

Verónica Real ♦ Belén Pascual



New English for **INFORMATION TECHNOLOGY** and Telecommunications

Student's Book

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Vocabulary: Types of computers; peripherals
Reading: How a computer works

Grammar: Present simple; present continuous
Listening: Choosing a workstation

Speaking: Asking for and giving instructions
Writing: Personal use of computers

Types of computers



1 Work in pairs. Ask and answer the following questions.

- How many different computing devices do you interact with in a normal day? Describe them.
- Where do you use computers: at home, at school or everywhere?
- Do you think a smartphone is a computer? Why / why not?
- What features must a device have to be considered a computer?



2 Match each description with the correct type of computer from the box.

desktop · smartphone · workstation · server · mainframe ·
 supercomputer · embedded system · wearable computer · laptop

- A hospital system stores data that can be accessed by many departments at the same time.
- An engineer designs complex 3D models and runs high-performance software for technical work.
- A student uses a portable device to work, study and connect to the internet from different places.
- A scientific centre performs extremely complex calculations for weather forecasting.
- A traffic light system automatically changes the lights based on programmed timing and sensors.
- A person wears a device on their wrist that monitors physical activity.
- A large organisation processes millions of transactions and stores huge amounts of data for thousands of users at the same time.

3 Read about supercomputers. What surprises you about this type of computers? Why?



Some of the fastest supercomputers in the world can make more than one trillion calculations every second. They are used to study things like extreme weather, develop new medicines, and simulate complex scientific problems that cannot be tested in real life.

4 Use the internet to find information about two real supercomputers used around the world. For each one, find the following:

- Name - Purpose
 - Performance - Interesting fact



Peripherals

5 Label the pictures of different computer peripherals. Then, classify them into input, output and storage devices.



6 Complete the sentences with the correct names of the peripherals in exercise 5.

- If you are looking for a stylish and versatile device, I strongly recommend this all-in-one inkjet for home and office use.
- Buying a high-quality is a simple way to improve your video calls and online meetings.
- You can choose a wired with customisable keys and an ergonomic design or a wireless model.
- This 24-inch gaming is perfect thanks to its sharp display, fast refresh rate and built-in speakers.
- With its ergonomic design and compatibility with different operating systems, this wireless is comfortable for both left- and right-handed users.
- This Bluetooth is ideal for making calls, attending online meetings or listening to audio on your computer or smartphone.
- If you are looking for affordable PC, this model offers excellent sound quality for its size.

7 Match the adjectives in column A to the nouns in column B.

A	B
Crisp	Printer
Inkjet	Speakers
Ergonomic	Mouse
Built-in	Display



8 Work in pairs. You are setting up a workstation for one of these environments:

- a graphic design studio
- a virtual learning classroom
- an engineering office

Explain:

- which peripherals you would install
- why they are necessary

1 READING

1 Read the following text.

HOW A COMPUTER WORKS

A computer is a system made up of different hardware components that work together to process information. These components are connected through the motherboard, which is the main circuit board of the computer. It allows communication between the CPU, memory, storage devices and other parts of the system.

The CPU (Central Processing Unit) is often described as the brain of the computer. It carries out instructions and controls how the system works. Modern processors usually have multiple cores, which means they can perform several tasks at the same time, making computers faster and more efficient.

Another important component is RAM (Random Access Memory). This is a type of temporary memory that stores data while the computer is working. Modern systems use fast memory such as DDR5 RAM, which improves performance when running several programs at once.

For long-term storage, computers use solid-state drives (SSD). Unlike traditional hard drives, SSDs have no moving parts, which makes them faster, quieter and more reliable. They store the operating system, applications and personal files.

Many computers also include a GPU (Graphics Processing Unit). This component is responsible for processing images, video and graphics. It is especially important for gaming, video editing and modern applications such as artificial intelligence.

To keep the system cool, computers use a cooling system, usually made up of a heat sink and fans. High-performance computers may also use more advanced cooling methods, such as liquid cooling systems, to prevent overheating.

The motherboard also includes expansion slots and ports which allow users to connect internal components and external devices like monitors, keyboards, storage devices and other peripherals.

