

Introductory Technical Writing

- *Classroom materials* –

**Print out for use in Zoom class.
Alternatively, the PDF version has editable fields**

Course outline and contents

Topic	Contents
Topic 1: Academic Style	<input type="checkbox"/> Key features of academic writing <input type="checkbox"/> Guidelines for academic style <input type="checkbox"/> Avoiding repetition and redundancy <input type="checkbox"/> Varying sentence length
Topic 2: Academic Vocabulary	<input type="checkbox"/> Different aspects of 'word knowledge' <input type="checkbox"/> What is the Academic Word List? <input type="checkbox"/> Why is it important? <input type="checkbox"/> Using a Learner Dictionary <input type="checkbox"/> Using a Collocation Dictionary <input type="checkbox"/> Self-study of sub-lists 1, 2 and 3
Topic 3: Paragraphs – Information structure	<input type="checkbox"/> The importance of paragraphs <input type="checkbox"/> Given before new information <input type="checkbox"/> General before specific information
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Topic 5: Paragraphs – Development	<input type="checkbox"/> Developing paragraphs <input type="checkbox"/> Topic, Explain, Support and Sources (TESS)
Topic 6: Cohesion	<input type="checkbox"/> What is cohesion? Why is it important? Ways of achieving cohesion: <input type="checkbox"/> Linking words/phrase: structures to show <i>addition, reason, result, opposition, time</i> and <i>example</i> <input type="checkbox"/> Grammatical cohesion – <i>pronouns, grammatical parallelism</i> <input type="checkbox"/> Lexical cohesion – <i>repetition, lexical sets</i> and <i>collocation</i> <input type="checkbox"/> The difference between conjunctions to adverbs when used as linkers
Topic 7: Problem – Solution texts	<input type="checkbox"/> Structure of problem-solution texts <input type="checkbox"/> Language to describe problems <input type="checkbox"/> Language to introduce solutions <input type="checkbox"/> Using passive voice for describing processes <input type="checkbox"/> Express cause and effect using a variety of structures <input type="checkbox"/> Verb-ing to express cause and effect <input type="checkbox"/> Evaluative language <input type="checkbox"/> Indirect questions <input type="checkbox"/> Linking between paragraphs
Topic 8: Data commentaries	<input type="checkbox"/> Structure of a data commentary <input type="checkbox"/> Language for describing graphs and tables <input type="checkbox"/> Different types of location statements (indicative vs. informative) <input type="checkbox"/> 'As' linking clauses <input type="checkbox"/> Cautious language <input type="checkbox"/> Approximated comparisons

Assessment

Assessment will be based on the following:


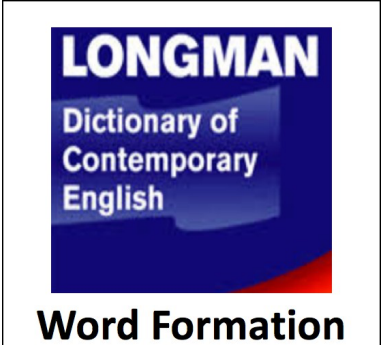

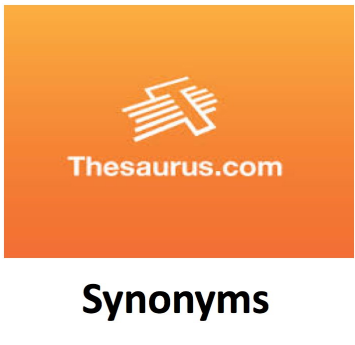
- **Attendance & Participation** – minimum attendance is set at 80%; arriving 20 minutes after the start of class will be counted as ‘late’; also based on submission of homework tasks on Manaba
- **Academic Word List self-study task (subsists 1-3)**
 - Completion of vocabulary exercise (Manaba)
 - Score on the Quizzes for sublists 1-3 (Manaba)
- **Assessed writing tasks**
 - Assessed writing task 1 – Paragraph writing
 - Assessed writing task 2 – Problem-solution text
 - Assessed writing task 3 – Data commentary*




* If time permits

Materials in part adapted from:

Bailey, S. (2010). *Academic writing for international students*. Routledge.
Bailey, S. (2010). *Academic Writing for International Students of Business*. Routledge.
Bottomley, J. (2014). *Academic writing for international students of science*. Routledge.
Smith, S. (2019). *Academic writing genres*. Evident Press.
Swales, J. M., & Feak, C. B. (2004). *Academic writing for graduate students: Essential tasks and skills*. University of Michigan Press.

Useful online resources for academic writing

	<p>EAP foundation.com</p> <p>A useful website with information to help you improve not only your academic writing, but all the language skills.</p> <p>Link: https://www.eapfoundation.com/</p>
 <p>Word Formation</p>	<p>Longman Dictionary</p> <p>This dictionary provides a lot of information on word forms: noun, adjective and verb (analysis/analyses, analyst, analytical, analyse). It highlights plural forms and acknowledges if the word is in the AWL (Academic Word List). It also includes pronunciation sounds and common collocations (do/carry out/conduct analysis).</p> <p>Link: https://www.ldoceonline.com</p>
 <p>English Dictionary</p>	<p>Cambridge Online Dictionary</p> <p>Another excellent dictionary that provides in-depth explanations, key pronunciation and example sentences.</p> <p>Link: https://dictionary.cambridge.org/</p>
 <p>Synonyms</p>	<p>Thesaurus Synonym Search</p> <p>The www.thesaurus.com is a versatile website that offers a good range of synonyms (similar words). It divides the lists into two key groups of dark orange for most frequent/associated to light orange not so frequent/associated. Below is an example of a search with the word 'analysis'.</p> <p>Link: http://www.thesaurus.com</p>

 <p>Collocation</p>	<p>Ozdic Collocation Search</p> <p>Ozdic.com is an excellent website that offers key collocations (words and phrases that go together). This collocation search will help fluency in writing and develop more academic formal vocabulary.</p> <p>Link: https://www.ozdic.com</p>
 <p>Phrases</p>	<p>Manchester Phrase Bank</p> <p>Manchester University has produced a comprehensive bank of academic phrases under a variety of topics; methods, results, defining, introductions, conclusions and more. This is not considered plagiarism because these are common language phrases not ideas.</p> <p>Link: http://www.phrasebank.manchester.ac.uk</p>
 <p>Grammar Checker</p>	<p>Grammarly-proofreading grammar checker</p> <p>Grammarly is an online app that checks grammar and vocabulary. The basic checker is free but it has many premium features: Advanced Grammar Rules, Contextual Spell Checker, Vocabulary Enhancement and Plagiarism Detection. It is a useful compliment to writing academic essays.</p> <p>Link: https://app.grammarly.com</p>

Topic 1: Academic Style

Learn more: <https://www.youtube.com/watch?v=n9d9EXWIkul>

In general, academic writing should attempt to be accurate, impersonal and objective. In order to present information and ideas clearly, a rather formal vocabulary is used.

Task 1*: A suitable academic style

1. With a partner, study this paragraph. Discuss why it is an example of poor style.

How to make people work harder is a topic that lots of people have written about in the last few years. There are lots of different theories etc and I think some of them are ok. When we think about this we should remember the old proverb, that you can lead a horse to water but you can't make it drink. So how do we increase production? It's quite a complex subject but I'll just talk about a couple of ideas.

2. Now match the twelve examples of poor academic style (1-12) with the reasons below (a-j). Some will match more than one time.
3. Discuss how you would rewrite the paragraph using academic style based on the problems identified above. What other changes would be appropriate?

1) How to make people work harder...	
2) ... lots of people ...	
3) ... the last few years ...	
4) ... lots of different ...	
5) ... etc ...	
6) ... I think ...	
7) ... are ok	
8) When we think about this ...	
9) the old proverb ...	
10) So how do we increase production?	
11) It's quite a ...	
12) I'll just talk about a couple...	

a) avoid 'lots of'
b) avoid contractions
c) avoid rhetorical questions
d) avoid using 'etc' and 'so on' – be specific
e) do not quote proverbs or similar expressions
f) imprecise vocabulary – use 'workplace motivation'
g) too informal
h) too personal
i) vague – give dates
j) vague – give names

1. General guidelines for style

- a) Do not use idiomatic or colloquial vocabulary, e.g. *kids*, *boss*. Instead use Standard English: *children*, *manager*.
- b) Use vocabulary accurately. There is a difference between *currency* and *money*, or *governance* and *government*, which you are expected to know.
- c) Be as precise as possible when dealing with facts or figures. Avoid phrases such as *about a hundred* or *hundreds of years ago*. If it is necessary to estimate numbers use *approximately* rather than *about*.
- d) Conclusions should use tentative language. Avoid absolute statements such as *unemployment causes crime*. Instead use cautious phrases: *unemployment may cause crime* or *tends to cause crime*.
- e) Avoid adverbs that show strong personal attitude, e.g. *luckily*, *remarkably*, *amazingly*.
- f) Do not contract verb forms, e.g. *don't*, *can't*. Use the full form: *do not*, *cannot*.
- g) Although academic English tends to use the passive more than Standard English, it should not be over-used. Both have their place. Compare:

Galileo discovered the moons of Jupiter.
The moons of Jupiter were discovered by Galileo.

How does the focus of these two similar sentences differ?

- h) Avoid the following:
 - *like* for introducing examples – use *such as* or *for instance*.
 - *thing* and combinations *nothing* or *something* – use *factor*, *issue* or *topic*.
 - *lots of* – use *a significant/considerable number*.
 - *little/big* – use *small/large*.
 - ‘get’ phrases such as *get better/worse* – use *improve* and *deteriorate*.
 - *good/bad* are simplistic – use *positive/negative*, e.g. *the changes had several positive aspects*
- i) Generally, avoid forms such as *What were the reasons for the decline in traffic collisions?* Instead use statements: *There were four main reasons for the decline...*
- j) When writing lists, avoid using *etc.* or *and so on*. Insert *and* before the last item, e.g. *The main products were pharmaceuticals, electronic goods and confectionery.*
- k) It is best to avoid using many two-word verbs such as *go on* or *bring up* if there is a suitable synonym – use *continue* or *raise*.

Task 2*: Practice In the following sentences, underline examples of bad style and rewrite them in a more suitable way.

1. What are the biggest things that cause global warming?

2. Unfortunately, I think there's a good chance of cybercrime increasing.

3. Lots of people think that the green technologies can replace nuclear power.

4. A few years ago the price of property in Japan went down a lot.

5. You can't always trust the numbers in that report.

6. Sadly, I think this solution won't work.

7. They did some research to see if the system works.

8. If you use your mobile phone when driving you'll have a crash.

2. Avoiding repetition and redundancy

Repetition means using the same word instead of using a synonym to provide variety. So instead of:

- Most family businesses employ less than ten people. These businesses ...

Use:

- Most family businesses employ less than ten people. These firms ...

Redundancy, i.e. repeating an idea or including an irrelevant point, suggests that the writer is not fully in control of the material. It gives the impression that either he does not properly understand the language or is trying to 'pad' your writing by repeating the same point. The

following sentences contain redundancy:

- Business schools in Spain are cheaper than business schools in the UK.
- Homelessness is a global problem in the whole world.

Good writing aims for **economy** and **precision**:

- Business schools in Spain are cheaper than in the UK.
- Homelessness is a global problem.

Task 3*: In the following text, remove all repetition and redundancy, rewriting where necessary.

FAST FOOD

Currently these days, fast food is growing in popularity. Fast food is a kind of food that people can buy or cook quickly. This paper examines the advantages of fast food and the drawbacks of fast food. First above all, fast food is usually tasty. Most of the people who work in offices are very busy, so that they do not have time to go to their homes for lunch. But the people who work in offices can eat tasty and delicious food in McDonalds' restaurants, which are franchised in hundreds of countries around the world. In addition, the second benefit of fast food is its cheapness. As it is produced in large quantities, this high volume means that the companies can keep costs down. As a result fast food is usually less expensive than a meal in a conventional restaurant.

3. Varying sentence length

Short sentences are clear and easy to read:

- *Car scrappage schemes have been introduced in many countries.*

But too many short sentences are monotonous:

- *Car scrappage schemes have been introduced in many countries. They offer a subsidy to buyers of new cars. The buyers must scrap an old vehicle. The schemes are designed to stimulate the economy. They also increase fuel efficiency.*

Long sentences are more interesting but can be difficult to construct and read:

- *Car scrappage schemes, which offer a subsidy to buyers of new cars, who must scrap an old vehicle, have been introduced in many countries; the schemes are designed to stimulate the economy and also increase fuel efficiency.*

Effective writing normally uses a mixture of **long and short sentences**.

Task 4*: Rewrite the following paragraph so that instead of six short sentences there are two long and two short sentences.

Worldwide, enrolments in higher education are increasing. In Western countries over half of all young people enter college. Similar trends are seen in China and South America. This growth has put financial strain on state university systems. Many countries are asking students and parents to contribute. This leads to a debate about whether students or society benefit from tertiary education.

Task 5: The following sentence is too long. Divide it into shorter ones.

The discipline of telecommunications engineering, including the designing, installing and overseeing of telecommunications equipment and facilities, such as complex electronic switching systems, copper wire telephone facilities and fiber optics, is the enhancement of telecommunications systems through the bringing together of electrical engineering and computer science, from the basic circuit design to strategic mass developments.

Topic 2: Academic Vocabulary

Learn more: <https://vimeo.com/521631287/d33a57bec4>

This lesson revises some key concepts in vocabulary study and introduces you to the Academic Word List, gives some examples, and provides practice in their use. It also introduces you to the vocabulary study tasks that you should complete as part of this course.

1. What is academic vocabulary?

It is the vocabulary used in academic discourse such as lectures and essays. Academic vocabulary is not the *technical vocabulary* of a particular discipline but is used across **all** academic subject areas. Many academic words describe abstract concepts and are of Greek or Latin origin. They tend to be longer words, consisting of roots and affixes.

2. How do I know which words are academic?

There is an Academic Word List, which can be consulted online. You can find it here: <https://www.eapfoundation.com/vocab/academic/awllists/>.

The Academic Word List (AWL) was developed by Averil Coxhead at Victoria University of Wellington, New Zealand. It is a core academic vocabulary with 570 entries from 28 different subject areas. These words are actually part of ‘word families’. This term is used because the word ‘analyse’, for example has many other forms (*analysis, analyst, analysts, analytical*), which are not all listed separately. The list is divided into sublists, with sublist 1 containing the most common words in the AWL, 2 the next most common words, and so on. Here are some examples:

Task 1: Scan the lists **quickly**. Circle the words that you do not ‘know’. Count them.

Sublist 1: the **most** frequent ‘headwords’

analysis, approach, area, assessment, assume, authority, available, benefit, concept, consistent, constitutional, context, contract, create, data, definition, derived, distribution, economic, environment, established, estimate, evidence, export, factors, financial, formula, function, identified, income, indicate, individual, interpretation, involved, issues, labour, legal, legislation, major, method, occur, percent, period, policy, principle, procedure, process, required, research, response, role, section, sector, significant, similar, source, specific, structure, theory, variables.

Sublist 10: the **less** frequent ‘headwords’

adjacent, albeit, assembly, collapse, colleagues, compiled, conceived, convinced, depression, encountered, enormous, forthcoming, inclination, integrity, intrinsic, invoked, levy, likewise, nonetheless, notwithstanding, odd, ongoing, panel, persistent, posed, reluctant, so-called, straightforward, undergo, whereby.

3. What are the benefits of learning these words?

These words should help you improve your reading, writing, speaking and listening skills in academic contexts. For example, they should help you to increase your reading speed. In

theory, you should be able to recognize 85% of the words in academic texts if you know the words on the AWL as well as the 2000 most common words in English.

