanical computer was invented, it became possible to use such equipment on a submarine. 2. **Before** the Internet was developed our life could not integrate with smart technologies. 3. **Every time** the

lectures were over, the students went home. 4. Anna could come to her parents' house **whenever** she wanted to. 5. **After** they had finished the work, they went out. 6. He had tidied the room **by the time** his mother came home. 7. Just as we arrived home, they left. 8. **Before** you come in could you take off your shoes, please.

**53. Which sentence is correct / incorrect in each pair? Explain why.**

Correct sentences: 1. When the term ends, we'll have exams. 2. I'll feel more relaxed after I finish my project. 3. When I write the report, I'll help you with your homework. 4. Until we answer all the questions, we won't finish the conference. 5. As soon as I am ready, I'll make you a cup of coffee.

(After time conjunctions in adverbial clauses of time we use present tenses to refer to the future.)

**54. Fill the gaps with future time clauses.**

1-tell, 2-will make, 3-is complete.

4-is ready, 5-I'll tell

6-I'll hold, 7-I conduct.

8-I'll run, 9-get back.

10-you won't give, 11-you finish

12-you will be amazed, 13-when you learn.

14-I introduce, 15-I'll retire.

**55. Choose the right word. Identify the types of clauses.**

**A.** 1-since (reason), 2-because (reason), 3-on the grounds that (reason), 4-as (reason), 5-due to (reason).

**B.** 1-so that (purpose), 2-not to (purpose), 3-with the aim (purpose), 4-in order to (purpose), 5-so as not (purpose), 6-to avoid (purpose).

**56\*. Combine the two sentences into one with an appropriate linking word from the list. Suggested answers.**

1. **As** new technologies are developing rapidly, dexterous<sup>1</sup> robots might be with us very soon. 2. It may be possible to produce parts with high precision **due to** 3D

printing, which is an advanced method of manufacturing parts. 3. Robots were introduced at the plant **because** even slight changes outside the procedure can cause a halt<sup>2</sup> of production line. 4. **The reason why** she went to the supermarket was that she wanted to buy some milk. 5. He finished early **because** I helped him. 6. He bought an exercise bike **in order to** get fit. 7. I left early **in order to** be there on time. 8. We are gathered here **on the grounds that** we need to reach a decision. 9. I will take some sandwiches **in case** I get hungry. 10. He opened an account **with the purpose of** saving money to buy a car. 11. Smart city is an area that collects different types of electronic data **with the aim of** analysing this information. 12. **Since** machine learning models operate with minimal intervention<sup>3</sup> from humans they greatly reduce the possibility of human error.

**57\*. Write a new sentence that combines the two parts using an appropriate conjunction of contrast or concession.**

*Example: I have been learning English for five years. I can't speak fluently.  
Although I have been learning English for five years, I can't speak fluently.*

1. Although there are millions of different types of viruses, only about 5,000 virus species have been described in detail. 2. Though Computer Assisted Learning is getting more popular, some language teachers think that technology can become a distraction. 3. Although she spent all the afternoon on the project, she did not finish it. 4. In spite of the fact that he has been living in Moscow for a long time, he does not speak Russian. 5. I used to love listening to her despite the fact that I could only understand about half of what she said. 6. Though his company is profitable, it still needs to face up to some serious problems. 7. Though it was very late, nobody wanted to leave. 8. Even though it is summer, it is very cold. 9. Covid -19 continued to spread exponentially in spite of the measures to slow it down. 10. Despite the pain in his leg he completed the marathon.

**58. Choose the correct option.**

1-however, 2-despite, 3-although, 4-while, 5-although, 6-as, 7-despite, 8-whatever,  
9-though, 10-whereas, 11-though, 12-even though, 13-however, 14-although

**59. Read the information in the box and translate or explain noun combinations below.**

1. ресурс данных, ресурс хранения, сетевой ресурс, ресурс безопасности, системный ресурс.
2. средства связи, средства базы данных, средства отображения, средства управления.
3. дистанционное управление, управление устройством, управление с клавиатуры, управление положением, программное управление.
4. компьютерное хранилище, лазерное хранилище, хранилище файлов, дисковое хранилище, иерархия хранилища данных.
5. последовательность символов, последовательность команд, последовательность сообщений, последовательность импульсов.
6. файл доступа, файл каталога, файл данных, справочный файл, файл изображения, мультимедийный файл, файл меню, файл пользователя.
7. ввод команд, ввод данных, ввод с диска, ввод файлов, ввод с клавиатуры, ввод программ.

