

# Module 5

## Lesson 1



### Computer Basics: What is a Computer?

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#### 1. Answer the following questions.

- 1) What is a computer? Computers are now widespread (commonplace), aren't they?
- 2) How old were you when you learnt about a computer?
- 3) How often do you work with a computer?
- 4) Does good knowledge of English help to operate the computer better?

#### 3. Watch the video to learn about different types of computers. Fill in the gaps in the passage below while listening.

*Computer Basics: What is a Computer?* <https://www.youtube.com/watch?v=7cXEOWAStq4>

A computer is an electronic device that (1)\_\_\_\_\_, (2)\_\_\_\_\_, or data. It has the ability to store, retrieve, and process data. You may already know that you can use a computer to type documents, send emails, play games, and (3)\_\_\_\_\_ (4)\_\_\_\_\_. You can also use it to edit or create (5)\_\_\_\_\_, presentations, and even videos.

Before we talk about different types of computers, let's talk about two things all computers have in common: hardware and software.

- (6)\_\_\_\_\_ is any part of your computer that has a physical structure, such as the keyboard or mouse. It also includes all of the computer's internal parts, which you can see in the image below.
- (7)\_\_\_\_\_ is any set of instructions that tells the hardware what to do and how to do it. Examples of software include web (8)\_\_\_\_\_, (9)\_\_\_\_\_, and (10)\_\_\_\_\_. Below, you can see an image of Microsoft PowerPoint, which is used to create presentations.

.....  
When most people hear the word computer, they think of a personal computer such as a desktop or laptop. However, computers come in many shapes and sizes, and they perform many different functions in our daily lives. When you (11)\_\_\_\_\_ cash from an ATM, scan groceries at the store, or use a calculator, you're using a type of computer.  
.....

#### Answer the following questions.

- 1) What is a computer?
- 2) What can a computer be used for?
- 3) What are two things all computers have in common?
- 4) What are the different types of computers?
- 5) Is there any difference in their hardware?
- 6) What are desktop computers designed for?
- 7) Could you list different parts of desktop computers?
- 8) Could you give examples of portable computers?
- 9) What kind of computers serves up information to other computers on a network?
- 10) Have you ever used specialized computers? Which ones and what way?
- 11) What style of personal computers do you prefer and why?

#### **4. Work in small groups. Learn important facts about computers and practice asking and answering questions to clarify them. Communicate with the other groups.**

##### **I**

- 1) A computer is an electronic machine, capable of performing basic operations like addition, subtraction, multiplication, division, etc.
- 2) Abacus is the first known calculating machine used for counting.
- 3) The Slide Rule, also known as a slipstick, is a mechanical analog computer developed in the 17th century by the Reverend (преподобный) William Oughtred on the basis of the emerging work on logarithms by John Napier.
- 4) Charles Babbage is called as the father of today's computer.
- 5) The first generation of computers used vacuum tubes for circuitry and magnetic drums for memory.
- 6) The second generation of computers witnessed the vacuum tubes being replaced by transistors.
- 7) The third generation computer used the integrated circuits.

##### **II**

- 8) The microprocessor brought forth the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip.
- 9) Data is a collection of facts from which information may be derived.
- 10) Information is a collection of facts from which conclusions may be drawn.
- 11) An algorithm is defined as a step-by-step procedure or formula for solving a problem
- 12) A computer program (or set of programs) is designed to systematically solve a problem.
- 13) A compiler is a computer program that transforms source code written in a programming language into another computer language, with the latter often having a binary form known as object code.
- 14) Peripherals are external devices that provide input and output for the computer. Examples are a mouse, keyboard, monitor, printer and scanner.

##### **III**

- 15) A computer system has two major components: hardware and software.
- 16) Software refers to a program that makes the computer to do something meaningful and is classified as System Software and Application Software.
- 17) System software consists of general programs written for a computer.
- 18) Application Software consists of programs designed to solve a user problem.
- 19) Word processing is a term that means using a computer to create, edit, and print documents and/or pictures.
- 20) An operating system (OS) is an integrated set of specialized programs that is used to manage the resources and overall operations of a computer system.
- 21) Analog computer is a computing device that works on continuous range of values.

##### **IV**

- 22) A digital computer operates using digital data such as numbers.
- 23) A hybrid computing system is a combination of desirable features of analog and digital computers.
- 24) Super computers process billions of instructions per second.
- 25) Mainframes are capable of processing data at very high speeds – several hundred million instructions per second.
- 26) The minicomputers were developed with the objective of bringing out low cost computers.
- 27) The invention of microprocessor (single chip CPU) gave birth to the microcomputers.
- 28) The microcomputers are further classified into workstations, personal computers, laptop computers and still smaller computers.

#### **5. Fill in the gaps using the preceding information.**

- 1) \_\_\_\_\_ is considered to be the father of today's computer.