4. What do I need to learn about words?

The first step is, obviously, to understand the **meaning**. Looking up words in a dictionary is important here. You should get into the habit of using a good learner dictionary – the Longman Dictionary is excellent (<https://www.ldoceonline.com/>). However, many students simply never get past the first step, which means they may be able to understand the word when reading, but will not be able to use it *productively* in writing or speaking.

A second step is to understand different **word forms** of the word, i.e. the word family. This will enable you to use the word more flexibly in your speaking or writing, and is an especially useful skill if you want to paraphrase material. For example, the word *benefit* can be a verb or noun. The adjective form is *beneficial*.

Task 2: Complete the following table. Use an English-English dictionary if unsure (<https://www.ldoceonline.com/>) .

Nouns	Verbs	Adjectives	Adverbs
	<i>compete</i>		
<i>decision</i>			
		<i>economic, economical</i>	
			<i>originally</i>
	_____	<i>absent</i>	
	_____	<i>certain</i>	

A third step is to focus on **usage** (e.g. ‘word grammar’, what prepositions they take). Here you would need a good dictionary to help, or you can study the word in context. Examples of usage for the word *benefit* are shown below.

benefit (n) of *What are the benefits of studying academic vocabulary?*
benefit (v) from *Students can benefit from studying more vocabulary.*
beneficial (adj) to *Studying vocabulary is beneficial to your writing and speaking.*

Task 3: Complete the following text with the correct . Use an English-English dictionary if unsure – don’t guess! (<https://www.ldoceonline.com/>) .

*In order to write a thesis, students must engage _____ research which focuses
 _____ a specific topic relevant _____ one's field of study. Current issues _____
 the field should be addressed by means of a review _____ the literature _____
 their chosen subject. Candidates should show an awareness _____ recent debate
 the topic and not rely _____ secondary sources but make use
 primary data with particular reference _____ recent findings. Training research
 methodology is important and students should be guided _____ their choice
 appropriate software packages and receive instruction _____ their use.*

Also related to usage are **collocations**, or common word combinations – e.g.

beneficial effect, economic benefits, potential benefits.

Task 4: Use a collocation dictionary (<http://ozdic.com/>) to find suitable collocations for the gaps.

1. There is _____ / _____ / _____ (adj) evidence that ...
2. Recent research _____ / _____ / _____ (verb) a correlation between earnings and qualifications.
3. This can _____ / _____ / _____ (verb) a funding crisis
4. This is considered to be a _____ / _____ / _____ (adj) benefit for ...
5. There are two _____ / _____ / _____ (adj) arguments
6. It is important to _____ / _____ / _____ (verb) a certificate / qualification
7. The government _____ / _____ / _____ (verb) this policy in 1990
8. He was the first to _____ / _____ / _____ (verb) the theory that aspects of language are innate.

A fourth step is to focus on **pronunciation**. Understanding the pronunciation of a word is important if you want to use the word correctly in your speaking, or understand it in a lecture. Pay particular attention to shifting stress as the word form changes. For example, the word *BENefit* has the stress on the first syllable, while *beneFICial* has the stress on the third syllable.

Task 5: How does the change in the wordform (e.g. adj → verb) change the pronunciation of these words? If unsure, check a good dictionary (<https://www.ldoceonline.com/>) .

PERFECT	• Your homework is perfect . (it has no mistakes in it)
	• We need to perfect our design before we can put this new product on the market. (improve it)
RECORD	• She always keeps a record of what she spends every month. (note)
	• It's important to record how much you spend every month. (make a note of)
PRODUCE	• They sell all kinds of produce at the market. (fruit and vegetables)
	• How did the magician manage to produce a rabbit from his top hat? (bring out)
ADDRESS	• Do you know Jane's address ? (where she lives)
	• You do not have permission to address the President! (to speak to directly)
CONDUCT	• We aren't happy about your general conduct . (the way you're behaving)
	• I need to conduct an experiment for my research. (to do an experiment)
EXTRACT	• She read me an extract from her new novel. (short section)
	• The dentist says he needs to extract one of my teeth. (remove, pull out)

5. How can I best learn these words?

If you use English every day for your studies, you have a good chance of 'meeting' many AWL words and naturally picking up some of their meanings and uses. But, of course you can speed up this process by actively doing things to help your brain to add words to your English 'lexicon'. You have already learned thousands of English words, using a variety of methods.

Which of these have you used for learning vocabulary?

1. Doing vocabulary learning exercises (gap fills, matching exercise, definitions, spelling tests, guessing games)
2. Keeping vocabulary word lists from your reading (word + Japanese translation, writing model sentences)
3. Using a paper or electronic dictionary (looking up translations, figuring out more complex meanings)
4. Annotating reading texts (highlighting and writing translations in the margins)
5. Using online vocabulary learning methods (games, songs, tests – e.g. quizlet, testmyvocab.com)
6. Grouping words together by topic / using graphic organizers such as, diagrams, boxes, mind maps

Learn more: <https://youtu.be/CfZnqhynhsI>

Reviewing vocabulary to learn it better

Study the following 'curve of forgetting'. Look closely at the X and Y axis. What does it tell you about vocabulary learning?

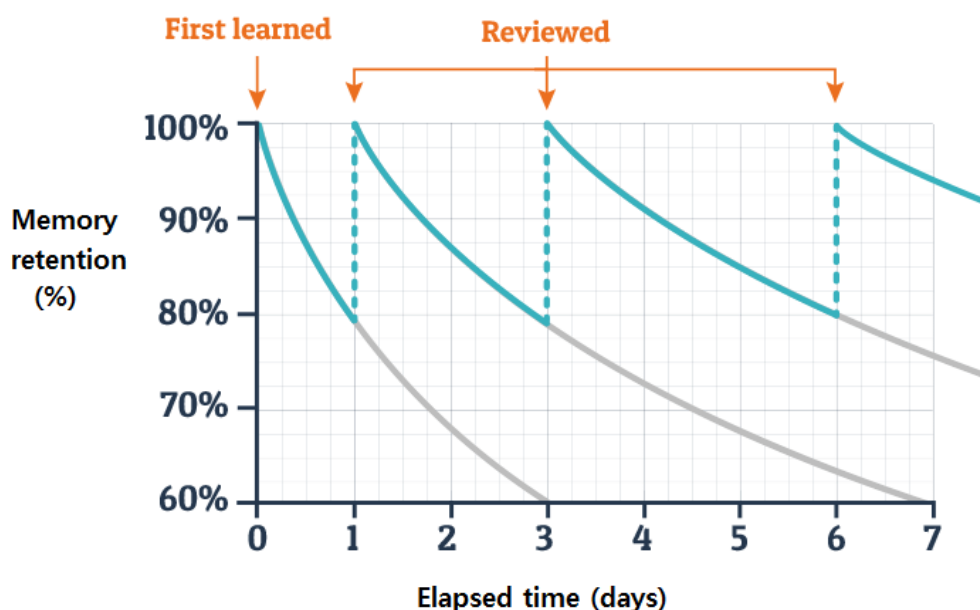


Figure: Typical forgetting curve for newly learned information.

Academic Word List Self-study task

During the course, you should independently study the word families in **sub-lists 1, 2 & 3**. You can find the full AWL here:

<https://www.eapfoundation.com/vocab/academic/awllists/>

How will you be assessed? In the ‘tests’ section of Manaba, you will also find two types of activities to help you study the AWL – ‘exercises’ and ‘quizzes’. These will count towards your final grade.

- There are **18 exercises**, and you must score 100% on these to complete them. There is no time limit. Completion of these exercises will be factored into your final grade.
- There are **three quizzes** (one for each of the sub-lists) and you should do these *after* completing the relevant exercises. These quizzes are timed, and your score will be factored into your grade.

Some useful resources for vocabulary learning

<ul style="list-style-type: none"> • http://my.vocabularysize.com • http://testyourvocab.com 	Find out how many English Words you know.
<ul style="list-style-type: none"> • http://www.englishvocabularyexercises.com/academic-word-list/ • https://www.ieltsbuddy.com/awl-exercises.html • http://www.uefap.com/vocab/exercise/exercise.htm 	Some online AWL practice exercises
<ul style="list-style-type: none"> • http://quizlet.com/en-gb 	Make your own quizzes and flash cards to test your vocabulary.
<ul style="list-style-type: none"> • http://wordclouds.com 	Make cool word clouds for fun.
<ul style="list-style-type: none"> • http://eapfoundation.com/vocab/academic/highlighter/ 	Paste text to find out the AWL words it contains. Make gapfill practice exercises and tag clouds to highlight key words.
<ul style="list-style-type: none"> • http://www.eapfoundation.com/reading/ 	An overview of reading skills and activities to improve your academic reading.
<ul style="list-style-type: none"> • https://www.ldoceonline.com • http://dictionary.cambridge.org 	Comprehensive English– English dictionaries

Topic 3: Paragraphs – Information structure

Learn more: <http://sana.aalto.fi/awe/cohesion/infostrux/given/exercises/index.html>

Task 1: Discuss the following questions in pairs.

1. What is a paragraph?
2. Why are paragraphs important?
3. Is there a typical structure for a paragraph?
4. How long should a paragraph be?
5. Has your teacher/supervisor ever given you feedback on your topic sentences?

Task 2: Exploration task:

- Identify the topic sentence – what is the topic and what are the controlling ideas?
- Which sentences do **not** relate to the topic sentence?
- Place the sentences in the correct order to create a paragraph.

1. When a person feels sad, he/she is feeling blue.
2. A person turns red with embarrassment, white with fear, green with envy and purple with rage.
3. It is interesting that English has many colour-word idioms to describe anger, jealousy and fear but does not have any to describe happiness, contentment or peace.
4. In English, there are several idioms with colour words that describe emotions.
5. A person in a black mood feels even worse; he /she is either angry or depressed.
6. For example, a thing can be described as black and white when it is obvious and clear.
7. To say someone has a yellow streak down their back means they are cowardly.
8. The idiom “to wear one’s heart on one’s sleeve” means to allow others to see your emotions or feelings.

1. 'Given' versus 'New' information

A paragraph is well developed if there is a logical connection between ideas, and the words, sentences and ideas flow in such a way that the reader is able to follow easily. One thing which can aid flow is the structuring of information in a clear, logical way. Information structure can differ across languages, so there are some specific things about English information structure which you need to be aware of.

Task 3*: Exploration

1. Look at the two sets paragraphs below and decide which one is easiest to read. Why?

Text 1A

Food additives are substances that are added to food to improve shelf-life, appearance and flavour. Vinegar and salt are two substances which have been added to food for centuries. Modern food processing has led to the use of many more additives, both natural and artificial.

Text 1B

Food additives are substances that are added to food to improve shelf-life, appearance and flavour. Two substances which have been added to food for centuries are vinegar and salt. Many more additives, both natural and artificial, are now used in modern food processing.

Text 2A

Geckos, harmless tropical lizards, are extremely fascinating and extraordinary animals. They have very sticky feet that cling to virtually any surface. This characteristic makes it possible for them to rapidly run up vertical walls and along the undersides of horizontal surfaces. In fact, a gecko can support its body mass with a single toe! The secret to this remarkable ability is the presence of an extremely large number of microscopically small hairs on each of their toe pads. When these hairs come into contact with a surface, weak forces of attraction (i.e. van der Waals forces) are established between hair molecules and molecules on the surface. The fact that these hairs are so small and so numerous explains why the gecko grips surfaces so tightly. To release its grip, the gecko simply curls up its toes, and peels the hairs away from the surface.

Text 2B

Geckos, harmless tropical lizards, are extremely fascinating and extraordinary animals. They have very sticky feet that cling to virtually any surface. They are able to rapidly run up vertical walls and along the undersides of horizontal surfaces, thanks to this characteristic. In fact, a gecko can support its body mass with a single toe! The presence of an extremely large number of microscopically small hairs on each of their toe pads is the secret to this remarkable ability. Weak forces of attraction (i.e. van der Waals forces) are established between hair molecules and molecules on the surface when these hairs come into contact with a surface. The fact that these hairs are so small and so numerous explains why the gecko grips surfaces so tightly. The gecko simply curls up its toes, and peels the hairs away from the surface to release its grip.

Commentary: Texts 1 B (adapted from The Royal Society) and 2 A (Callister, 2007: 15) are the original texts. Both have a typical English information structure in that each sentence first refers back to the main theme of the previous sentence and then adds new information. This maintains the flow of information. (In contrast, in 1 A and 2 B, the link to what has gone before is delayed, making it difficult to follow.)

This given - new structure also allows for another common feature of English, end focus, whereby new information comes at the end of the sentence, where it has more prominence.

2. Look back at the texts 1 B and 2 A and underline the words/phrases which link back to information already given.

Task 4*: Practice

Rewrite these short texts to reflect the **given-new structure** exemplified above.

1. Cereals are one of the most important staple foods. Wheat, rye, barley, oats, maize, rice, millet and sorghum are the major cereals of the world.
2. Beer is a fermented alcoholic beverage. Malt and hops are the main ingredients of beer.
3. A ligament is a resilient but flexible band of tissue that holds two or more bones together at a moveable joint. Movement of bones at a joint is restrained by ligaments and therefore they are important in preventing dislocation.
4. Chalk is a very fine-grained white rock composed of the fossilised skeletal remains of marine plankton and consisting largely of calcium carbonate. Toothpaste and cosmetics use chalk. Calcium sulphate is used to make blackboard 'chalk', which, is therefore, not the same thing.

2. General and specific

Sentences in a paragraph must be logically ordered, and often follow a linear general → specific pattern. It is also common to make the first sentence a sort of general 'umbrella' (i.e. covering the rest of the paragraph) statement, which introduces the main theme of the paragraph: this is often referred to as the **topic sentence**. Subsequent sentences will expand in some way on this, by providing support such as explanation or exemplification.

Task 5*: Exploration

Look at how the paragraphs below are introduced and developed, and match each sentence with a description of its function in the paragraph, making particular note of the **topic sentence** in each.

Text A

[1] Infectious diseases remain a major threat to global animal and human health. [2] Recent examples include the 2002 Foot and Mouth Disease outbreak in the UK, the 2003 global epidemic of SARS and the threat of an influenza pandemic. [3] The control of infectious diseases in animals and humans is a problem that needs to be addressed by scientists, veterinarians, healthcare workers, economists, social scientists and policy makers.

(Adapted from *The Royal society*)

sentence 1
sentence 2
sentence 3

a) gives examples
b) introduces the threat of infectious diseases
c) states the need for problem to be addressed

Text B

[1] Unless a patient needing an organ has an identical twin, there will always be immunological differences between the patient and the transplanted organ. [2] These differences are immediately recognised by the recipient's immune system, and, depending on how closely the donor and recipient were matched, cause a reaction intended to destroy the transplanted organ. [3] Consequently, transplant patients are placed on drug regimens designed to lessen the immune response against the organ to prevent rejection. [4] These drugs reduce the chances of rejection by diminishing the patients' *overall* immune capability. [5] However, this causes the patient to be more susceptible to infection.

(Strelkauskas *et al.*, 2010: 106)

sentence 1
sentence 2
sentence 3
sentence 4
sentence 5

a) states the problem
b) explains the negative side effects of the drugs
c) introduces the current solution to the problem (drugs)
d) explains how the drugs work
e) introduces the issue of immunological differences in organ transplant patients

Text C

[1] The *Capsicum* family includes a wide variety of peppers ranging from the large sweet peppers to the fiery chilli peppers. [2] Chilli peppers derive their hotness from capsaicin and dihydrocapsaicin (members of the capsaicinoid family), and restaurants specializing in 'hot' foods owe much to these molecules of nature. [3] They work by interacting with the same receptors in your mouth that sense heat. [4] Excessive amounts of capsaicin are toxic because capsaicin prevents the production of certain neurotransmitters and affects the function of neuroproteins in the brain. [5] At high enough concentrations, capsaicin destroys 'substance P' in the nervous system. [6] This effect has now been harnessed for medical use: 'substance P' is associated with the pain suffered by people with, for example, arthritis and inflammatory bowel disease, and application of a cream containing capsaicin results in pain relief.