**CHECK YOURSELF**

**COMPUTERS IN FACTS AND FIGURES**

**60. How much do you know about the history of computers? Check yourself.**

1-a; 2-c; 3-b; 4-b; 5-c; 6-b; 7-c; 8-b; 9-; 10-b; 11-a; 12-b; 13-c; 14-c; 15-a; 16-b.

**61. Word quiz. Choose the best word to fill in the gaps.**

1-b, 2-c, 3-a, 4-c, 5-a, 6-b, 7-c, 8-a, 9-b, 10-a, 11-c, 12-c, 13-a, 14-c, 15-c, 16-b,  
17-c, 18-a, 19-b, 20-a

**62. Use an appropriate relative pronoun to link two clauses. Translate the sentences into Russian.**

**Example:** A computer is a machine \_\_\_\_\_ performs operations according to instructions. → A computer is a machine **which/that** performs operations according to the instructions.

1. A virus is a small infectious agent **which/that** replicates only inside the living cells of an organism. 2. Some scientists maintained the view that viruses were liquid in nature, later there were theorists who proved that they were particulate. 3. Some viruses **which/that** are dependent on the presence of other virus species in the host cell are called satellites. 4. Internet television is a general term to refer to television **which/that** has a built-in operating system. 5. Smart television refers to the TV set **which/that** enables the delivery of video content over the Internet.

**63.** Fill the gaps with **who, which, whose, that, where or when**. Then choose the correct answer.

1. who/ a; 2. which, that/a; 3.when/a; 4. where/b; 5. whose/ b; 6. which, that/ a; 7. which, that/ a; 8. which/that/b; 9. who/b; 10. where/a

**64\*.** Complete the second sentence so that it has a similar meaning to the first sentence, using the word given.

1. They enjoyed their holiday despite the wet weather.
2. In spite of the fact that her arm was broken, she managed to get out of the car.
3. That's the institute where he used to work many years ago.
4. We only admit the children whose parents or guardians are with them.
5. When they had (had) a discussion with their parents they decided to change the school.

**65.** Complete the sentences with one word. Choose from the list of words below.

1.so/that 2. such/that 3.so/that 4.such/that 5.therefore 6.So, therefore 7.For this reason, as a result 8. Consequently, for this reason, 9-As a result, 10-so/that

**66.** Underline the correct linking words.

1-as long as, 2-in order to, 3-because, 4-so, 5-although/so as not, 6-apart from, 7-with respect to, 8-apart, 9-whereas, 10-afterwards.

## MODULE 5 PROGRESS TEST

**Vocabulary.** Decide which answer a, b or c best fits into each gap.

1-c, 2-a, 3-b, 4-c, 5-c, 6-a, 7-c, 8-b, 9-a, 10-c

**Grammar.** Decide which answer a, b or c best fits into each gap.

1-c, 2-b, 3-b, 4-c, 5-b, 6-a, 7-b, 8-a, 9-b, 10-c

## MODULE 6

### INDEPENDENT FURTHER STUDY

**47. Match the words on the left with the definitions on the right.**

1-b, 2-a, 3-f, 4-g, 5-l, 6-h, 7-j, 8-c, 9-d, 10-e, 11-k, 12-i.

**48. Match the underlined verbs from the sentences to their definitions. Practice giving the definitions of ‘space’ verbs.**

1-b, 2-j, 3-h, 4-a, 5-d, 6-c, 7-e, 8-i, 9-g, 10-f

### DEGREES OF PROBABILITY

**49. Study the following examples. Match them with the expressions (a-d) describing the degree of certainty they describe.**

1- very certain, 2 - probably, 3 - probably, 4 - possibly/likely, 5 - possibly, 6 - impossibility/disbelief

**50. Rewrite these sentences in another way using the modal given. Explain the difference in degree of probability in the examples below.**

1. It must be the film we saw last week.
2. This can't be the agency where we booked our trip.
3. It could be the number that he gave.
4. We will have cold weather in winter.
5. Someone is calling. It might be Mike.
6. The speed of light is 186282 kilometres per second?
7. Two thousand roubles? This

bill can't be right. 8. We might have longer holidays in summer. 9. You will pass your exams. (will) 10. That can't be the right answer. 11. You can't have seen me yesterday. I wasn't at university. 12. He has a beautiful house. He must be very rich. 13. Nick could be ill. 14. I can't find my phone. I might have left it at home. 15. Why do you think Alexander hasn't arrived yet? He must have missed the train. 16. Sam may join his father's company. 17. It cannot be easy to pass this exam. 18. We might meet soon. 19. Who knows? We may go on holiday in July. 20. We could go to the seaside.

