The language of software

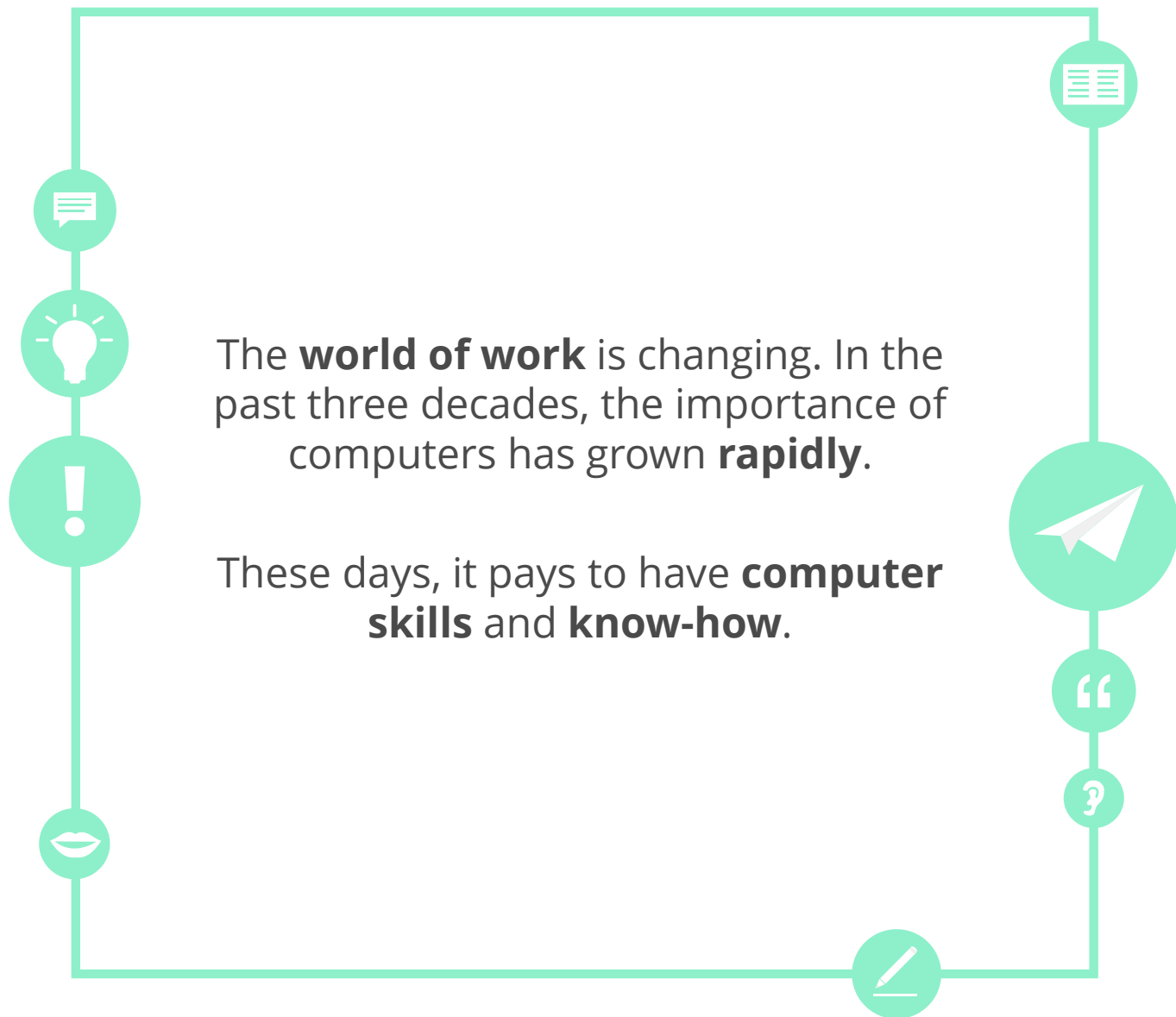| LEVEL	NUMBER	LANGUAGE
Upper-intermediate	EN_BE_3123X	English

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Goals

- Can understand technical vocabulary related to computers and software

- Can use new vocabulary to clearly present your own views on the importance of technical computer skills

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The **world of work** is changing. In the past three decades, the importance of computers has grown **rapidly**.

These days, it pays to have **computer skills** and **know-how**.

Preview and warm-up

■ In this lesson you are going to learn vocabulary related to **ICT systems** and **software**.

Knowledge of **ICT systems** and **software** is becoming increasingly important.

How often do you use **computers**?

What do you use them for?

ICT systems

Read through the text about ICT.

ICT systems consist of **hardware**, **software** and **personnel**. ICT does not simply mean computers, but includes everything connected with information and communication technology. The **hardware** is the computer, the **monitor** and anything else that is physically connected to the system, like a printer or external **hard drive**.

Software is a general term for the **programs** which operate on a computer or other technological device. They can broadly be divided into **application software**, which is what users of a PC see every day, and **system software**, which is any program that helps a computer run.

British English uses the spelling **program** when referring to a **computer program**.
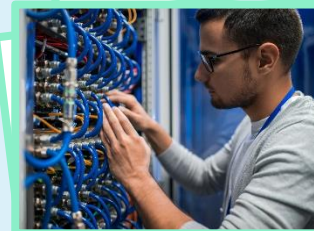
ICT systems

Personnel refers to people, i.e. those who are regulating, designing or using the system. In other words, everyone from programmers to someone who sends the occasional e-mail is included in the personnel.