(Housecroft and Constable, 2010: 1215)

sentence 1	a) explains the source of chilli heat
sentence 2	b) introduces the capsicum family
sentence 3	c) explains the toxic nature of one 'heat' molecule - capsaicin
sentence 4	d) gives examples of medical uses of capsaicin
sentence 5	e) explains the effects of capsaicin
sentence 6	f) explains how the 'heat' molecules produce heat

Task 6*: Practice

Put the sentences below in order to form well-developed paragraphs. Take care to identify the topic sentence.

Text A: 1) ____ 2) ____ 3) ____ 4) ____ 5) ____

- a) More efficient fluorescent lighting has since been developed, but suffers from flicker and colour purity issues.
- b) They are already used in traffic lights and even in museums to illuminate paintings.
- c) Lighting has not changed much since the light bulb was invented by Edison and others close to a hundred years ago.
- d) LEDs exhibit tremendous brightness, consume little power, come in different colors, and emit little or no heat.
- e) Recently, solid state light-emitting diodes (LEDs) have come on the market and are poised to revolutionise the lighting industry.

(Kuno, 2012: 419-420)

Adapted from: Bottomley, J. (2014). *Academic writing for international students of science*. Routledge.

Extension tasks

Extension task 1

Look at this paragraph about Finland. Does it flow from old to new? Change the order of information in sentences 2, 3 and 4 to make the text flow more smoothly.

[1] There are 188,000 lakes in Finland. [2] Many people are now very concerned about them. [3] Chemicals have polluted most of the larger lakes. [4] A Finnish government report recently confirmed this.

Extension task 2

1. Decide on the best sequence for the five sentences about manufacturing
2. Re-write the sentences as one paragraph, changing the information order within each sentence if you need to.

1. So the prices of many goods are now lower because of computerisation.
2. The more economical use of raw materials is one of these changes.
3. Computers are an essential part of manufacturing industry.
4. In addition, faster manufacturing processes have resulted from their introduction.
5. Improvements in production have been made possible by computers.

Extension task 3

Now that we have looked at the principle of information sequence in English, apply it to rewrite the following text so that it flows more smoothly:

[1] The application of science to the creation of useful devices to meet the needs of society is called mechanical engineering. [2] The design, manufacture, operation and maintenance of a wide variety of machinery are the focus of a mechanical engineer's work. [3] Jet engines and minute instruments for use in medicine are amongst the products designed by mechanical engineers. [4] Engineering drawings of the devices which are to be produced are created by mechanical engineers. [5] Manual work was the normal means of creating drawings before the late 20th century, but computer-aided design (CAD) programs have been used to create drawings and designs since the use of computers became widespread. [6] Three-dimensional models can be used directly for manufacturing the devices thanks to modern CAD programs.

Topic 4: Paragraphs – Topic sentences, supporting sentences, definitions & examples

Learn more: <https://www.eapfoundation.com/writing/essays/structure/mainbody/>

1. Topic sentences

The topic sentence is the most important sentence in a paragraph and is usually the first sentence. It indicates what the paragraph is going to discuss, and thus serves as a useful guide both for the writer and the reader; the writer can have a clear idea what information to include (and what information to exclude), while the reader will have a clear idea of what the paragraph will discuss, which will aid in understanding. As it presents the main idea, without supporting information, the topic sentence is the most general sentence in the paragraph. A good topic sentence is therefore not overly long and complex.

The topic sentence comprises two separate parts: the topic of the paragraph, and the controlling idea, which limits the topic to one or two areas that can be discussed fully in one paragraph.

The popularity of fast food has had a dramatic impact on worldwide health.

In this case, the topic is the **popularity of fast food**. The controlling idea is **impact on worldwide health**, which limits the discussion to this one idea. We can therefore predict that this paragraph will explain the topic and then give supporting ideas (reasons, facts, etc.) to show how it has impacted on worldwide health.

Task 1: Read the paragraph. Which aspect of the topic do the supporting sentences relate to?

[1] The popularity of fast food has had a dramatic impact on worldwide health. [2] Usually inexpensive, convenient and tasty, fast food chains such as McDonalds have come to dominate what we eat. [3] McDonalds, for example, now serves meals to over 62 million people every day (O’Grady 2018). [4] This number is equivalent to approximately 1% of the world’s population. [5] However, typically high in trans fats, sugar and salt, such food is associated with a range of modern health problems, including obesity, heart disease and high blood pressure. [6] These conditions are increasingly common in almost every developed country and some developing countries – a trend that researchers link to the spread of fast food (O’Grady 2019).

Task 2: Read these topic sentences and highlight the Topic and the Controlling Ideas.

1. There are several important reasons for the collapse of the Roman Empire.
2. Obtaining nutrition and energy from food is a multistep process.
3. The final step in digestion is the elimination of undigested food content and waste products.
4. The amount of sleep we get varies across the lifespan.
5. There are a number of factors which affect our body weight.
6. Sleep debt has significant negative psychological and physiological consequences.

2. Supporting sentences

Supporting sentences develop the topic sentence. They are more specific than the topic sentence, giving *explanation, reasons, examples, facts, statistics, and citations* in support of the main idea of the paragraph.

Task 3: Re-read the above paragraphs. What kind of supporting sentences are used?

[2]	[5]
[3]	[6]
[4]	

Task 4: Read the following four paragraphs and write a topic sentence for each one.

Paragraph 1

First, Tsukuba has excellent transportation links. It only a one-hour drive from Narita international airport and a 45 minute train-ride from downtown Tokyo. Second, Tsukuba has a high standard of education. The university of Tsukuba is among the top ranking in Japan and public schools have an excellent reputation. Finally, the city is clean and efficiently managed. The city has many parks and is spacious compared to other Japanese cities. It is therefore not surprising that Tsukuba consistently ranks highly on national quality of life surveys.

Paragraph 2

It is proven that aerobic exercise is good for the heart, which is very important for overall health. Strength training is important for maintaining muscle mass and improving bone density. Both muscle mass and bone density can decrease as we age, so improving them through strength training is important. All kinds of exercise have been shown to relieve depression, anxiety, and stress.

Paragraph 3

It has not only become popular among younger people, but even those aged 65 and over are now shopping online more than ever before. Men are also shopping online as much as women, as reported by the Office for National Statistics in 2019. One of the reasons for this proliferation is likely due to the fact that we are spending more time online in general. However, despite the general upward trend in sectors such as clothing, household and entertainment, most money continues to be spent in stores, especially when purchasing groceries and medicines.

Paragraph 4

Although student surveys always show students like to have access to materials online, the take up of purely online courses is low. When questioned, students find that studying online can be a lonely and unsatisfying experience. Not only do students miss the human interaction with other students, they also find the time lag in getting answers to their questions very frustrating

3. Definitions

Another way of starting a paragraph is with a definition. **Basic definitions** are formed by giving a category and the application:

Word	Category	Application
A car	is a motorized vehicle	that the client can be used as a regular means of personal transportation.
A master's degree	is an academic award	for post-graduate students, which is given on completion of a dissertation

Task 5: Choose an appropriate general noun.

1. A barometer is a scientific _____ designed to measure atmospheric pressure.
2. Kidneys are the _____ that separate waste fluid from the blood.
3. A multi-national company is a business _____ that operates in many countries.
4. Reinforced concrete is a building _____ consisting of cement, sand and steel rods.
5. Bullying is a pattern of anti-social _____ found in many schools.
6. Recycling is a _____ in which materials are used again.
7. A recession is a _____ of reduced economic activity.

Task 6: The definitions in the table have been mixed up. Rewrite them including, where necessary, an appropriate article (the, a / an) and incorporating 'is a' after the class.

Word	Category	Application
(1) oxygen	person	who spends a lot of their time looking for funds for projects.
(2) university	tool	which is essential for our survival.
(3) researcher	grains	which has revolutionized the world.
(4) Cereals	gas	which has made vast quantities of money through cutting-edge technologies.
(5) Internet	company	widely grown for food production.
(6) Apple	place	that is widely considered to be man's best friend.
(7) gold	animal	where in theory people go to study but in reality often spend most of their time just having fun.
(8) dog	metal	that tends to go up in value during financial crises.

Task 7: Complete and expand the following definitions by adding examples or extra information.

- Tsukuba **is a city**.
- Tsukuba is a city **in Japan**.
- Tsukuba is a **planned** city in Japan.
- Tsukuba is a planned city in **northeast** Japan.
- Tsukuba is a planned city in northeast Japan **that is well-known for its University**.
- Tsukuba is a planned city in northeast Japan ~~that is well-known for its University~~ **and high concentration of research institutes**.

a) The University of Tsukuba is a prestigious national university located 45 minutes north east of Tokyo.

b) Buddhism is a which is practised in

c) Maglev is a which uses

d) Research is a(n)

e) A smartphone is a

f) English is ...

g) [*a term of your choice*]

h) [*a term of your choice*]

Extending definitions

A definition may be extended further in order to be more precise and/or to give more information about the subject. An extended definition usually begins with a general one-sentence definition and then becomes more specific as additional details are added. Ways that we might extend a definition include:

- analysing the components
- providing examples (e.g. of the applications)
- giving a sense of the historical change and development
- outlining the current understanding or research related to the topic
- outlining the effect (e.g. problems, benefits related to the topic)

Task 8: Study the definitions below. Underline the definitions. How does the writer extend the definition? How does the writer develop the paragraph?

Paragraph	Extension
(1) <u>A microscope is an optical instrument with which the apparent size of an object can be enhanced.</u> There are two types of microscope. A simple microscope consists of a double convex lens and a magnifying glass. A compound microscope, on the other hand, will contain more than one of each of these lenses, which are situated at the ends of a cylinder.	
(2) Pollution is a form of environmental contamination resulting from human activity. Some common forms of pollution are wastes from the burning of fossil fuels and sewage running into rivers. Even litter and excessive noise can be considered forms of pollution because of the impact they can have on the environment.	
(3) An acrylic plastic is a polymer which can take a high polish, is clear and transparent, and can be shaped while hot. Because of these and other characteristics, acrylic plastic is used in situations where glass is not suitable or desirable, for instance, in certain types of windshields.	
(4) Perspective is a technique in art that is used to represent three-dimensional objects and depth relationships on a flat surface. Modern linear perspective (which involves making objects seem smaller the more distant they are from the observer) was probably first used in the 1400s by the artist Masaccio and the architects Filippo Brunelleschi and Leon Battista Alberti in Florence, Italy. Before this time, artists paid little attention to realistic perspective. In recent decades, many modern artists have returned to the practices of early artists and have abandoned realistic perspective.	
(5) Migration may be defined as the movement of people from one place to another with the aim of permanent settlement. There are two main types – within a country and between countries. For example, people often move from rural to urban areas within the same country as is happening in China at the moment. The population of the city of Shanghai in China grew by 10 million between 1980 and 2005, mainly due to poor people from the country looking for jobs in the city. An example of movement of people between countries is that from Ireland to the USA in the 19th century which took place as a result of poverty and hunger.	

3. Examples

Examples are used in academic writing for support and illustration. Suitable examples can strengthen the argument, and they can also help the reader to understand a point.

Generalisations are commonly used to introduce a topic: *Many plants and animals are threatened by global warming.*

But if the reader is given an example for illustration the idea becomes more concrete: *Many plants and animals are threatened by global warming. Polar bears, for example, are suffering from the lack of Arctic ice.*

Phrases to introduce examples	
1. <i>for instance, for example</i> (with commas)	<i>Some car manufacturers, for instance Toyota, now offer five-year guarantees.</i>
2. <i>such as, e.g.</i>	<i>Many successful businessmen such as Bill Gates have no formal qualifications.</i>
3. <i>particularly, especially</i> (to give a focus)	<i>Certain Masters courses, especially American ones, take two years.</i>
4. <i>a case in point</i> (for single examples)	<i>A few diseases have been successfully eradicated. A case in point is smallpox.</i>

Task 8: Add a suitable example to each sentence and introduce it with one of the phrases above. Examples:

- *A number of sports have become very profitable due to the sale of television rights.*
- *A number of sports, **for instance motor racing and football**, have become very profitable due to the sale of television rights.*

(a) Some twentieth-century inventions affected the lives of most people.

(b) Many musical instruments use strings to make music.

(c) Various companies have built their reputation on the strength of one product.

(d) In recent years more women have become political leaders.

(e) Certain countries are frequently affected by earthquakes.

(f) Citrus fruits constitute an important source of vitamin C.

Task 9: Study the following text and add examples from the box where suitable, using one of the introductory phrases in (2) above.

- free delivery or discounted prices bookshops
- clothing and footwear
- books and music
- many supermarkets offer delivery services for online customers

Widespread use of the internet has led to a major change in shopping habits. It is no longer necessary to visit shops to make routine purchases. With more specialised items, internet retailers can offer a wider range of products than bricks-and-mortar shops. They can also provide extra incentives to customers, in addition to the convenience of not having to visit a real shop. As a result, stores selling certain types of products are disappearing from the high street. Other products, however, appear to require personal inspection and approval, and, in addition many people enjoy the activity of shopping. It, therefore, seems unlikely that the internet will completely replace the physical shops.

Restatement

Another small group of phrases is used when there is only one 'example'. (Brackets may also be used for this purpose.) This is a kind of restatement to clarify the meaning:

The world's leading gold producer, namely South Africa, has been faced with a number of technical difficulties.

<i>in other words</i>	<i>namely</i>	<i>that is (to say)</i>	<i>i.e.</i>
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Add a suitable phrase from the box below to the following sentences, to make them clearer.

(a) The company's overheads doubled last year.
(b) The Roman empire was a period of technological advancement.
(c) The Indian capital has a thriving commercial centre.
(d) Survival rates from the most common type of cancer are improving.
(e) Participation rates in many democracies are in decline.

<i>that is to say fewer people are voting (27 BC – 476 AD)</i>	<i>i.e. breast cancer namely New Delhi</i>
<i>in other words the fixed costs</i>	

Task 10: Choose the appropriate term - *e.g.*, *for example*, *i.e.*, *such as*, *that is to say*, *etc.*

1. Several countries speak English as the official language (**e.g.** / **etc.** / **i.e.** Australia and India).
2. Only two languages are completely phonetic (**e.g.** / **etc.** / **i.e.** Italian and Finnish).
3. These conditions manifest themselves in a range of environmental conditions **i.e.** / **such as** light rain, light wind and fog, and heavy conditions **i.e.** / **such as** monsoons, hurricanes...
4. These conditions include **e.g.** / **for example** / **etc.** / **i.e.** / **such as** light rain, light wind and fog and are thus not a serious threat to...
5. Such environmental conditions (**e.g.** / **for example** / **i.e.** light rain, light wind, fog) are very common.
6. There are two environmental conditions that can cause such damage **i.e.** / **such as** / **that is to say** tornadoes and hurricanes.
7. Only two countries, **i.e.** / **such as** / **that is to say** Yemen and Syria, are known to have had these problems.

Task 11: Using the notes, extend this paragraph to give a sense of the historical development of the University of Tsukuba. Pay attention to grammatical voice and tense.