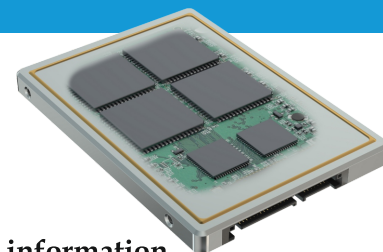
As computer technology continues to develop, hardware components are becoming smaller, faster and more powerful. This allows computers to handle increasingly complex tasks such as artificial intelligence, virtual reality and advanced data analysis.

In the future, we can expect even greater integration between hardware and software, making computers more efficient, energy-saving and capable of supporting new types of digital applications that are not yet possible today.

2 Answer the questions according to the information in the text.

- What is the main function of the motherboard?
- Why are SSDs considered better than traditional hard drives?
- What tasks does the GPU perform?
- What is the purpose of expansion slots and ports on the motherboard?





3 Decide if the following statements are true (T) or false (F) according to the information in the text. Correct the false sentences.

- a) Modern processors are able to handle several tasks simultaneously because they have multiple cores.
- b) RAM is used for storing data permanently.
- c) Traditional hard drives and SSDs do not contain moving parts.
- d) All computers use a heat sink and fans to avoid overheating.
- e) Computers can perform more and more complex tasks because hardware components are getting bigger and bigger.

4 Complete the sentences with the words in the box. There are two words that you don't need to use.

performance · data · reliable · overheating · slot · develop · run

- a) The computer can several applications at the same time without slowing down.
- b) You can install a new graphics card in the expansion inside the computer case.
- c) The of the computer increases significantly after upgrading the RAM.
- d) We need a internet connection for online exams and video conferences.
- e) The computer shut down after several hours of use due to

5 Find words in the text with these meanings.

- a) keep / save
- b) makes something better
- c) at the same time
- d) in charge of
- e) not simple
- f) able to



6 Work in pairs. Write a list of the computer components mentioned in the text.

Are there any other components that are not mentioned in the text? Which ones?



1 GRAMMAR



Present simple and present continuous

1 Read the rules.

PRESENT SIMPLE	PRESENT CONTINUOUS
We use the present simple to talk about: Facts <i>A computer uses binary code to process data.</i> Routines <i>The technician updates the software once a week.</i> Some verbs are often used in the present simple rather than in the present continuous, for example, want, like, know, need, understand. <i>The user knows the password. (NOT: The user is knowing the password.)</i>	We use the present continuous to talk about: An action happening at the time of speaking <i>The student is installing a new operating system.</i> A temporary situation <i>I 'm working from home this week.</i> Future arrangement <i>We are meeting some clients tomorrow.</i>

2 Complete the sentences with the correct form of the verbs in the box. Use the present simple.

need · answer · work · not store · display · not detect · fix

- A monitor visual information from the computer.
- My cousin as an IT technician. He hardware problems.
- A CPU permanent data.
- (speakers) a sound card to work?
- Helpdesk operators customer calls.
- Basic antivirus programs all types of malware.

3 Write questions for these answers.

-?
Mike prints all his documents **in his office**.
-?
We want to buy a new PC **because this one is too old**.
-?
You restart a computer **by pressing the power button**.
-?
Yes, she usually forgets her passwords.
-?
They use **an external hard drive** to save their files.

4 Choose the correct option.

- Many people **uses / are using / use** social media to communicate with friends.
- My phone **is charging / charges / charge** in another room right now.
- The battery of this laptop **lasts / is lasting / are lasting** about 10 hours.
- The IT department **replace / replaces / is replacing** all old computers next Monday.



5 Fill in the blanks with the correct form of the verbs in brackets. Use the present simple or the present continuous.

Danny Stammers (a) (start) work at 9 a.m. and (b) (finish) around 6 p.m. He (c) (work) for AppWorld, a company that (d) (develop) mobile applications and (e) (sell) them to other businesses.

At the moment, he (f) (work) on an important project with other IT professionals. They (g) (create) a mobile app for taxi drivers and passengers. The app (h) (allow) users to find a taxi quickly. When you (i) (open) the app, it (j) (detect) your location and (k) (show) the nearest taxis.