**51.\* Use the right modal (*may*, *might*, *can't*, *could*, or *couldn't*).**

1 - may, 2 - might, 3 - can't, 4 - couldn't, 5 - could, 6 - can't, 7 - may, 8 - can't, 9 - could, 10 - might/could.

**52\*. Read the text and fill in the gaps with the modals from the box. Retell the text.**

**Scientists Say Most Likely Number Of Contactable Alien Civilisations Is 36**

1-could, 2-could, 3-needed, 4-would, 5-would, 6-are likely, 7-would, 8-would, 9-wouldn't be, 10-may not, 11-may not, 12-had, 13-will, 14-should

**55. Decide which quantifiers can be used with countable nouns, uncountable nouns or both. Complete the table.**

Uncountable nouns	Countable nouns	Countable and uncountable nouns
much	both	all
little	another	any
a little	each	enough
	either	some
	few	other
	a few	a lot of
	many	no

	several	
--	---------	--

**56. Complete the rules with can or cannot.**

1. We **can** use **many/several/a number of** with countable nouns.
2. We **cannot** use **many/ several/a number of** with uncountable nouns.
3. Both/neither **can** refer to group of two.
4. Little/a little **cannot** refer to countable nouns.
5. Most/some/all **can** refer to both countable and uncountable nouns.

**57. Choose the correct option.**

1. I need **some/many** information. 2. How many/**much** travel will the job require?
3. Ann and her brother are athletes. They all/**both** won gold medals. 4. Before going into business, ask experienced people for several/**some** advice. 5. If you need **some/a number of** cash, use an ATM machine. 6. Do you think there is too many/**much** sport on TV? 7. Climate is changing as there's too **much/little** carbon in the air. 8. How **much/many** data can your computer's hard drive store? 9. Her hardware is fine, but she needs to get **some/any** new software. 10. The customs officer at the airport checked **all/every** our baggage. 11. We spent many/**much** time in the hotel room because of the bad weather. 12. Jack is keen on football but unfortunately he has **no/few** ability. 13. There isn't **any/some** point at all in getting upset about it. 14. **A number of /a little** changes have been done in the test. 15. **Every/all** student has to fill in the questionnaire.

**CHECK YOURSELF**

**59. The ISS Quiz. How much do you know about the ISS?**

1-b, 2-a, 3-c, 4-b, 5-c, 6-c, 7-c, 8-a, 9-d, 10-c

**60. Vocabulary Quiz. Choose the best answer a, b, or c.**

1-c, 2-b, 3-c, 4-a, 5-b, 6-a, 7-c, 8-c, 9-a, 10-c, 11-c, 12-c, 13-b, 14-b, 15-a, 16-c,  
17-c, 18-b

**61. Match the descriptions of the meanings of the modal verbs with the examples below.**

1- ability, 2-disbelief, 3-strong command, 4- possibility, 5-logical deduction, 6-prediction, 7- necessity, 8-disapproval, 9-necessity, 10- ability

**62. Give the descriptions of the functions of the modal verbs in the examples below. The first letter is given.**

1-request, 2-offering help, 3-asking for permission, 4-advice, 5-suggestion, 6-invitation, 7-refusing permission, 8-advice, 9-command, 10-suggestion

**63. Choose the correct option. Translate the sentences into Russian.**

A. 1-have, 2-was, 3-must, 4-should, 5-should, 6-shouldn't, 7-had to, 8-should, 9-may, 10-can't, 11-mustn't, 12-ought, 13-couldn't, 14-could, 15-can

B. 1-can, 2-were allowed, 3-needn't, 4-to be able to, 5-mustn't, 6-have, 7-needn't, 8-could (not), 9-may, 10-be allowed, 11-can, 12-must, 13-shall, 14-be able, 15-was able.