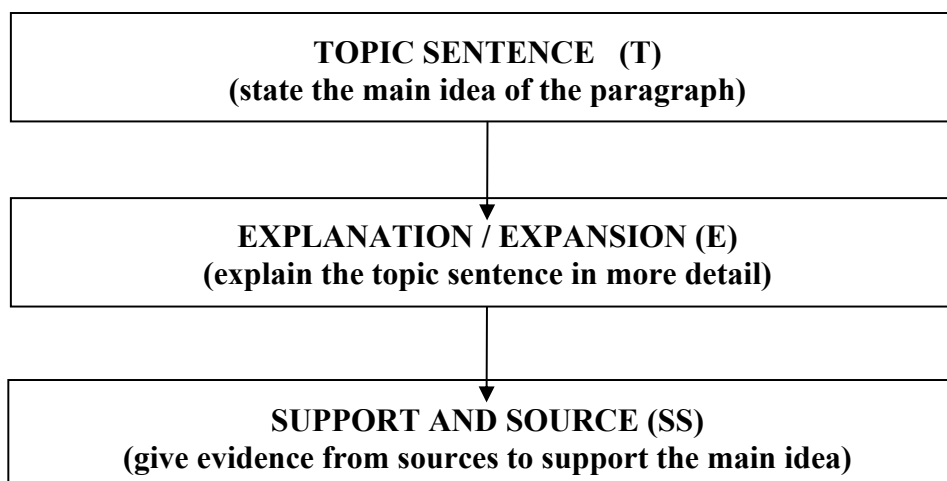
Topic sentence: The University of Tsukuba is a prestigious Japanese national university located about 60km north east of Tokyo.

- 1973: older Tokyo University of Education → Tsukuba
- well-known: STEM and physical education
- Since 1973: 3 Nobel prize winners, 60 Olympic athletes
- Currently – 16,500 students – 2000 from overseas

Topic 5: Paragraphs - Development

1. *TESS* – topic sentence, explain, supporting / sources

Paragraphs are the basic building blocks of academic writing. Well-structured paragraphs help the reader to understand the topic more easily by dividing up the argument into convenient sections. Many basic paragraphs follow a similar pattern. They start with a **topic sentence**, **explain** it in more detail and then provide **supporting evidence** to illustrate it.



Examples (basic and expanded)

T	Popular TV series can now have a global audience.
E	Because of the development of technology it is now possible for people in different countries to watch TV series almost simultaneously.
SS	For example, series such as <i>Game of Thrones</i> , <i>Prison Break</i> and <i>Lost</i> are popular in China, India and Japan even though they were designed for American audiences.

T	Popular TV series can now have a global audience.
E	Because of the development of new media and information technology such as the internet, satellite TV and DVDs , it is now possible for people in different countries to watch TV series almost simultaneously.
SS	For example, series such as <i>Game of Thrones</i> , <i>Prison Break</i> and <i>Lost</i> are popular in China, India and Japan even though they were designed for American audiences. According to Curtin (2006) <i>Prison Break</i> is now watched by 1.2 million viewers in China, via internet downloads and DVD.

2. Functions of TESS

<p style="text-align: center;"><u>Topic sentences</u></p> <ul style="list-style-type: none"> ◦ This is the main idea of the paragraphs. ◦ Each paragraph should be centred around a single topic.
<p style="text-align: center;"><u>Explanation and expansion – e.g.</u></p> <ul style="list-style-type: none"> ◦ Give necessary background information ◦ Explain the reason why something has happened ◦ Explain the consequences of something ◦ Explain a process ◦ Explaining where something has happened
<p style="text-align: center;"><u>Support and sources – e.g.</u></p> <p>This is to show what other writers have said about this topic. This might involve:</p> <ul style="list-style-type: none"> ◦ Giving statistics ◦ Describing facts and dates ◦ Giving evidence ◦ Giving future predictions

Task 1: In the following example what are the functions of the writing in the E and SS sections? How is the paragraph organised and how does the writer signal this to the reader?

T	[1] The Olympic Games have often been used for political purposes.
E	[2] Since they were founded in 1896 as a world wide event, the Games have not always been purely about sport. [3] Countries and individual athletes have used them as a stage to present a political message.
SS	[4] During the Cold War, America and Russia viewed sport a way to advertise their way of life and political system. [5] Both countries have boycotted the games at times in order to protest against the political actions of their opponent. [6] Hosting the games is also seen as a sign of political legitimacy for some countries- Japan in 1964 and China in 2008 are examples of this (McFarland 2005). [7] A further example of the politicization of the games is black American athletes who used the Mexico games in 1970 to promote Black Power as part of the American Civil Rights movement (ibid).

Note how the E and SS sections can sometime overlap.

3. Controlled paragraph building by adding grammar

Task 2*: Expand the following words by adding *articles*, *verb tenses*, *prepositions* and other *grammatical features*.

T	Urban transport models / begin / shift / from /car dominated view/ to one /include/ wide variety / other means / transportation.
E	/ spread / automobile from /50s / make possible /by cheap cars / petrol / rising income /expanding road system (Hill 1995). / rise of / car / lead to/ problems / traffic congestion /air pollution / many large cities worldwide. Transport planners / turn / alternative ways / move people / large cities.
SS	/ European cities / install / tram / light-railway system (Jordan 2007) / Others / focus / increase /number / bus/ run /special bus lanes, /make them faster / cars / commute. London / introduce/ ‘congestion charge’ / effectively reduce / number / unwanted cars / city centre / (Livingstone 2005). Pedestrian areas, / cars/ ban /, now /common / many European city centres. Finally, bicycle travel / encourage/ mark / bicycle lanes / paths (Strydom 2003). / measures /great / improve / urban environment/ many cities.

T	Urban transport models have begun to shift from a car dominated view to one which includes a wide variety of other means of transportation.
E	
SS	

4. Building short paragraphs from notes

Task 3*: Use the following notes to build a short paragraph which follows the TESS template.

T	Rice production will need to increase in the next twenty years to meet growing demand.
E	<ul style="list-style-type: none"> • World population → 12 billion 2050 (UN) • Asia → staple food / rice. (The increase will be greatest in Asia, where...
SS	<ul style="list-style-type: none"> • feed population → different approaches • Wang (2018) more land / cultivate • Rashid (2016) improve seed varieties → increase yield • De Soto (2015) → better trade relations / Asian countries → better distribution of rice Asia

T	Rice production will need to increase in the next twenty years to meet growing demand.
E	
SS	

T	The value of some university degree courses has been questioned by recent research.
E	<ul style="list-style-type: none"> • Universities → expand number & types courses • But → lead to good jobs?
SS	<ul style="list-style-type: none"> • Goodwin (2007) → university graduates / salaries below expectations → pay back large debts? • Truscott (2008) → students practical courses (cheaper) not expensive degree

T	The value of some university degree courses has been questioned by recent research.
E	
SS	

5. Practice

Task 4*: Write short paragraphs using the following topic sentences to start. Think about how to expand the main idea. You don't need to find actual support but imagine the kind of data that might be used as evidence.

T	Modern transportation methods make it easier for diseases to spread.
E	
SS	

T	Reading has become a less popular activity among young people.
E	
SS	

Extension

Task 5: Select one of the following topic sentences. Write a short paragraph of around 100 words. Make sure you include supporting sentences – you can invent your own statistics and sources. If appropriate, add a concluding sentence.

1. Becoming a victim of cybercrime can be avoided by taking three main precautions.
2. There are several advantages to living and working in a small town.
3. Studying overseas can present students with a number of challenges.
4. Successful scientists usually display a number of specific qualities.
5. The colonisation of Mars would be fraught with unsurmountable difficulties.

Topic 6: Cohesion

Learn more: <https://youtu.be/3EzJICqv3WY>

1. Cohesive language items

'Cohesion' means that your ideas are (1) ordered in a way that the reader can understand; in other words, one idea follows the next logically. (2) It also means that the relationship between your ideas is clear for the reader to understand; the ideas 'cohere' or stick together. The result is a smooth 'flow' from one idea to the next.

Task 1*: Read the following two paragraphs about the causes of poverty. With a partner discuss which you think is the better paragraph and why? (There are no language errors in either piece)

Text A

There is no single cause of poverty. Poverty is too complex an issue to be the result of just one problem. There are many interrelated factors that contribute to poverty in developing nations. The World Bank states that lack of education keeps children from obtaining jobs that would lift them out of poverty and would lift their families out of poverty. Children are kept from school because they are needed at home to support their family with additional income. Poor health decreases the amount of work poor people do. Poor health lowers their income and drives them deeper into poverty. The onset of HIV / AIDS or malaria results in death or high medical costs that many poor families cannot afford. The poor often have very limited economic choices. Poor people are often prevented from receiving loans and other financial benefits. If people cannot get loans it is difficult for the poor to start businesses, make more money and break out of poverty. The governments of many developing countries are dysfunctional, unstable and there are problems with corruption. Lack of government infrastructure can have a major impact on the poor. (13 sentences)

Text B

There is no single cause of poverty. It is too complex an issue to be the result of just one problem. There are, however, many interrelated factors that contribute to poverty in developing nations. The World Bank, for example, states that lack of education keeps children from obtaining jobs that would lift them and their families out of poverty. Often children are kept from school because they are needed at home to support their family with additional income. Poor health also decreases the amount of work impoverished individuals can do, lowering their income and driving them deeper into poverty. In addition, the onset of diseases such as HIV / AIDS or malaria can result in death or high medical costs that many impoverished families cannot afford. Moreover, the poor often have very limited economic choices- they are often prevented from receiving loans and other financial benefits. This makes it difficult for them to start businesses, increase incomes and break out of poverty. Finally, the governments of many developing countries are often dysfunctional, unstable and corrupt, while the lack of government infrastructure such as public sanitation, schools, and social welfare, can have a major impact on the poor. (10 sentences)

Task 2*: First, highlight the features in text B that make it more cohesive than text A. Then, in pairs, try to fill in the table below.

Type of language	Example	Reason for using
1. Pronouns		
2. Linking adverbs (<i>words that join sentences</i>)		
3. Conjunctions (<i>words that join <u>parts</u> of a sentence</i>)		
4. Phrases to introduce examples		
5. Lexical variety (i.e. using different words with similar meanings)		
6. Grammatical parallelism (i.e. using the same grammatical pattern)		

Task 3*: Another feature which gives cohesion to a text is the use of sets of words which we expect to go together (lexical sets). Find examples of words and collocations relating to money or the lack of it.

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2. Linking words and phrases

Linkers, which include conjunctions, are words or phrases that join parts of a sentence together, or link a sentence to the next one. It is important to be clear about their meaning for effective reading and writing.

Learn more: <https://youtu.be/NaUxyneDRCE> / <https://youtu.be/MHeLqXZu93c>

Task 4*: Underline the linkers. Then match each of the types below to one of the sentences.

- a) A few inventions, for instance television, have had a major impact on everyday life.
- b) In addition, a large volume of used cars are sold through dealerships.
- c) The definition of motivation is important since it is the cause of some disagreement.
- d) The technology allows consumers a choice, thus increasing their sense of satisfaction.
- e) Four hundred people were interviewed for the survey, then the results were analysed.
- f) However, another body of opinion associates globalisation with unfavourable outcomes.

Types of linkers:

1. Addition	_____	2. Reason	_____	3. Example	_____
4. Result	_____	5. Opposition	_____	6. Time	_____

Task 5*: When reading a text, linkers are a kind of signpost to help the reader follow the ideas. Read the Paragraph below and underline the linkers, then decide what their functions are.

BIOFUELS

Newly published research examines some important questions about the growing use of biofuels, such as ethanol made from maize. The production of these has increased sharply recently, but the replacement of food crops with fuel crops has been heavily criticised. Although initially seen as a more environmentally-friendly type of fuel, the research shows that producing some biofuels, for instance biodiesel palm oil, is more polluting than using conventional oil. The ethanol produced from sugar cane, however, can have negative emissions, in other words taking carbon dioxide from the atmosphere instead of adding it. Consequently, it can be seen that the situation is rather confused, and that biofuels are neither a magic solution to the energy problem, nor are they the environmental disaster sometimes suggested.

Linker	Type	Linker	Type
a)		f)	
b)		g)	
c)		h)	
d)		i)	
e)		j)	

Task 6*: Complete the table by placing the words in the correct column based on their functions. Which can be used to connect clauses (i.e. conjunctions), and which to link ideas between sentences (e.g. linking adverbs)?

after	albeit	also	although	and	as
as a result of	as well as	because	but	consequently	despite
due to	e.g.	for instance	furthermore	however	in addition
in particular	moreover	nevertheless	next	owing to	since
so	subsequently	such as	that is why	then	therefore
whereas	while	while	yet		

Addition	Result	Reason	Opposition	Example	Time

Task 7*: Insert a suitable linker into each gap.

CHOOSING A BUSINESS SCHOOL

It can be difficult for students to decide whether to attend business school. The drawbacks, (a) _____ the high fees and the loss of income, are clear, (b) _____ increasing numbers are applying, (c) _____ the competition to enter the highest-ranked schools is increasing. (d) _____ many well-known business people, (e) _____ Bill Gates, never went to business school, there is good evidence that an MBA helps students find a well- paid job more quickly. It can also be hard for students to choose which school to apply for, (f) _____ there are so many rankings published, (g) _____ those from *The Financial Times*, *Business Week* and *The Economist*. (h) _____, these tables frequently disagree, (i) _____ they give different weighting to different factors. (j) _____, this lack of agreement may have a positive aspect, reflecting the diversity of approach found in the world's great business schools.

3. Linkers of opposition

- Note the position of the linkers in the following examples:

The economy is strong, **but/yet** there are frequent strikes.

Although there are frequent strikes, the economy is strong.

In spite of/despite the frequent strikes, the economy is strong.

The economy is strong, **in spite of/despite** the frequent strikes.

There are frequent strikes. **However/nevertheless**, the economy is strong.

Task 8*: Write two sentences in each case.

Example: *The equipment was expensive/unreliable.*

→

(1) *The equipment was expensive, **but** unreliable.*

(2) ***Although** the equipment was expensive, it was unreliable.*

Note: You cannot write: ~~*Although the equipment was expensive, but it was unreliable.*~~

- a) The government claimed that inflation was falling. The opposition said it was rising.

- b) This department must reduce expenditure. It needs to install new computers.

- c) Sales of the new car were poor. It was heavily advertised.

Task 9: Finish these sentences appropriately. Then rewrite using an alternative linking word.

a) In contrast to America, where gun ownership is common, ...

b) Despite leaving school at the age of 14, ...

c) The majority displayed a positive attitude to the proposal, but ...

d) While the tutor insisted that the essay was easy, ...

e) Although the spring was cold and dry ...

Topic 7: Problem-Solution texts

Learn more: <https://www.eapfoundation.com/writing/essays/problemsolution/>

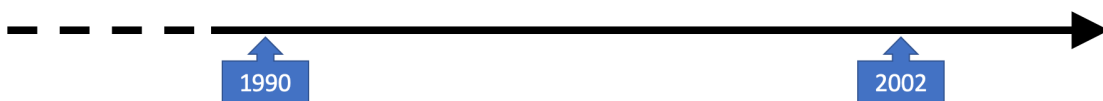
Task 1: Read the text quickly. Identify the **problem**, **solution** and **evaluation**. Underline any unknown words.

Task 2: This passage contains a description of a process. Make a sketch of (1) either the process or (2) the timeline showing the sequence in which events happened.