Mobile app companies (l) (become) increasingly popular, so he (m) (be) very busy. He (n) (spend) most of his time in Valencia, but once a month he (o) (travel) abroad to meet colleagues. Next week he (p) (go) to Amsterdam because they (q) (have) a meeting to announce that they (r) (launch) the beta version next month.

 6 Work in pairs. Take turns asking and answering the questions below. Try to keep the conversation going

- a) Why do you study Information Technology?
- b) What do you do to learn new IT skills (videos, classes, practice, online courses)?
- c) How do you usually use your smartphone during the day?
- d) When do you practise English?

7 Write questions using the prompts. Add any necessary words.

- a) Andy / work / in a call centre / at weekends
.....?
- b) the network / work / properly / at the moment
.....?
- c) they / move / to a new office / next month
.....?
- d) your computer / run / slowly / today
.....?
- e) your classmates / prefer / online classes or face-to-face classes
.....?
- f) your laptop / need / an upgrade
.....?

1 LISTENING

Choosing a workstation

-  **1 Listen to a teacher talking in class about how to choose a suitable workstation for your studies. Decide if the following statements are true (T) or false (F). Correct the false sentences.**

- a) If you are a student, it's not necessary to have the most expensive computer on the market.
- b) When you are studying, speed is the most important factor.
- c) Students need at least 1TB of storage because they work with large files.
- d) Some developers use two monitors to be more productive.
- e) Students usually use laptops because they aren't as heavy as desktops.



-  **2 Listen again and answer the following questions.**

- a) Why does the teacher recommend a modern multicore CPU?
- b) Why is it important to have at least 16GB of RAM?
- c) Which peripherals does he recommend?
- d) What are the advantages of a desktop PC over a laptop?
- e) What problem can occur if a laptop gets too hot?

-  **3 Work in pairs and decide what computer you should buy for this academic year. You must agree on the best option for your studies.**

- a) What is your budget?
- b) What do you really need for your studies?
- c) What features are essential for your course?
- d) What is not necessary?
- e) Would you choose a laptop or a desktop PC? Why?



Recommending IT solutions

1 Read the conversation between an IT consultant and a client and complete it with the words in the box.

estimate · wide · suitable · upgrade · recommendation

Client: Good morning. We are a small creative agency and we are considering upgrading our IT equipment. At the moment, our computers aren't powerful enough for design and video editing tasks.

IT Consultant: Good morning. Before making any 1....., could you tell me the type of work your team usually does?

Client: Well, we mainly work with graphic design software and video editing tools, and sometimes we handle large multimedia projects.

IT Consultant: In that case, we highly recommend investing in high-performance desktop computers. A 2..... configuration would include a modern multi-core processor, 16 to 32 GB of RAM, and SSD storage to make the computers faster and more efficient.

Client: Would all employees require the same specifications?

IT Consultant: I suggest using different computer configurations depending on the employees' needs. For example, designers and video editors will need more powerful systems, while administrative staff can work with a more basic setup.

Client: I see. And what operating system would you recommend?

IT Consultant: I'd recommend Windows because it is compatible with most professional design and editing software. In addition, it offers a 3..... range of support tools and regular updates.

Client: And how scalable would this solution be if our company continues to grow?

IT Consultant: Well, you could easily 4..... individual components or add new workstations as the company grows.

Client: That sounds exactly like what we need.

IT Consultant: Excellent. We will prepare a detailed proposal and cost 5..... for you.



2 Work in pairs. You are going to role-play a conversation between an IT consultant and a client. The client needs a new computer system for their company.

Student A - Client

You are a client who needs a new computer system for your company.

You should:

- explain your needs
- describe your problems
- ask questions about the system

Student B - IT consultant

Your client needs a new computer system for their company.

You should:

- ask questions
- give recommendations
- explain the best solution

USEFUL LANGUAGE

Client

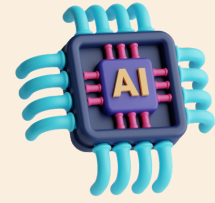
- We are looking for a system for...
- We need something powerful enough for...
- Our main problem is...
- What would you recommend?
- That sounds good / expensive / interesting.
- Is there a more affordable solution?
- Is it easy to upgrade in the future?
- That seems like a good option.