## MODULE 6 PROGRESS TEST

### Vocabulary

1-c, 2-c, 3-a, 4-a, 5-b, 6-c, 7-b, 8-a, 9-c, 10-b

### Grammar

1-c, 2-a, 3-b, 4-b, 5-a, 6-a, 7-a, 8-b, 9-b, 10-c

## END of the Year GRAMMAR TEST

1-b, 2-c, 3-c, 4-b, 5-a, 6-b, 7-b, 8-d, 9-c, 10-c, 11-d, 12-c, 13-c, 14-d, 15-a, 16-b, 17-d, 18-d, 19-b, 20-a, 21-b, 22-d, 23-d, 24-c

## **ENGLISH-RUSSIAN DICTIONARY**

### **Vocabulary List for Module 1**

#### **Essential vocabulary**

ability (n)	способность
accommodation(n)	размещение
advanced (adj)	продвинутый, передовой
assess (v)	оценивать
attend (v) (lectures)	посещать (лекции)
bachelor's degree	степень бакалавра
be (v) good (at)	хорошо разбираться (в)
bring(v) up date	обновлять
competence(n)	компетентность
complete (v) assignments	выполнять задания
conduct (v) research (n)	проводить исследование
define (v) priorities (n)	определить приоритеты
department (n)	подразделение, зд. кафедра
develop (v)	разрабатывать
enroll (v)	зарегистрироваться, зачислять
ensure (v)	обеспечить
experience (n)	опыт

faculty (n)	факультет
get (v) a degree	получить степень
graduate (n)	выпускник
higher education	высшее образование
highly qualified (adj)	высококвалифицированный
improve (v)	усовершенствовать
knowledge and skills (n)	знания и навыки
master's degree	степень магистра
meet (v) the requirements	соответствовать требованиям
opportunity (n)	удобный случай, возможность
postgraduate (n)	магистрант, аспирант
provide (v) something	предоставить что-нибудь
range (n) of	диапазон
seminar (n)	семинар
take (v) course	изучать, проходить курс
undergraduate(n)	студент
well-equipped (adj)	хорошо оборудованный
workshop (n)	мастерская, семинар

### **Additional Vocabulary**

access (n)	доступ
affect (v)	оказывать воздействие
at present/today (adv)	в настоящее время/
benefit (n)	выгода
consider (v)	рассматривать, полагать, считать
enable (v)	помогать, давать возможность
especially (adv)	особенно
facility(n)	объект, возможность, оборудование
feedback (n)	обратная связь
further (adj)	дальний

have internship	проходить стажировку, практику
instruction (n)	обучение, инструкция
investigate (v)	расследовать
junior (adj)	младший
mean (v)	значить
means (n) of	средства
a number (n) of	ряд, несколько
prepare (v)	готовить(ся)
quality (n)	качество
receive (v)	получать
remain (v)	оставаться
senior(adj)	старший
supervision	контроль, наблюдение
thorough (adj)	тщательный, доскональный
tuition (n)	плата за обучение

## Vocabulary List for Module 2

### Essential vocabulary

acid (adj) rain (n)	кислотный дождь
adopt (v)	принять
affect (v)	воздействовать
alternative (adj) energy (n)	альтернативная энергия
carry out (research) (v)	проводить (исследования)
cause/cause something (n,v)	причина/вызывать что-то
concern (v, n)/ be concerned with	обеспокоенность/ быть обеспокоенным
conserve (v)	беречь, охранять
consumption (n)	потребление
contribute (v)	вносить вклад
cut down rainforest(s) (n)	вырубать тропический лес
damage (v, n)	наносит ущерб/повреждение

destroy something (v)	разрушать, уничтожать
disaster (n)	катастрофа
efficient (adj)	эффективный, квалифицированный
endangered species (n)	виды под угрозой исчезновения
environmental (adj) issue (n)	проблема окружающей среды
environmental (adj) protection n)	защита окружающей среды
fossil (adj) fuel (n)	ископаемое топливо
global (adj) warming (n)	глобальное потепление
greenhouse effect (n)	парниковый эффект
harmful (adj) emission(s) (n)	вредные выбросы
increase (n, v)	увеличение/ увеличивать
join (v)	присоединяться
ozone layer (n)	озоновый слой
pollution (n)	загрязнение
protect (v)	защищать
recycle (v)	перерабатывать, повторно использовать
reduce/mitigate (pollution)	уменьшить/смягчить (загрязнение)
solve / solution (n)	решать/ решение
threat (n)	угроза
waste (v, n)	тратить впустую/ отходы