(1) Sketch of the process

(2) Timeline of events

Find these events in the text and add them to the timeline: *abandoning of technology; tripling of population; water shortages; centuries old method; still in use in other areas; pressure on water supply; initial success; start of Chunungo 'experiment'*



Clouds and Fog as a Source of Water in Chile

[1] Many of Chile's poor, northern coastal villages have suffered in recent years from water shortages, despite the abundance of cloud cover and fog in the region. [2] When the cold air from the Pacific Ocean's Humboldt Current mixes with the warm coastal air, a thick, wet fog, called *camanchaca* by the Andes Indians, forms along with clouds (Darak 2008). [3]

However, rather than developing into rain, the clouds and fog are quickly evaporated by the hot sun. [4] This absence of rainfall has imposed severe hardship on communities. [5] They cannot grow crops and must carefully ration their water, which has to be delivered by truck.

[6] To address this problem scientists in the 1990s implemented an interesting solution on El Tofo mountain near the village of Chungungo. [7] Using conventional technology, researchers have redevise a centuries-old method to capture the water droplets of the fog in a process referred to as fog harvesting (Schemenauer and Cereceda 1991). [8] In this method, triangular-weave polypropylene nets are attached to wooden support posts on El Tofo mountain to serve as water collectors. [9] Each of these nets can collect approximately 40 gallons of water each day. [10] When the fog develops, droplets of water are trapped in the nets and then flow down the nets into a trough. [11] From the troughs, the water drains through filters into a series of underground tanks. [12] The water is then piped to a 25,000-gallon storage tank, where it is chemically treated to kill disease-causing organisms. [13] Finally, the water flows to individual households, just as in traditional water systems. [14] This collection system can supply as much as 2,500 gallons per day, enough for the entire community to drink, wash, and water small gardens. [15] The water is not only clean, but far less expensive than water delivered to the area. [16] Moreover, it is collected at no apparent cost to the environment.

[17] Despite the initial success of fog harvesting in Chungungo, the system is, unfortunately, no longer in use (de la Lastra 2002). [18] The availability of water led to a tripling of the population from 300 to 900, putting pressure on the water supply (IDCR, 2003). [19] Because the community lacked a clear commitment to the project (see Diehl, 2010, for a full explanation), they did not add new nets to increase the water supply, and instead petitioned for water to be piped in from 20 km away. [20] Although the village abandoned this viable alternative technology, the Chungungo experience has recently led to successful implementation of fog harvesting initiatives in other mountainous coastal areas of Chile, Ecuador, Mexico, and Peru, providing much needed fresh water to small communities.

Task 3: Language focus

1. What is the main verb tense used in Sentences 7 through 16? Why is this?
2. Identify phrases consisting of *this* + noun in the text. How many of these are *this* + summary? What purpose do they serve?
3. Where and how is the solution introduced?
4. The writer decides that it needs more details. Put a check mark next to the details that you think would help her create a text that displays expertise and familiarity with the topic. Some are better than others. Where would you place the details?

- a) *the dimensions of the nets*
- b) *the brand name on the netting*
- c) *where the netting can be purchased*
- d) *the time of day the fog comes in*
- e) *the duration of the fog season*
- f) *the size of the water droplets*
- g) *a description of the post materials*
- h) *the trough materials*
- i) *the storage tank materials and dimensions*
- j) *the time needed to construct the system*

5. The passage could be extended to include information about the maintenance of the fog collection system. Where might you place this information?

The cost of operating and maintaining the system, which averages nearly \$12,000 a year, is low compared to other means of providing water.

6. In the end what is the overall evaluation of the system? What 'evaluative language'* can you find in the final paragraph?
7. What is your reaction the discussion of the failure of the system in Chile?
8. The Fog Harvesting text discussed some causes and effects. Look at paragraph 3. With a partner identify and underline the language that establishes the cause-effect connection.

* Positive or negative language that judges the worth of something. It includes language to express feelings and opinions. E.g. *interestingly, valuable, important, impractical, sophisticated ...*

1. Language focus: Passive voice

In most technical solutions, it is necessary to describe a process – here the passive voice is very useful.

1. In Text 1, underline passive verb forms used to describe the process.
2. Can you rewrite any of the sentences in the active voice? Why is the passive voice preferable here?

Using *by* + a human agent is fairly uncommon in formal academic writing, except when describing the history of the field, as in:

- *The theory of transformational grammar was first developed by Noam Chomsky.*

In fact, we are more likely to find *by* + process – e.g.:

- *The chances of finding oil are often estimated by seismic survey.*
- *Measurements can be made more accurate by temperature control.*

Task 2: Passive voice + *by* + process

The *by* + process statements just given provide no details. Sometimes further information is useful. Expand as many of the following as you can. In other words, make the statements more informative by replacing the noun phrase with one or more verb phrases. Here is an example:

- *Teaching can be improved by in-service training.*
- *Teaching can be improved by asking teachers to attend a range of short courses throughout much of their careers.*

(1) The spread of infectious diseases can be controlled by vaccination.

(2) Possible harmful effects of drugs can be reduced by tests.

(3) Information on political preferences can be found by polling.

(4) Bacteria in meat can be killed by radiation.

(5) Changes in land use can be detected by remote sensing.

Task 3: Linking passives

In the "Clouds and Fog" passage there were no occasions where the author linked two or more passives together in the same sentence. Often, however, this may be required. Consider the simple case of the following nine sentences.

1. A specimen is collected.
2. The specimen is labeled.
3. The specimen is analyzed.
4. The results are recorded.
5. A report form is completed.
6. The report is dispatched.
7. The report is read.
8. The report is acted upon.
9. The report is filed.

Rewrite the nine sentences as a short process description. Use first, then, next, finally, etc. as you wish. Add further details as necessary. Before you start you should note that putting verbs together in this way can sometimes lead to an unfortunate ambiguity. How are the following ambiguous, and what can you do about it?

- *The liquid is collected and kept for 24 hours.*
- *The sample is collected and stored in a sterile container.*
- *In consumer research, individuals are selected and interviewed by telephone.*

Task 4: Study the following sentences. Complete each one by choosing the correct cause and effect transitions to fill the gaps, based on the structure and meaning of the sentence.

1) _____ increased emissions of pollutants, the Green House effect is accelerating.	a) As a result of b) As a result c) Since
2) _____, extreme weather incidents are increasing.	a) As a result of b) As a result c) Since
3) _____ her hard work, her spoken English made great improvement.	a) As a consequence of b) As a consequence c) Causes
4) She also worked extremely hard on her writing. _____, her grades for her assignments went up considerably.	a) As a consequence of b) As a consequence c) Results in
5) A lack of understanding of referencing conventions can _____ plagiarism.	a) result from b) be the result of c) result in
6) _____ a lack of funding, the research department had to close down.	a) Results from b) Consequently c) Owing to
7) The sharp increase in immigrants since January _____ the violent unrest in a neighbouring country.	a) results in b) is due to c) affects
8) Stimulants such as caffeine are substances which _____ the body, leading to	a) have an effect on b) cause c) result from
9) The increased use of stimulants _____ sleep disorders such as insomnia.	a) is a consequence of b) is one of the causes of c) effects
10) Although free trade provides overall benefits, increasing imports can hurt domestic industries. _____, barriers to trade continue to exist.	a) Because b) Consequently c) Consequence

Task 5: Study the following sentences. Complete each one by choosing the correct word (mostly prepositions) in the box.

1) Urbanisation has increased in many countries as a result _____ industrialisation.	in from of
2) The increased use of green energy results _____ a reduction of carbon dioxide emissions.	in from of
3) Carbon emissions that result _____ burning fossil fuels are likely to decrease in future.	in from of
4) The harmful effects _____ smoking are well known.	of for on
5) Smoking can have an effect _____ not only the lungs but also the heart, brain, stomach and other organs.	of for on
6) The increase in temperature was the cause _____ the increased rate of reaction.	of to by
7) The increased rate of reaction was caused _____ the increase in temperature.	of to by
8) There are several reasons _____ this change.	to for why
9) There are several reasons _____ this change.	to for why
10) There is no reason _____ believe that reduction in fossil fuels will be harmful to the environment.	to for why

2. Language focus: *-ing* clauses to show Cause and Effect

Each of the following introduces and cause and effect.

- *An increase in demand caused by a rise in prices.*
- *The tsunami was triggered by a very powerful earthquake.*
- [Text 1: 18] *The availability of water led to a tripling of the population from 300 to 900, putting pressure on the water supply (IDCR, 2003).*

The last sentence contains an *-ing* clause of result. This can be a very useful alternative to using logical connectors such as *therefore* or *as a result*. Can you find two more instances of

cause-effect relationships Text 1 (P2) and in Text 2 (P1)?

Here are some more example:

- *A current is sent through the material. As a result, the electrons are polarized.*
- *A current is sent through the material, polarizing the electrons.*
- *When the piston is drawn upward, the air below rises. This causes the pressure to fall.*
- *When the piston is drawn upward, the air below rises, thus causing the pressure to fall.*

This structure is particularly useful in problem-solution texts, because it can be used to express the next step in the process, a resulting problem, or a resulting solution. Here is a simple example.

Process: *Prices rise, thus leading to a drop in demand.*

Problem: *Prices rise, thus increasing the chance of hyperinflation.*

Solution: *Prices rise, thus increasing earnings that can then be reinvested in the enterprise.*

Task 6: -ing Clauses to show cause and effect

Read these sentences containing -ing clauses of result. (1) Would you expect to find them in the problem, solution or evaluation part of a text? (2) Rewrite each sentence using a different structure to express the cause and effect relationship – e.g. a 'traditional' linking word.

1. The laser light forms an EM field, thereby slowing the vibration of the atoms.

2. When manufacturing output falls, demand for business loans lessens, leaving the banks with a strong lending capacity.

3. In fact, sustainable development would require industry to reduce both pollution and resource use, thus creating excellent opportunities for stimulating technical innovation.

4. With the advent of modern heating systems, the humidity levels inside buildings have fallen, causing antique wooden furniture to shrink and crack.

5. Users have access to information, thus supporting smarter purchasing decisions that affect a company's bottom line.

Task 5: *-ing* Clauses to show cause and effect

Working with a partner, combine the ideas presented below by using an *-ing* clause. Try and combine all the ideas into single sentences.

1. Technical improvements in resource efficiency can lower demand for resources. This results in lower prices.

2. Sustainable development requires industry to reduce pollution output and resource use; as a result, technical innovation is stimulated.

3. The computer viruses infect executable files; as a consequence, the host computer is damaged when the executable is run.

4. The carcinogenic substances are extracted from the soil; hence, the soil is left uncontaminated.

5. Countries sign treaties on the use of "free resources," such as air and ocean fish. Serious ownership questions arise*; therefore, it is difficult** to enforce any agreement.

6. Some interviewees also reported that, miners who earned higher wages offer higher prices for agricultural produce. They said that this makes it difficult for the ordinary people to afford such prices.

7. Participants had to successfully select each target before the next target would appear. This ensured that they did not race through the experiment by clicking anywhere just to finish quickly.

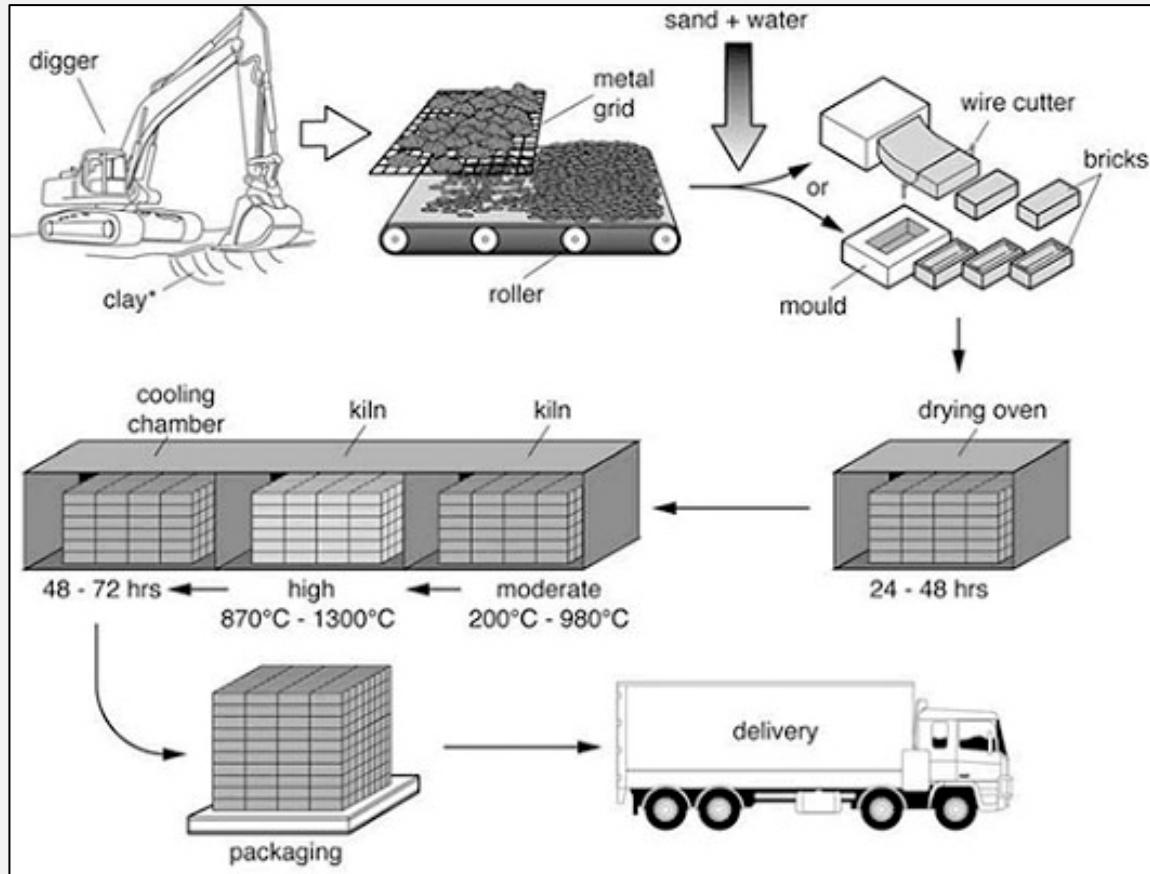
8. We use a commercial motion tracking system with reflective markers on the hand for developing and evaluating these techniques. Despite this our approach provides robust, real time tracking of bare hand postures and movement in 3D space. This finding suggest that bare hand interaction will be a realistic possibility in the near future.

* Note that this verb is 'intransitive' (i.e. cannot take a grammatical object).

** What verb do we use with 'difficult' – <https://www.ldoceonline.com/dictionary/difficult>

Task 6*: Write a process description

Now write a short process description. The diagram below illustrates the process that is used to manufacture bricks for the building industry. Summarize the information by selecting and reporting the main features and make comparisons where relevant.



3. Language Focus: Indirect Questions

In some ways PS texts are about formulating questions and evaluating the answers to those questions. For example, consider these sentences:

[4] It is not clear, however, whether such high percentages for English provide an accurate picture of languages chosen for publication by researchers around the world.

[16] Until such time, researchers writing in languages other than English will remain uncertain about how effective their publications are in their own languages.

Here the writer uses an **indirect question** rather than a **direct question**. Indirect questions follow the standard word order (the subject followed by the verb). They do not require that the subject and the verb be inverted, as in a direct question. Indirect questions also end with a period rather than a question mark. Here is a simple example.

Direct question: *What time is it?*

Indirect question: *He asked what time it is/was.*

Remembering not to invert the word order can be difficult. Even native speakers may incorrectly produce:

It is unclear what will be the price of oil next year.

It is unclear what will the price of oil be next year.

What should it be?

Task 7: Word order in indirect questions

The verb *to be* is missing from the following statements. Insert it in the correct position for each. As you do so, note the typical language of indirect questions.