IT consultant

Recommending solutions

- We highly recommend...
- A suitable solution would be...
- In your case, we suggest using...
- The best option would be...
- This setup would be ideal for...
- It might be a good idea to...

A for and against essay



1 Make a list of the advantages and disadvantages of artificial intelligence.

ADVANTAGES



DISADVANTAGES



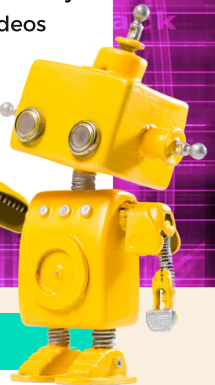
ARTIFICIAL INTELLIGENCE

Artificial intelligence is growing fast **these days**, and more and more people are using it in different areas of life, with both positive and negative consequences.

On the one hand, AI has many advantages. It helps people work more efficiently and complete tasks faster. For example, in fields such as healthcare and finance, artificial intelligence can analyse large amounts of data in a very short time, helping professionals make better decisions. **In addition**, AI is driving innovation in science and technology, leading to new discoveries and improvements in many industries.

On the other hand, there are also some disadvantages. One major concern is that some jobs may disappear because machines and automated systems can perform similar tasks more efficiently than humans. Another problem is that people may become too dependent on AI, which could reduce their ability to think critically or solve problems on their own. Moreover, AI can be misused, for example to create fake images or videos and distribute them.

To sum up, artificial intelligence is a powerful tool that can bring many benefits, but it also has risks. **Therefore**, it is important to use it responsibly in order to enjoy its advantages while avoiding negative consequences.



2 Read the text and match the words in bold with the following expressions:

- a) For this reason
- b) Moreover
- c) However
- d) In conclusion
- e) Nowadays



3 Work in pairs. Talk about the advantages and disadvantages of this.

- wearable technology
- online gaming
- laptop computers
- electronic books

USEFUL LANGUAGE

- One positive aspect / advantage is that...
- One negative aspect / disadvantage is that...
- It is often said that...
- Experts say that...
- A clear example of this is ...
- There is no doubt that ...
- One major concern is ...

4 Write a composition about the advantages and disadvantages of instant messaging.

Paragraph 1 - Introduction

Paragraph 2 - Advantages

Paragraph 3 - Disadvantages

Paragraph 4 - Conclusion

GET MORE TECHNICAL

Virtual machines

A virtual machine (VM) is a computer system created using software that runs inside a real physical computer. It works like an independent computer, even though it does not exist as physical hardware.

The real computer is called the host machine. Inside it, special software called a hypervisor creates and manages one or more virtual machines. The hypervisor controls how system resources are shared, such as CPU, RAM and storage.

Each virtual machine behaves like a complete computer. It has its own operating system, its own applications and its own virtual environment. For example, one VM can run Windows while another runs Linux, all on the same physical machine.

Virtual machines are isolated from each other. This means that if one VM fails or has a problem, the other virtual machines and the host system are not usually affected. This feature is called isolation.

One of the main uses of virtual machines is software development. Developers use them to test programs in different systems without changing their main computer. They are also widely used in cybersecurity, where suspicious files can be analysed safely inside a controlled environment.

However, virtual machines also have some limitations. Since they share the resources of the host computer, their performance is usually lower than that of a physical machine.

1 All these sentences are false. Change the words in bold so that they are correct.

- a) A **host** is software that creates and manages virtual machines.
- b) **Resources** means that each virtual machine works separately.
- c) Virtual machines share the host computer's **operating system**.
- d) The **hypervisor** is the main physical computer where virtual machines are created and run.
- e) Each virtual machine has its own **isolation**, its own applications and its own virtual environment.

2 Work in pairs. Ask and answer the following questions.

- a) Do you use virtual machines in class? What for?
- b) Is it easy or difficult to use them? Why?
- c) What operating system do you use in the VM?
- d) What are the advantages of using virtual machines for students?
- e) Do you think virtual machines are better than real computers for learning? Why?