## Additional Vocabulary

avoid (v)	избежать чего-то
exposed/ exposure (n)	незащищенный/ незащищенность
be responsible (adj) (for)	нести ответственность (за)
currently (adv)	в настоящее время
deal with/solve problem	иметь дело/ решать проблему
estimate (v)	производить оценку
impact (v, n)	влиять/ сильное воздействие
impede (v)	препятствовать

performance (n)	исполнение, характеристика
poisonous/toxic (adj)	ядовитый/токсичный
population (n)	население
replace (v)	заменить
respond (v)	реагировать, отзываться
reveal (v)	раскрыть
save resources (n)	экономить ресурсы
significant (adj)	значительный
substance (n)	вещество
take measures (n)	принять меры
the rest of the world (n)	остальной мир
warning (n)	предупреждение

### Vocabulary List for Module 3

#### Essential vocabulary

attract (v)	привлекать
be associated (v) with	быть связанным с
be available (adj) (in nature)	быть доступным (в природе)
carry (v) out	осуществлять, проводить
charge (n, v)	заряд/ заряжать
collision (n)	столкновение
common (adj)	обычный
convert (v)	преобразовывать
electric current (n)	электрический ток
flow (n)	поток
generate (v)	производить, генерировать
include (v)	включать
involve (v)	включать в себя, вовлекать, касаться
negative/ positive (adj)	отрицательный/ положительный
occur (v)	случаться, иметь место, происходить
particle (n)	частица

phenomenon/phenomena (n)	явление/явления
power station (n)	электростанция
property (n)	свойство, качество
relate (v)	относиться, быть связанным
release (v)	избавлять, освобождать
set (n) of	набор
solar cell (n)	солнечный элемент
source (n) of energy	источник энергии
various (adj)	различные

## Additional Vocabulary

attach (v)	прикреплять, прилагать
cause (v) harm	причинять вред
consume (v)	расходовать
distribute (v)	распределять, распространять
harvest (v) the energy	копить энергию
light bulb (n)	лампочка
measure (v, n)	измерять/ мера
over the last few decades	за последние десятилетия
pass (v) through	проходить через
prevalent (adj)	распространенный
reduce (v)	уменьшить, сократить
regard (v)	расценивать, рассматривать
rely on (v)	полагаться
renewable (adj)	возобновляемый
social benefit(s) (n)	социальные льготы
solve (v)/ solution (n)	решать/ решение
supply (v, n)	поставлять/ поставка
take (v) into consideration/ account	принимать во внимание
throughout (prep) (the world)	по всему миру

transmit (v)	передавать
unit (n) of energy	единица измерения энергии
wind farm (n)	ветровая электростанция

### Vocabulary List for Module 4

#### Essential vocabulary

advance (v, n)	продвижение, прогресс/ продвигаться вперед
application (n)	применение
artificial (adj) satellite (n)	искусственный спутник
average (adj)	средний
breakthrough (n)	прорыв, важное открытие
bring (v) to a new level	поднимать на новый уровень.
broadcast (v, n)	передавать, транслировать/ трансляция
carry (v) messages	передавать сообщения
data transmission (n)	передача данных
digital (adj)	цифровой
electromagnetic (adj) wave	электромагнитная волна
employ (v)	применять, использовать
enable (v) something	делать возможным
encourage (v) something	поощрять
evolve (v)	эволюционировать
expand (v)	расширяться
improvement (n)	улучшение
in ancient (adj) times	в древние времена
indispensable (adj)	незаменимый
integrated circuit (n)	интегральная схема
lead (v) (to)	вести (к)
means (n) of communication	средства связи
medium/media (n)	среда, средство/ средства
network (n)	сеть

obvious (adj)	очевидно
play (v) a role	играть роль
push (v) something forward	продвигать
rapidly (adv)	быстро
relation (s) (n)	отношение (отношения)
technique (n)	техника
telecommunication (n)	телекоммуникация
to result (v) in	иметь результатом
turning point (n)	поворотный пункт
wire/cable (n)	провод/кабель

### **Additional Vocabulary**

amusing (adj)	забавный
attitude (n)	отношение
comprehensible (adj)	понятный, ясный
consistently (adv)	последовательно
convince (v)	убедить
emerge (v) /emergence (n)	возникать/ появление
emit (v)	излучать
essential (adj)	существенный, важнейший
exist (v)	существовать
groundbreaking (adj)	новаторский
imagine (v)	представьте себе
meanwhile (adv)	тем временем
nevertheless (adv)	тем не менее
prove (v)	доказать
sophisticated (adj)	сложный, утонченный
specific (adj)	конкретный, определенный
substantially (adv)	по существу, главным образом