1. The question remains whether it possible to develop effective earthquake warning systems.
2. There remain questions about whether this policy effective in rural areas.
3. We need to know what precautions being taken to reduce the spread of disease.
4. There is some question as to whether the acquired skill then transferred to other contexts.
5. It has not been determined how these policies likely to affect small businesses.
6. It might also be of interest to investigate to what extent persistence a major factor in graduate student success.
7. Another issue raised by this study is whether and to what extent the economy subject to political developments elsewhere.
8. This research investigated whether time money and found that $V = \{W[100-t]/100\}/C$, where V is the value of an hour, W is a person's hourly wage, t is the tax rate, and C is the cost of living.

Indirect questions have a number of functions in academic writing; for example, they can be used in explaining purpose.

- *A questionnaire was distributed to determine whether ...*

However, perhaps their most important use has been illustrated in the last task. They are often used to "problematize" issues, cases, phenomena, statements, and so on. For this reason, they are particularly common in problem-solution texts, first as one way of introducing the problem, and second as one way of offering a (critical) evaluation of the solution.

Task 8: Two student examples

Read the following short problem-solution texts. What differences do you detect between a and b? (Think of such matters as length, audience, amount of background knowledge assumed, amount of detail in each part of the problem-solution text, use of examples, etc.) Which text do you prefer? Why?

Text 1: All people need to eat, and they eat a variety of foods — rice, fruits, vegetables, and meat. However, the problem is that sometimes people can become ill after eating spoiled or contaminated food. Each year millions of people become sick or even die. Meat can be particularly dangerous because it is difficult to determine whether it has been contaminated by simply looking at it. Fruit and vegetables at least have obvious signs of spoilage. One solution to this problem is to slow the process of spoilage by irradiation. Irradiated food lasts longer, tastes better, and in some cases may be cheaper. Since irradiated foods are completely safe, consumers now need to be convinced to buy them.

Text 2: Some health problems and even death can result from eating either spoiled fruits and vegetables or contaminated meat. Although in many countries strict governmental guidelines must be followed by meat producers, experts estimate that in the United States, for example, more than half the poultry sold to consumers is contaminated with salmonella. Some pork may harbor trichinella. For the last three decades, much research in food science has focused on whether it might be possible to eliminate potentially harmful bacteria before meat is sent to market. Many possibilities have been investigated, but one of the most promising is irradiation. Irradiation is a process that kills many harmful bacteria that cause spoilage, without affecting the food itself. As a result, irradiated food does not spoil as quickly as unirradiated food and also tastes better for a longer period of time. Food safety specialists agree that if irradiation were used, there would be a dramatic decrease in the rate of foodborne illnesses and deaths from eating contaminated food. Food costs might even be lower because the costs of spoilage would be reduced. While irradiation is being used on a relatively small scale, there is some public concern over its safety. It remains to be seen whether this revolutionary process can be implemented on a wide-scale basis.

Extension: Cohesion in a problem-solution text

Task 1: Place the main ideas from this text in an appropriate order.

- a) Some parts of the tourism industry are adopting principles of sustainable tourism
- b) It is difficult to decide what the long-term effects of sustainable tourism will be.
- c) Tourism has a positive effect.
- d) Tourism is a huge industry.
- e) The solution to the problems of tourism is sustainable tourism.
- f) Tourism has a negative effect on local communities.

Task 2: Divide the text into paragraphs so each paragraph represents a different aspect of the topic. Paragraph one should finish with a 'thesis statement'.

Tourism is one of the world's biggest industries. Indeed according to the World Travel and Tourism Council (WTTC), it creates more than 10% of the global economic output and one in nine jobs. What is more, this sector is expected to treble in size by the year 2010. Despite the economic benefits such growth brings, concern about tourism's negative impact on fragile environments and culture is leading to serious attempts to make the sector more sustainable, or less damaging, in the long term. There are numerous examples of the negative effects of tourism. The advertising of local funerals outside guesthouses in Bali illustrates the damage tourism can do to local culture through commercialisation. Another example is the competition for basic resources, such as land and water, between the tourism industry and the local people. The problem is exemplified in Goa, India, where the locals have long protested at the fact that one five-star hotel consumes as much water as five local villages. In addition, there are examples of human rights abuses such as in Burma where millions of people were moved from their homes to make room for a tourism development. Such developments elsewhere in the world have led to the disturbance or the destruction of the wildlife habitats. These kinds of problems are often brushed aside by the tourism industry and by governments, who cite the economic advantages of foreign exchange earnings. However, particularly in the case of cheap package tour destinations, although international tourists spend money locally, most of their money will be spent in the country where the holiday ticket was bought. The need to find a solution to these social, environmental and economic pitfalls has given rise to the concept of 'sustainable tourism'. This idea seeks to ensure the long-term viability of the industry. In other words, it addresses the problems of setting up tourism infrastructures that ensure regeneration and future productivity of natural resources, as well as ensuring that the wishes of the local people in destination areas are respected. This concept is at the heart of many of the small-scale 'alternative' tour operators who are conscious of the impact of tourism and eager to work closely with the host communities. However, for the big tour operators, these are difficult and complex issues to address and implement, especially because of the need to maximise profit. Nevertheless, some efforts are being made by the hotel industry, for instance, to encourage responsible water, waste and energy management. An example of this is Inter-Continental Hotels, which initiated an environmental audit of its hotels and produced guidelines as a result. Gradually the need for change is being accepted and commitments towards a more long-term view of the industry are a welcome step forwards. However, it is not yet clear whether or not they will have the desired effect. This will eventually be revealed by the quality of the future of the indigenous people in the tourist destinations.

Wheat, S. (1997). The tourism juggernaut (editorial). *In Focus – Sustainable Development*, 6:4.

Task 3: Read the paragraphed version of the text. In margin beside each paragraph write a brief note describing its content in order to get an overview of the structure of the whole essay. What do you notice about the way in which most of the paragraphs connect?

(Paragraph 1) Tourism is one of the world's biggest industries. Indeed according to the World Travel and Tourism Council (WTTC), it creates more than 10% of the global economic output and one in nine jobs. What is more, this sector is expected to treble in size by the year 2010. Despite the economic benefits such growth brings, concern about tourism's negative impact on fragile environments and culture is leading to serious attempts to make the sector more sustainable, or less damaging, in the long term.

(Paragraph 2) There are numerous examples of the negative effects of tourism. The advertising of local funerals outside guesthouses in Bali illustrates the damage tourism can do to local culture through commercialisation. Another example is the competition for basic resources, such as land and water, between the tourism industry and the local people. The problem is exemplified in Goa, India, where the locals have long protested at the fact that one five-star hotel consumes as much water as five local villages. In addition, there are examples of human rights abuses such as in Burma where millions of people were moved from their homes to make room for a tourism development. Such developments elsewhere in the world have led to the disturbance or the destruction of the wildlife habitats.

(Paragraph 3) These kinds of problems are often brushed aside by the tourism industry and by governments, who cite the economic advantages of foreign exchange earnings. However, particularly in the case of cheap package tour destinations, although international tourists spend money locally, most of their money will be spent in the country where the holiday ticket was bought.

(Paragraph 4) The need to find a solution to these social, environmental and economic pitfalls has given rise to the concept of 'sustainable tourism'. This idea seeks to ensure the long-term viability of the industry. In other words, it addresses the problems of setting up tourism infrastructures that ensure regeneration and future productivity of natural resources, as well as ensuring that the wishes of the local people in destination areas are respected.

(Paragraph 5) This concept is at the heart of many of the small-scale 'alternative' tour operators who are conscious of the impact of tourism and eager to work closely with the host communities. However, for the big tour operators, these are difficult and complex issues to address and implement, especially because of the need to maximise profit. Nevertheless, some efforts are being made by the hotel industry, for instance, to encourage responsible water, waste and energy management. An example of this is Inter-Continental Hotels, which initiated an environmental audit of its hotels and produced guidelines as a result.

(Paragraph 6) Gradually the need for change is being accepted and commitments towards a more long-term view of the industry are a welcome step forwards. However, it is not yet clear whether or not they will have the desired effect. This will eventually be revealed by the quality of the future of the indigenous people in the tourist destinations.

Task 4: See how the ideas have been linked in the first paragraph and then analyse the second paragraph in the same way.

(Paragraph 1) Tourism is one of the world's biggest industries. Indeed according to the World Travel and Tourism Council (WTTC), it creates more than 10% of the global economic output and one in nine jobs. What is more, this sector is expected to treble in size by the year 2010. Despite the economic benefits such growth brings, concern about tourism's negative impact on fragile environments and culture is leading to serious attempts to make the sector more sustainable, or less damaging, in the long term.

(Paragraph 2) There are numerous examples of the negative effects of tourism. The advertising of local funerals outside guesthouses in Bali illustrates the damage tourism can do to local culture through commercialisation. Another example is the competition for basic resources, such as land and water, between the tourism industry and the local people. The problem is exemplified in Goa, India, where the locals have long protested at the fact that one five-star hotel consumes as much water as five local villages. In addition, there are examples of human rights abuses such as in Burma where millions of people were moved from their homes to make room for a tourism development. Such developments elsewhere in the world have led to the disturbance or the destruction of the wildlife habitats.

Task 5: Without looking at the original text, reconstruct it using the words in the box below.

(Paragraph 3) These kinds of problems are often brushed aside by the tourism industry and by governments, cite the economic advantages of foreign exchange earnings., particularly in the case of cheap package tour destinations, international tourists spend money locally, most of money will be spent in the country the holiday ticket was bought.

where their who although however

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*however these as a result nevertheless
an example of this especially who which it*

(Paragraph 6) Gradually the need for change is being accepted and commitments towards a more long-term view of the industry are a welcome step forward., it is not yet clear whether or not will have the desired effect. will eventually be revealed by the quality of the future of the indigenous people in the tourist destinations.

they although this it however

Topic 8: Data commentary

In academic writing in technical subjects you will normally need to discuss data, often displayed in the form of a table, graph, figure, or some type of other non-verbal illustration. The data may be from a source or it may be the product of your research. In the main text you will need to write about this data – a 'data commentary'. Data commentaries usually have these elements in the following order.

1. **Location** elements and/or summary
2. **Highlighting** statements
3. **Discussion** of implications, problems, expectations, recommendations or other **interesting aspects of the data**

Possible purposes might include:

1. highlighting the results of research
2. using the data to support a point or make an argument in your paper
3. assess theory, common beliefs, or general practice in light of the given data
4. compare and different data sets
5. discuss the implications of the data
6. make recommendations

1. Structure of a Data Commentary

Task 1: Pre-reading task

With a partner discuss these questions about students' Internet activities and then look at some data.

1. What kind of illegal or inappropriate activities do students engage in via the Internet?
2. How common do you think these activities are among college students?
3. Which, if any, of the activities you identified should be tolerated or ignored?
4. Look at the data presented in the Table 1. How is this data similar or different to what you discussed? Does anything surprise you?

Task 2: The structure of a data commentary

1. What are the purposes of sentences [1] – [3]?
2. How is the commentary organized overall?
3. Which sentences do you think contain the authors key point?
4. What is/are the purpose(s) of this data commentary? (refer to above points)
5. To which part of the data does the author pay most attention? Do you think it is enough? If, not what else should be discussed?
6. Where do learn what the author thinks about the data? How strong are the author's claims about the data? How important is that we know this?
7. In sentence [3] 76% is reported as *just over three out of every four*. What do you think about that reformulation? Can you think of any alternatives?
8. Sentence [7] begins with *It is worthwhile to note that ...*. What other adjectives might we replace *worthwhile* with?
9. What language is used to hedge? (i.e. adjust the strength of claims made)

Table 1. University Student Respondents' Self-Reported Instances of Online Misbehavior during the Previous 12 Months (data are the percentages of all student respondents, N=1,222)

		Once or more	A few times	More than a few times	Overall Percentage
Misrepresentation of self	• Given false information about ourself to another person on the internet	34	12	5	51
	• Provided false information about your personal details on an online form	33	13	5	51
Unauthorized use of another's account	• Accessed someone else's email account without his or her knowledge	18	6	2	26
	• Used someone's credit details online without his or her knowledge	4	1	1	6
Plagiarism of an essay or assignment	• Copied a few sentences from a website into an essay or assignment without citing the source	39	16	5	60
	• Copied a few paragraphs from a website into an essay or assignment without citing the source	21	7	2	20
	• Copied a few pages from a website into an essay or assignment without citing the source	8	3	1	11
	• Copied a whole essay or assignment from a website into an essay or assignment without citing the source	2	1	0.6	4
	• Paid for an essay or assignment from a website	2	0.7	0.7	3
Unauthorized downloading of music or film	• Unauthorized downloading of music from the internet	18	22	36	76
	• Unauthorized downloading of film or video from the internet	18	16	19	53
Pornography use	• Viewed online pornography or pornographic pictures or films	17	12	11	40
	• Paid for online pornography or pornographic pictures or films	3	1	1	5

From, Selwyn, N. (2008). A safe haven for misbehaving? An investigation of online misbehavior among university students. *Social Science Computer Review*, 26(4), 446-465.

Text 1: A student commentary on the data in Table 1

[1] Table 1 shows survey respondents' self-reported involvement in online misbehavior during the previous 12 months. [2] According to the responses, the most common online misbehavior is "unauthorized downloading of film and music." [3] As can be seen, just over three out of every four students in the study have downloaded music or film more than once in the past year. [4] This very high percentage of misbehavior is especially alarming given that the protection of intellectual property is a basic element for enriching the film and music industries. [5] Another notable result is that viewing pornographic materials on the Internet was reported by 40% of the respondents, although purchasing pornography was reported by only a small minority of this sample. [6] The least frequently reported misbehaviors were illegally using another person's email account or credit information, along with more serious types of plagiarism such as copying whole assignments from the internet or buying them online. [7] It is worthwhile to note that these different forms of online misbehaviors seem to be patterned according to the degree of the perceived seriousness. [8] Activities that are generally believed to be criminal (e.g. using someone's credit card information) were less frequent than activities that, although unlawful, many do not view as criminal, such as downloading movies and music. [9] Illegal downloading may have an economic cause, but other reasons might be important, as well. [10] This problem will likely continue until reasons that students engage in this behavior are clearly identified.

2. Location Elements and Summaries

Many data commentary begin with a sentence containing a location element and a brief summary of what can be found there – e.g.

- **Table 1 shows** survey respondents' self-reported involvement in online misbehavior during the previous 12 months.
- **Table 6 provides** summary statistics for the variables used in the analysis.
- **Figure 2 shows** a honeycomb solid oxide fuel cell unit with air cooling paths.
- **Figure 1 plots** wealth as a function of age.
- The types of Internet misbehavior common among university students **are shown in Table 1.**
- Summary statistics for the variables used in the analysis **are provided in Table 6.**
- A honeycomb solid oxide fuel cell unit with air cooling paths **is shown in Figure 2.**
- Wealth as a function of age **is plotted in Figure 1.**

What do you notice about the use of tense? (i.e. past, present, or future)

Indicative vs. Informative summaries

- An **indicative** statement that **summarises** the kind of research that was done: *Table 1 shows survey respondents' self-reported involvement in online misbehavior during the previous 12 months.*
- An **informative** statement that **highlights** something interesting about the data: *Table 1 shows that illegal downloading of music or films is common among students.*

Notice that in the informative statement, the information is given by a *that* clause. There are a number of verbs commonly used to make reference to non-verbal materials. Some verbs can be used with both types of statement (e.g. show), and others only one type of summary statement. Provide, for example, can only be used in an indicative summary.

- *Table 5 provides infection-source percentages, but not*
- *Table 5 provides that the most common source of...*

Task 3: Verbs in Indicative and Informative summaries

Complete the following table. Here are two sentences to help you make a decision.