ICT systems

Data plays a huge role in how an ICT system operates. **Data input** refers to data being entered or collected. The storing or changing of this data is called **data processing**. Finally, **data output** refers to, for example, results being shown on a computer screen, or communications or messages being sent to somewhere else.

Check now if there is anything in the text that you don't understand.

Fill in the gaps

Fill in the gaps with words from the text.

1. There are two types of software, _____ and _____ software.
2. _____ software is what an ordinary PC user sees and uses every day, while _____ software makes a computer run.
3. When data is stored or changed it is called data _____.
4. The computer, monitor and printer are part of the _____.
5. The people who regulate, design or use computers are the _____.

application

application

hardware

personnel

processing

system

system

ICT systems

Explain what each of these things are in your own words, writing one sentence per word. Use vocabulary from the previous pages to help you.

hardware

software

personnel

What software do you use every day? Do you have favourite software?

How important is it to have the most up-to-date hardware and software?

Programming

A **computer program** is a set of instructions that tells the computer to perform a certain task. **Computer programmers** write these programs using a **programming language**. Examples of popular programming languages include **Java** and **Python**, but different languages are more suited to different purposes. However, computers do not understand these languages – they only understand **machine code**, which is made up of 0's and 1's. Therefore, software called a **compiler**, which translates the program into machine code, is necessary.

Web design

Web pages are designed differently from programs. Instead of using a programming language, **web developers** and **designers** use other types of languages, such as **HTML (Hyper Text Markup Language)** and **CSS (Cascading Style Sheets)**. The majority of web pages use both of these languages as they have different functions. While **HTML** determines the content and structure of a web page, **CSS** modifies the way the **HTML** elements are displayed. For example, it determines the colour and font of text on a web page.

Web design

Web browsers interpret these languages and then display web pages to us.

There are certain key elements that can be found on a web page, such as: text; links to other web pages; graphics, such as photos; and tables, which are used to help create the layout of the page.

Languages

How would you explain Java and Python, and HTML and CSS?
Have you heard of any other languages that are used for developing software or web pages?

Have you ever learnt to **code**?

If yes, why? If not, would you be interested in learning this skill? Explain your answer.

Do you know of any jobs that require programming or web design skills?

ICT jobs

Read about jobs associated with ICT.

Almost all jobs these days involve the use of ICT, but there are some jobs which are directly related to the design and maintenance of ICT systems. One example is a **software developer** (also known as a **programmer** or **software engineer**), who is involved in creating programs and overseeing projects for customers who need new pieces of software.
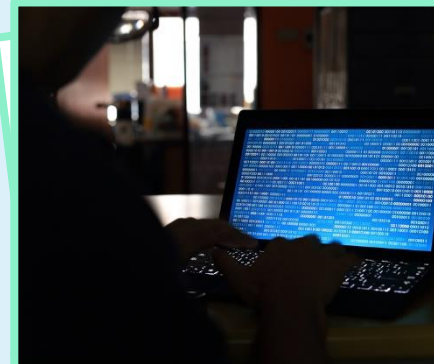
ICT jobs

There are also **web developers** and **web designers** who create web pages, with designers focusing on the design and developers actually building the pages with code.

Other roles include **systems analysts**, who analyse the ICT systems designed for and used in businesses and ensure that they work as well as they can, and **network engineers** (also called **network administrators**) who set up, develop and maintain computer networks within an organisation or between organisations.

There are also a growing number of jobs connected to **cyber security**.

Talk to your teacher or classmates about each of these jobs. Which do you think would be the most interesting and the most challenging?

Would you ever like to work in one of the fields listed below?

network engineer	cyber security specialist	web designer
systems analyst	web developer	software developer

Consider the facts below

Look at the facts and figures below and then discuss the questions on the next page.

Coding is taught in schools in 15 EU countries.

90% of all jobs involve using ICT.

By 2025, there will be a shortage of 800,000 professionals with ICT skills.

In 9 countries, coding is taught in primary schools as well as high schools.

Do you think teaching coding in schools is a good idea?

What related skills could coding teach students?

Can you think of any jobs that do not need computer skills?

Is your country facing a shortage of ICT professionals?

Speaking

Which of these solutions do you think is the best way to make up the shortage of ICT professionals?
Can you think of any other solutions?

more ICT classes in schools

immigration of skilled professionals

training those already in the workforce

trying to rely less on ICT at work

Reflect on the goals

Go back to the second slide of the lesson and check
if you have achieved all the goals of the lesson.

yes

no

Reflect on this lesson

Think about everything you have seen in this lesson.
What were the most difficult activities or words? The easiest?

+ _____
_____

+ _____
_____

− _____
_____

− _____
_____

If you have time, go over
the most difficult slides again

Homework

Fill in the gaps

1. A _____ gives instructions to tell the computer what to do.
2. A _____ analyses whether computer systems are fit for purpose.
3. _____ determines the content and structure of a web page.
4. _____ determines how web pages are displayed.
5. _____ is a major issue for anyone who uses computers nowadays.

HTML

systems analyst

cyber security

computer program

CSS

Write a job advertisement for one of the jobs mentioned on p. 20. Mention any qualifications, skills, competencies and personal attributes that the candidate should have.

Exercise p. 28

1. computer program; 2. systems analyst; 3. HTML; 4. CSS; 5. cyber security

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