### **Vocabulary List for Module 5**

## **Essential vocabulary**

a means of	средство
accept (v)	принимать
amazing (adj)	удивительный
appropriate (adj)	подходящий, соответствующий
assist /assistant	уместный, подходящий
calculate (v) /calculation (n)	рассчитать/расчёт
capable (adj) / capability (n)	способный/способность
character(s) (n)	символ(ы)
compare (v) /compared to	сравнить/ по сравнению
define (v)/definition (n)	определить/определение
design (v, n)	дизайн
drawback (n)	недостаток
embedded/built-in (adj)	встроенный/встроенный
entire	весь, целый
hardware (n)	оборудование
however (adv)	однако
integrated circuit (n)	интегральная микросхема
invisible (adj)	невидимый
latest/recent	последний/последний
numerous (adj)	многочисленный
ordinary (adj) (computer)	обычный (компьютер)
perform (v) instruction(s) (n)	выполнять (инструкции)
process (v) (data)	обрабатывать (данные)
recognise (v)	признавать
require (v) /request (n)	требовать/ запрос
respond (v) / response (n)	отвечать/ ответная реакция
scale (n)	шкала, масштаб
software (n)	программное обеспечение
solution (n)	решение

store (v) (data)	хранить (данные)
supercomputer (n)	суперкомпьютер
turn (v) into	превратиться

## Additional Vocabulary

according to	согласно, в соответствии
algorithm (n)	алгоритм
artificial (adj) intelligence (n)	искусственный интеллект
be concerned with	заботиться (о), беспокоиться
be linked up with	быть связанным с
complete (v)	полный
control (v, n)	контролировать/ контроль
data (n)	данные
downside (n)	недостаток
draw attention	привлечь внимание
generation of computers	поколение компьютеров
impact (n, v)	воздействие/ воздействовать
invisible (adj)	невидимый
involve (v)	вовлекать, включать в себя
machine learning	машинальное обучение
miraculous	удивительный
predict(v)	предсказать
pressure (n)	давление
privacy (n)	конфиденциальность
query (n)	запрос
rely/reliable	полагаться/ надежный
step forward	шаг вперёд
tiny	очень маленький
virtually	практически, поистине

## Vocabulary List for Module 6

## **Essential vocabulary**

accessible (adj)	доступный
accomplish (v)	выполнить
address problems (n)	решать проблемы
autonomous (adj) vehicle (n)	автономное транспортное средство
condition (n)	условие
connectivity (n)	способность к подключению
deal with (v)	иметь дело с
distract distraction (n)	отвлекать/ отвлечение внимания
earth (n)	земля
effort (n)	усилие
enhance (v)	усиливать
expand (v)	растягиваться, расширяться
exploration (n)	исследование
explore space (n)	исследовать космос
in addition	вдобавок, к тому же
innovation (n)	инновация
investigate (v)	расследовать, изучить
investment (n)	инвестиция
launch (v, n)	запускать/ запуск
mankind (n)	человечество (п.)
mission (n)	миссия, задача
overcome (v)	преодолеть
promote cooperation (n)	поощрять сотрудничество
push (n) boundaries (n)	раздвинуть границы
relate (v)	относиться
significant (adj)	значительный
spacecraft (n) (pl. spacecraft)	космический корабль
search (v, n)	искать, поиск
universe (n)	вселенная

## **Additional Vocabulary**

alien (n, adj)	инопланетянин/ инопланетный
announce (v)	объявить
assemble (v)	собрать
attempt (n)	попытка
be underway	быть в процессе осуществления
collaboration (n)	сотрудничество
compelling (adj)	убедительный
completion (n)	завершение
condition (n)	условие
crew (n)	экипаж
deliver (v)	доставить
determine (v)	определить
establish (v)	установить
facility (n)	оборудование, приспособления, услуги
find out (v)	найти
investment (n)	вложение денег, инвестирование
mainstream (adj)	основной
maintain (v)	поддерживать, обслуживать
manned (adj)	пилотируемый, с человеком на борту
permanently (adv)	постоянно
purpose (n)	цель
refer something	направлять, отсылаять
remarkable (adj)	замечательный
sample (n)	образец
sign (n)	знак
stand (v) for	означать
stay (v) on board	оставаться на борту
survey (n)	обзор, исследование
testing ground (n)	полигон

weigh (v) /weight (n)

весить/ вес.

### Авторы

Маторина Ирина Николаевна  
Шайнога Светлана Георгиевна  
Голосовская Ирина Игоревна