- *The table _____ the effect of social networking use on the duration of students' study time.*
- *The table _____ that social networking has little, if any, effect on the duration of students' study time.*

	Indicative	Informative
show	Y	Y
provide	Y	N
give		
present		
summarize		
illustrate		
reveal		
display		
demonstrate		
indicate		
suggest		

3. Language focus: Linking 'as' clause

A common structure for introducing informative statements is the linking as-clause. Here are three examples.

- *As shown in table 1*, just over three quarters of students surveyed report having illegally downloaded movies and/or films.
- *As can be seen in figure 8*, infant mortality is still high in urban areas.
- *As revealed by the graph*, the defect rate has declined.

In these linking clauses 'as' does not have the same meaning as 'since'. They are exceptional in English grammar, and in the passive, these clauses have no subjects. Compare sentences (a) and (b).

- a) *As it has been proved*, the theory may have practical importance.
- b) *As has been proved*, the theory may have practical importance.

In (a) there is a causal relationship between the as-clause and the main clause. Because the theory has been proved, it may have practical importance. In (b), the as-clause serves to announce or confirm. Why is this important? Remember not to use subjects in passive linking as-clauses!

Task 4: Prepositions in 'as' linking clauses

Using prepositions with this type of linking statement can also be tricky. Here are some of the main standard uses.

- *in* As **shown in** table 3, ...
 - *from* As **can be seen from** the data in table 1, ...
 - *by* As **shown by** the data in table 1, ...
 - *on* As **described on** page 24, ...
1. As can be seen _____ figure 4, earnings have decreased
 2. As revealed _____ figure 2, the lightweight material outperformed traditional metals.
 3. As described _____ the previous page, there are two common types summary statements used when describing data.
 4. As stated _____ Appendix B, per in percent or kilometers per hour is a Latin preposition that originally meant through or by.
 5. As described _____ the previous unit, passives are common in process descriptions.
 6. As can be seen _____ a comparison of the two tables, household income is a more reliable predictor than level of education.
 7. As is often the case _____ materials _____ this type, small cracks pose a serious problem.
 8. As has been demonstrated _____ many similar experiments, these materials have many advantages.
 9. As shown _____ the line of best fit, there is no clear statistical relationship between shoe size and test scores.
 10. As noted _____ our discussion, prolonged exposure to morphine also produces apoptosis in cell structure.

Task 5: Rewrite a data commentary

The following data commentary is based on research on how Japanese researchers learn to write in English in their given field (Okamura 2000). It is missing references to the non-verbal data given in Table 2. Expand the commentary by first starting with a **location + summary statement** and then by adding a suitable **as linking clause**. Conclude the paragraph **commentary on the data** by finishing the final sentence.

Table 2. Strategies used by Japanese Scientists when writing in English

Writing strategy	Percentage
Think mainly in Japanese but write in English	61%
Think in Japanese and English but write in English	16%
Think in English and write in English	23%

... Slightly more than three-fourths of scientists surveyed adopted writing strategies that involved the used of their first language. Moreover, less than a quarter appear capable to write directly in English. ...

4. Highlighting statements

The central sections of data commentaries consist of highlighting statements. Highlighting statements are generalizations that you can draw from the details of the data display. We have already seen some examples. Highlighting statements need good judgment. They are an opportunity to show your intelligence. In particular, they are an opportunity for you to demonstrate:

- that you can spot trends or regularities in the data,
- that you can separate more important findings from less important ones, and
- that you can make claims of appropriate strength.

You should not ...

- simply repeat all the details in words,
- attempt to cover all the information, or
- claim more than is reasonable or defensible.

5. Language focus: Strength of claims

"It is important for students to learn to be confidently uncertain." (Skelton 1988)

Learn more: <https://youtu.be/kajoEOt8w4>

Task 6: Strength of claims

Work with a partner and decide whether the verb phrase choice results in a strong, weak or neutral statement. Rank the statements from strong (1) to weak (7). Some disagreement is fine.

Many studies have concluded that excessive credit growth _____ the global financial crisis.

- _____ a. contributed to
- _____ b. caused
- _____ c. may have contributed to
- _____ d. was probably a major cause of
- _____ e. was one of the major causes of
- _____ f. was one cause of
- _____ g. might have been a factor in

Probability

There are many ways of expressing probability in written academic English. The simplest is the modal auxiliary (e.g. **may, might, could**). Which of these is strongest, which is most cautious?

- *A reduced speed limit will result in fewer highway injuries.*
- *A reduced speed limit can result in fewer highway injuries.*
- *A reduced speed limit may result in fewer highway injuries.*
- *A reduced speed limit might/could result in fewer highway injuries.*

It is <i>certain</i> that ... It is <i>almost certain</i> that ... It is <i>very probable</i> / <i>highly likely</i> that ... It is <i>probable</i> / <i>likely</i> that ... It is <i>possible</i> that ... It is <i>unlikely</i> that ... It is <i>very unlikely</i> / <i>highly improbable</i> that a reduced speed limit will result in fewer injuries.
There is a <i>strong</i> possibility that ... There is a <i>good</i> possibility that ... There is a <i>definite</i> possibility that ... There is a <i>slight</i> possibility that ... There is a <i>remote</i> possibility that a reduced speed limit will result in fewer injuries.

Distance

Distance is another way of removing yourself from a strong and possibly unjustified claim. Compare these sentences.

- *Consumers have less confidence in the economy today than 10 years ago.*
- *Consumers seem to have less confidence in the economy.*
- *Consumers appear to have less confidence in the economy.*
- *It would seem/appear that consumers have less confidence in the economy.*

An alternative strategy is to distance yourself from the data by showing in some way that it is "soft." Here are a few examples.

<i>On the limited data available, In the view of some experts, According to this preliminary study, Based on informal observations made by highway patrol officers,</i>	<i>... a lower speed limit may reduce highway fatalities.</i>
---	---

Generalization

1. The classic verb for qualifying (or defending) a generalization is the verb **tend**.

- *Consumers have less confidence in the economy.*
- *Consumers **tend to** have less confidence in the economy.*

2. Another way to defend a generalization is to qualify the subject.

- ***Many consumers** have less confidence in the economy.*
- ***A majority of consumers** have less confidence in the economy.*
- ***In most parts of the country,** consumers have less confidence in the economy.*
- ***Consumers in most income brackets** have less confidence in the economy.*

3. A third alternative is to add exceptions.

<i>With the exception of Apart from Except for</i>	<i>two participants who experienced technical details,</i>	<i>users in our trial evaluated the system positively.</i>
--	--	--

Weaker Verbs

Finally, claims can be reduced in strength by choosing a weaker verb.

- *Deregulation caused the banking crisis, (stronger)*
- *Deregulation contributed to the banking crisis, (weaker)*

Task 7: Weak vs. Strong verbs

Underline the verb making the weaker claim.

1. The results **indicate** / **show** that there is a link between smoking and lung cancer.
2. Table 9 **suggests** / **shows** that Venezuelan scientists may need help with writing English.
3. The latest series of experiments **question** / **undermine** much previous research.
4. The results given in figure 4 **validate** / **support** the second hypothesis.
5. The quantities displayed in the table have been **assumed** / **shown** to be about 98% accurate.
6. The test results **create** / **suggest** a basis for product modification.
7. Changes in ambient temperature may have **influenced** / **distorted** the test results.
8. The experimental results **prove** / **support** our theory.
9. As can be seen from table 3, the new tax laws have **encouraged** / **stimulated** industrial investment.
10. Figure 12 **depicts** / **clarifies** the genetic relationship.

Combined Qualifications

Often, of course, several types of qualification are combined in order to construct a defensible highlighting statement. Here is an example. We start with a big claim!

- *The use of seat belts prevents physical injuries in car accidents.*

Now see what happens when the following qualifications are added.

- *prevents* —> *reduces* (weaker verb)
- *reduces* —> *may reduce* (adding probability)
- + *In some circumstances* (weakening the generalization)
- + *certain types of injury* (weakening the generalization)
- + *According to simulation studies* (adding distance)

According to simulation studies, in some circumstances the use of seat belts may reduce certain types of physical injuries in car accidents.

This sentence is a nice example of the writer being "**confidently uncertain**." (Of course, you also need to beware of excessive qualification since this may result in your saying almost nothing.)

Task 8: Making defensible claims

Make the sentences academically respectable and defensible.

1. Physical attraction is important for marital happiness.
2. Economic sanctions are ineffective.
3. Alcohol causes people to become violent.
4. Passive smoking causes cancer.
5. Recycling is the best solution to the waste disposal problem.
6. Physical exercise lessens the severity of depression.
7. Great novels do not make great films.
8. Private schools provide a better education than do public schools.
9. Speaking on a mobile phone while driving causes accidents.
10. Switching to a vegetarian diet cures health problems.

Task 9: Rewrite this text using more cautious language

A team of American scientists have found a way to reverse the ageing process. They fed diet supplements, found in health food shops, to elderly rats, which were then tested for memory and stamina. The animals displayed more active behaviour after taking the supplements, and their memory improved. In addition, their appearance became more youthful and their appetite increased. The researchers say that this experiment is a clear indication of how the problems of old age can be overcome. They state that in a few years' time everyone will be able to look forward to a long and active retirement.

6. Organization

Highlighting statements are usually ordered from general to specific. In other words, major claims are followed by minor claims. We saw this pattern, for example, in the short commentary on the Japanese scientists. However, decisions about organization become more complex with comparative data.

Task 10: Organizing a Data Commentary

You are taking a graduate course in the social sciences. You have been studying differences in parental behavior with regard to their adolescent children. Your instructor suggests that, contrary to popular belief, American parents may be stricter with their teenage sons than they are with their daughters. You are given Table 2, which is based on a survey conducted among suburban families in a midsize Midwestern U.S. city, and asked to prepare for the next class a short commentary on the main findings. How would you organize your commentary?

Table 2. Percentage of Adolescents Reporting the Listed Parental Restrictions on their Lives (N = 200)

	Girls	Boys
Limitations on		
Opportunities to go out at night (1)	56%	35%
Use of the family car (2)	15%	40%
Time of expected to return (3)	30%	61%
Interference in		
Choice of friends (4)	19%	23%
Future education choices (5)	18%	52%
Spending of self-earned money (6)	12%	27%

- (1) E.g., may only be allowed out two nights a week.
(2) E.g., may be allowed only to use the car on special occasions.
(3) E.g. Curfew is imposed; e.g. has to be back by 11 P.M.
(4) E.g., girls are dissuaded from going out with older men.
(5) E.g., persuaded to study for a professional degree in college.
(6) E.g., required to bank 50% of earnings

Task 11: Organizing a Data Commentary

Three students wrote the following data commentaries. What are the differences among the three? Which do you think makes the best highlight statements and why. In what way are they incomplete?

Student A

Table 2 shows the percentage of adolescents reporting parental restrictions on their lives. As can be seen, about one-fourth of female adolescents reported parental restrictions on average across the six categories. Restrictions were most common on going out at night (51%) and fewest on expenditure of self-earned money (12%). In contrast, 40% of the males reported restrictions on average across the six categories. Restrictions were most frequent for curfews (61%) and fewest for choice of friends.

Student B

Table 2 shows the percentage of adolescents reporting parental restrictions on their lives. As can be seen, boys tended to be more restricted than girls. Over the six categories, boys reported an average of 40% restrictions but girls only 25%. In fact, boys were more restricted in five of the six categories, the only exception being going out at night. In this category, 56% of girls reported restrictions, but only 35% of the boys did so.

Student C

Table 2 shows the percentage of adolescents reporting parental restrictions on their lives. As can be seen, overall, boys tended to be more restricted by their parents than girls. However, the real difference lies in the rank order of the restrictions. The top three categories for boys were curfew, post-secondary education choice, and use of the family car; for girls, going out at night, curfew, and choice of friends. Although choice of friends occupied third place for girls, it was reported least by male adolescents.

7. Language focus: Approximated comparisons

We have already said that it may not be a good idea to simply repeat the data in words. Therefore, it may not be a good strategy to make a series of statements like the following:

- *Fifty-six percent of girls reported restrictions on going out late at night as opposed to 35% of boys.*

A series of such statements seems to imply that the reader is unable to read the numbers. Instead we might opt for statements like the following:

- *More girls reported restrictions on going out late at night than did boys.*
- *Fewer boys reported restrictions on going out late at night . . .*
- *Not as many boys reported restrictions on going out late at night.*

One problem here is the vagueness of more or fewer. How much, for example, is more: 2% or 10% or 50%? We could state it more exactly.

- *Twenty-one percent more girls reported restrictions on going out late at night.*

While this statement is somewhat acceptable, it fails to convey the full magnitude of the comparison that you are trying to express. Just looking at the difference between the two is not that informative. Some useful alternatives follow.

Task 11: Approximated comparisons

Can you complete each sentence?

1. *Almost exactly twice as many boys reported . . .*
2. *A marginally smaller percentage of girls reported . . .*
3. *Slightly over twice as many boys reported . . .*
4. *Close to three times as many boys reported . . .*
5. *There was little difference in the ... reported by boys and girls.*

Task 12: Guided Writing

Look at the Figure below and follow the below steps to write a data commentary.

1. Write a location statement.
2. Write a general statement highlighting the main trend – the following terms may be useful: *dairy and meat products*; *plant-based foods*; *harmful greenhouse gases*; *significantly more*
3. Present some data from the table in support of [2] - you could use an ‘approximated comparison’ to do this.
4. Write a commentary statement highlighting what this data means. Decide on the appropriate strength of claim.

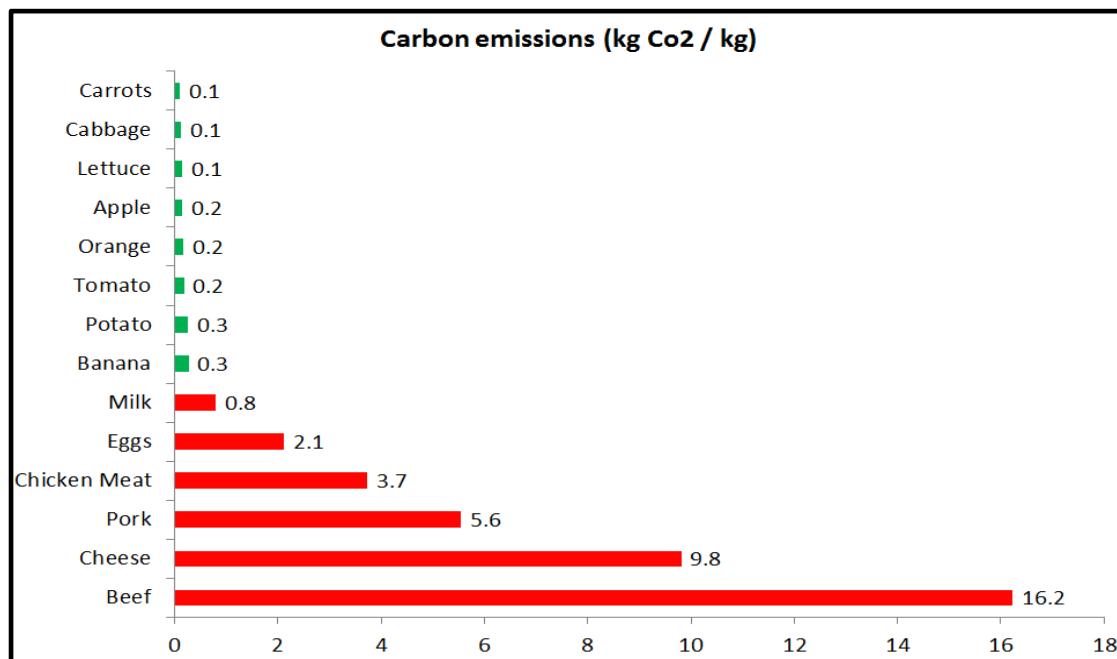


Figure 1: Carbon emission for production of common food items

Topic 1: Academic Style

1. A suitable academic style

How to make people work harder . . .	Imprecise vocabulary – use ‘motivation’
. . . lots of people . . .	Vague – give names
. . . the last few years.	Vague – give dates
lots of different . . .	Avoid ‘lots of’
. . . etc . . .	Avoid using ‘etc’ and ‘and so on’
. . . I think . . .	Too personal
. . . are ok.	Too informal
When we think about this . . .	Too personal
. . . the old Chinese proverb . . .	Do not quote proverbs or similar expressions
So how do we increase production?	Avoid rhetorical questions
It’s quite a . . .	Avoid contractions
. . . I’ll just talk about a couple . . .	Too personal and informal

Model answers:

Motivation has been the subject of numerous studies during recent decades, but this paper will focus on Maslow’s hierarchy of needs theory (1943) and Herzberg’s two-factor theory (1966). Their contemporary relevance to the need to motivate employees effectively will be examined critically, given that this can be considered crucial to a firm’s survival in the current economic climate.

Or...

Much has been written about workplace motivation in recent years. There are a number of different theories on this complex topic. In this paper I will discuss aspects of these theories and how they can be used to increase workplace productivity.

2. Practice exercise: Style

Model sentences:

The main causes of global warming are . . .

It seems likely that cyber crime will increase.

It is widely believed that green technology can replace nuclear power.

After 1989 the price of Japanese property fell sharply.

The numbers in that report are unreliable.

It seems unlikely that this solution will work.

They carried out (undertook) research to assess the system.

Using a mobile phone when driving can increase the risk of an accident.

3. Avoiding repetition and redundancy

Currently, fast food is growing in popularity. It is food that people can buy or cook quickly. This essay examines the advantages and drawbacks of fast food. First, it is usually tasty. Most people who work in offices are very busy, so they do not have time to go home for lunch. But they can eat in McDonalds’ restaurants. The second benefit of fast food is cheapness. As it is produced in large quantities, this means that the companies can keep costs down. As a result, it is usually less expensive than a meal in a conventional restaurant.

4. / 5. Varying sentence length

Model answer a):

Worldwide, enrolments in higher education are increasing. In developed countries over half of all young people enter college, while similar trends are seen in China and South America. This growth has put financial strain on state university systems, so that many countries are asking students and parents to contribute. This leads to a debate about whether students or society benefit from tertiary education.

Model answer b):

Telecommunications engineering is a discipline that brings together electrical engineering and computer science in order to enhance telecommunications systems. The work involved ranges from basic circuit design to strategic mass developments. The work of a telecommunications engineer includes designing and overseeing the installation of telecommunications equipment such as complex electronic switching systems, copper wire telephone facilities and fiber optics.

Topic 3: Paragraphs – Information Structure

Task 1

Food additives are substances that are added to food to improve shelf-life, appearance and flavour. Two **substances** which have been added to food for centuries are vinegar and salt. Many **more additives**, both natural and artificial, are now used in modern food processing.

Geckos, harmless tropical lizards, are extremely fascinating and extraordinary animals. **They** have very sticky feet that cling to virtually any surface. **This characteristic** makes it possible for them to rapidly run up vertical walls and along the undersides of horizontal surfaces. **In fact**, a gecko can support its body mass with a single toe! The secret to **this remarkable ability** is the presence of an extremely large number of microscopically small hairs on each of their toe pads. When **these hairs** come into contact with a surface, weak forces of attraction (i.e. van der Waals forces) are established between hair molecules and molecules on the surface. The fact that **these hairs** are so small and so numerous explains why the gecko grips surfaces so tightly. To release **its grip, the gecko** simply curls up its toes, and peels **the hairs** away from **the surface**.

Task 2

1. Cereals are one of the most important staple foods. The major **cereals** of the world are wheat, rye, barley, oats, maize, rice, millet and sorghum.
2. Beer is a fermented alcoholic beverage. The main ingredients of **beer** are malt and hops.
3. A ligament is a resilient but flexible band of tissue that holds two or more bones together at a moveable joint. **Ligaments** restrain movement of bones at a joint and are therefore important in preventing dislocation.
4. Chalk is a very fine-grained white rock composed of the fossilised skeletal remains of marine plankton and consisting largely of calcium carbonate. **Chalk** is used to make toothpaste and cosmetics. It is not the same thing as blackboard 'chalk', which is actually made from calcium sulphate.

Task 3

Text A: 1) b; 2) a; 3) c *Text B:* 1) e; 2) a; 3) c; 4) d; 5) b *Text C:* 1) b; 2) a; 3) f; 4) c; 5) e; 6) d

Task 4

Text A: 1) c; 2) a; 3) e; 4) d; 5) b *Text B:* 1) d; 2) e; 3) b; 4) c; 5) f; 6) a; 7) h; 8) g

Topic 4: Paragraphs – Development

3. Controlled paragraph writing by adding grammar.

T	Urban transport models have begun to shift from a car dominated view to one which includes a wide variety of other means of transportation.
E	The spread of the automobile from the 1950s onwards was (1. make) _____ possible by cheap cars and petrol, rising incomes and expanding road systems (Hill 1995). The rise of the car, however, (2. lead to) _____ to serious problems of traffic congestion and air pollution in many large cities worldwide. Transport planners (3. be) _____ therefore turning to alternative ways to move people around large cities.
SS	Many European cities (4. install) _____ tram and light-railway systems (Jordan 2007) Others (5. focus) _____ on increasing the numbers of buses which run on special bus lanes, making them faster than cars for commuting. London has introduced a 'congestion charge' which has effectively reduced the number of unwanted cars in the city centre area (Livingstone 2005). Pedestrian areas, from which all cars (6. ban) _____, are now very common in many European city centres. Finally, bicycle travel has been encouraged by marking out bicycle lanes and paths (Strydom 2003). These measures have greatly improved the urban environment of many cities.

4. Paragraph building from notes

T	Rice production will need to increase in future years to meet growing demand.
E	It is projected that world population (7. grow) _____ to around 12 billion by the year 2050 (UN) A large part of this growth (8. be) _____ in Asia, where the staple food is rice.
SS	In order to feed the increased population a variety of approaches will have to be adopted. Wang (2006) (9. suggest) _____ bringing more land into cultivation while Rashid (2004) and others (10. focus) _____ on the importance of improving seed varieties in order to increase yields. Recently, De Soto (2008) (11. argue) _____ that improved trade relations between Asian countries could allow for great efficiency in the distribution of rice in the Asian region.

T	The value of some university degree courses has been questioned by recent research.
E	Universities (12. expand) _____ the numbers and types of courses available to students, but whether these (13. be) _____ likely to lead to good jobs is a question students should ask themselves.
SS	In a recent study by Goodwin (2007) it (14. find) _____ that many university graduates (15. unable) _____ to find jobs with salaries that matched their expectations or allowed them to pay back the large debts they had incurred while at university. Truscott (2008) (16. advise) _____ students to consider doing practical job oriented courses, which (17. be) _____ cheaper, rather than expensive general degree courses.

1. Made 2. Has lead to 3. Are 4. Have installed 5. Have focused 6. Are banned
 7. will grow 8. will be 9. has suggested / suggests 10. have focused on / focus on 11. has argued
 12. have expanded 13. are 14. was found 15. are unable / have been unable 16. advises
 17. are

5. Practice - suggested answer

T	Modern transportation methods make it easier for diseases to spread
E	Air transport in particular has increased massively in the past 20 years and more and more people are travelling to exotic destinations where they could become infected with a disease.
SS	A good example of the rapid spread of disease is the SARS outbreak. The source of one outbreak was identified as a single passenger flying from Hong Kong to Japan (Armstrong 2006). Scientists have also linked outbreaks of bird flu to the transportation of animals - e.g. from Nigerian factory farms to Europe (Boogerd 2006).

In the following model answer, first research statistics (support) are given to support the claim of the topic sentence. Then possible effects or implications of this situation are presented.

T	Reading has become a less popular activity among young people
SS	Studies shows that the amount of time teenagers spend reading for pleasure has dropped by between 5 and 7 hours a week compared to 20 years ago (Boardman 2004, Wiggins 2007). It has been replaced by watching TV and using computers (Millar 2006). Another contributory factor is that parents of teenagers read less themselves due to work pressures (Cavendish 2007) so teenagers lack a family model.
E	The implications of these findings include inferior literacy skills among teenagers, reduced ability to concentrate for long periods of time leading to boredom if external means of stimulation (computer, TV) are not available. (Coughlin 2007).

Topic 5: Cohesion

Task 1

There is no single cause of poverty. **It** is too complex an issue to be the result of just one problem. There are, **however**, many interrelated factors that contribute to poverty in developing nations. The World Bank, **for example**, states that lack of education keeps children from obtaining jobs that would lift **them** and **their** families out of poverty. Children are often kept from school because they are needed at home to support their family with additional income. Poor health **also** decreases the amount of work **impoverished individuals** can do, lowering their income and driving **(1)** them deeper into poverty. **In addition**, the onset of diseases **such as** HIV / AIDS or malaria can result in death or high medical costs that many **impoverished** families cannot afford. **Moreover**, the poor often have very limited economic choices- **they** are often prevented from receiving loans and other financial benefits. **This** makes it difficult for them to start businesses, **increase incomes** and **break out of poverty (2)**. **Finally**, the governments of many developing countries are often dysfunctional, unstable and corrupt **while** the lack of government provided infrastructure **such as** public sanitation, schools, and social welfare can be crippling for the poor.

Task 2

Type of language	Example	Reason for using
Pronouns	<i>It, them, their, this</i>	Avoid repetition, refer back to what was previously mentioned
Linking adverbs	<i>Also, in addition, however, moreover, finally</i>	Clearly signal the relationship between ideas / structure the ideas
Conjunctions	<i>While</i>	Join ideas together more efficiently, signal the relationship between them
Phrases to introduce examples	<i>Such as, for example</i>	Introduce examples, make relationship explicit
Lexical variety (i.e. using different words with similar meanings)	<i>Poor people --> impoverished individuals</i>	Avoid repetition
Grammatical parallelism (i.e. using the same grammatical pattern)	<i>(1) and (2)</i>	Make the text easier to read / process

Task 3

Lexical sets

Poverty--- poor--- ---income ---work---medical costs---cannot afford---economic choices---loans---financial benefits---start businesses---make money

Here are some examples of collocations (words which commonly ‘go together’)

To contribute to poverty
 To lift (someone) out of poverty
 To lower income
 To drive deeper into poverty
 To break out of poverty

Task 4

- A few inventions, **for instance** television, have had a major impact on everyday life.
- In addition**, a large volume of used cars are sold through dealerships.
- The definition of motivation is important **since** it is the cause of some disagreement.
- The technology allows consumers a choice, **thus** increasing their sense of satisfaction.
- Four hundred people were interviewed for the survey, **then** the results were analysed.
- However**, another body of opinion associates globalisation with unfavourable outcomes.

Addition	b	Reason	d	Example	c
Result	f	Opposition	a	Time	e

Task 5

Linker	Type	Linker	Type
a) such as	example	f) in other words	example
b) but	opposition	g) instead of	opposition
c) Although	opposition	h) Consequently	result
d) for instance	example	i) and	addition
e) however	opposition	j) neither. . . nor	opposition

Task 6

Addition	Result	Reason	Time	Example	Opposition
also and as well as furthermore in addition moreover	therefore consequently so that is why	because owing to as a result of as since due to	after next subsequently then while	e.g. for instance in particular such as	albeit although but despite however nevertheless whereas while yet

Task 7

CHOOSING A BUSINESS SCHOOL

It can be difficult for students to decide whether to attend business school. The drawbacks, (a) **such as** the high fees and the loss of income, are clear, (b) **yet** increasing numbers are applying, (c) **and / so that / consequently** the competition to enter the highest-ranked schools is increasing. (d) **Although** many well-known business people, (e) **for instance** Bill Gates, never went to business school, there is good evidence that an MBA helps students find a well- paid job more quickly. It can also be hard for students to choose which school to apply for, (f) **since** there are so many rankings published, (g) **for instance** those from *The Financial Times*, *Business Week* and *The Economist*. (h) **Moreover**, these tables frequently disagree, (i) **because** they give different weighting to different factors. (j) **However**, this lack of agreement may have a positive aspect, reflecting the diversity of approach found in the world's great business schools.

Task 8

The government claimed that inflation was falling. The opposition said it was rising.

1. **Although** the government claimed that inflation was falling, the opposition said it was rising.
2. The government claimed that inflation was falling, **but** the opposition said it was rising.

This department must reduce expenditure. It needs to install new computers.

1. This department must reduce expenditure, **yet** it needs to install new computers.
2. **While** this department must reduce expenditure, it also needs to install new computers.

Sales of the new car were poor. It was heavily advertised.

1. **In spite of / Despite** being heavily advertised, sales of the new car were poor.
2. Sales of the new car were poor, **despite / in spite of** it being heavily advertised.

Topic 7: Problem-Solution texts

Task 6

Model 1: The diagram shows the manufacturing process of bricks for the construction industry. Overall, there are seven stages in the process, beginning with the sourcing of the clay and culminating in delivery. To begin with, the clay used to make the bricks is dug from the ground. This clay is then placed onto a metal grid, which is used to break it into smaller pieces. A roller moves these pieces to the next part of the process where sand and water are added to form a dough. Once this mixture has reached the required consistency, it is turned into bricks either by placing it in a mould or by passing it through a forming press where it is separated by a wire cutter. Next, the bricks are placed in an oven to dry for 24 – 48 hours. After drying, the bricks pass through a kiln that first heats them at a moderate and then a high temperature (ranging from 200°C to 1300°C). This stage is then followed by a cooling process in a chamber for 2 – 3 days. Finally, the bricks are packed and delivered to their destinations.

Model 2: Bricks are made in a series of five or six main stages. The initial stage is to find the right quality clay from which the bricks will be made. The kind of clay chosen will determine the final colour of the bricks- red or brown. Generally clay is dug from quarries and is transported to the main brick factory by truck. Once there, the clay is placed on a large metal grid where it is mixed with sand and water to produce a flexible clay raw material from which the bricks are made. There are then two possible ways in which the bricks are cut to shape. The first is to use a wire cutter to slice the clay into rectangular blocks of the required size. This is a very simple process. The alternative way to make bricks is to mould them using a specially designed mould. This is used to make more specialized bricks which may contain a special symbol or contain a pattern. After the bricks have been cut, they are transported to a large drying oven where they are left to dry for between 24 and 48 hours. But the bricks are still not strong enough after this stage so they are then heated in gas fired kilns in two separate stages. In the first stage they are moderately heated at a temperature of between 200 and 980 degrees. The second kiln then heats the bricks to temperatures between 870 and 1300 degrees. This hardens the bricks and takes out any moisture that may still remain in the clay. Finally the bricks are taken out of the kiln and allowed to cool in a cooling chamber for 2 to 3 days. They are then ready for packaging and delivery by truck to construction sites and building suppliers around the country.

Topic 8: Problem-Solution texts

Task 12

[1] Table 1 shows carbon emissions of common food items. [2] As can be seen, dairy- and meat-based products result in the significantly more harmful greenhouse gases than plant-based products. [3] For example, producing a kilogram of beef emits over 160 times more carbon dioxide than the equivalent amount of carrots. [4] This data illustrates how limiting our consumption of animal products can help reduce our carbon footprint.