- 2) \_\_\_\_\_ invented the Slide Rule.
- 3) The first generation of computers used \_\_\_\_\_ for circuitry and \_\_\_\_\_ for memory.
- 4) Integrated circuits were used in \_\_\_\_\_ generation of computers.
- 5) \_\_\_\_\_ refers to the physical items associated with a computer system.
- 6) The hardware devices attached to the computer are called \_\_\_\_\_.
- 7) \_\_\_\_\_ refers to programs that make the computer to do something.
- 8) Software can be classified into \_\_\_\_\_ and \_\_\_\_\_ software.
- 9) An \_\_\_\_\_ is an integrated set of specialized programs that is used to manage the overall operations of a computer.
- 10) The \_\_\_\_\_ translates the whole source program into an object program.
- 11) A \_\_\_\_\_ allows users to quickly and efficiently store, organize, retrieve, communicate and manage large amounts of information.
- 12) \_\_\_\_\_ computers are useful in solving differential equations and integration.
- 13) The digital computers are classified into \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- 14) \_\_\_\_\_ is a planned step-by-step instruction required to turn data into information.
- 15) \_\_\_\_\_ is a raw material that is given to a computer for processing.
- 16) Raw data are processed by the computer into \_\_\_\_\_.
- 17) PC refers to \_\_\_\_\_.
- 18) \_\_\_\_\_ software allows to create, edit, format, store and print text and graphics.

**6. Work in pairs. Give your point of view on the following trends suggested by some computer experts:**

#### **The Top Ten Computer Trends for the 21st Century**

- 1) Computers will become powerful extensions of human beings designed to augment intelligence, learning, communications, and productivity.
- 2) Computers will become intuitive, they will “learn,” “recognize,” and “know” what we want, who we are, and even what we desire.
- 3) Computer chips will be everywhere, and they will become invisible-embedded in everything from brains and hearts, to clothes and toys.
- 4) Computers will manage essential global systems, such as transportation and food production, better than humans will.
- 5) Online computer resources will enable us to download applications on-demand via wireless access anywhere and anytime.
- 6) Computers will become voice-activated, networked, video-enabled, and connected together over the Net, linked with each other and humans.
- 7) Computers will have digital senses like speech, sight, smell, and hearing enabling them to communicate with humans and other machines.
- 8) Neural networks and other forms of artificial intelligence will make computers either as smart as or smarter for certain jobs.
- 9) Human and computer evolutions will converge. Artificial intelligence will greatly enhance the next generations of humans.
- 10) As computers surpass humans in intelligence, new digital species and new culture will evolve in parallel to human beings.

**7. Write out as many word chains as you can from Ex. 6 containing different parts of speech such as nouns, numerals, verbs, adjectives, adverbs, and pronouns used as attributes and translate them.**

**8. Decide whether the words in bold are nouns or verbs and explain why you think so.**

- (1) this **means** that, this **means**, it **means**, new **means**, this **means** is;
- (2) this **increase** is, this **increases**, it **increases**, nothing **increases**, its **increase**;
- (3) these **results**, this **results** in, both **results**, this **result**, both **result** in, it **results** from.

## Grammar

### 9. Word formation:

Rule	Example	
	verb	noun
verb or noun + -ive = adjective	to act -> active	intensity -> intensive
	to conserve -> conservative	progress -> progressive
	to react -> reactive	effect -> effective
	to attract -> attractive	mass -> massive

### 10. Form the words according to the examples and translate them.

**super-** (сверх, супер): supernatural (сверхестественный), superpower (сверхдержава);

**micro-** (микро): microscope (микроскоп), microscopic (микроскопический);  
computer, chip, electronics, fiche, film, phone, processor, wave, organism;

**mini-** (мини): minicar (микролитражный автомобиль), minstate (карликовое государство)  
computer, screen, tour, bus, skirt, -sized.

### 11. Translate the following expressions paying attention to the attributes.

(1) a new invention, (2) electronic device, (3) to be of great importance, (4) books available in this library, (5) next-generation computers, (7) plastic chips, (8) at this time, (9) our professor's lectures, (10) an institute's library, (11) computer's internal parts, (12) the first computer processor, (13) the first pocket-size colour television set, (14) today's shows, (15) a tiny nine-by-twelve inch box, (16) a reading room, (17) people living in different time zones of the country, (18) a written text, an article to translate, (19) many different functions, (20) a graphical user interface, (21) the first flexible plastic processor chips, (22) plastic-based devices, (23) ordinary silicon-chip-based computers, (24) inexpensive throwaway information processors, (25) the material of choice, (26) flexible organic light-emitting diodes, (27) a magnetic storage device, (28) inexpensive low-power computers, (29) the same technique offering high data storage capacities, (30) organic semiconductors, (31) jumbled amorphous collections of crystals, (32) the speed of operation, (33) a conventional ion-free insulator.

### 12. Learn *phrasal verbs* used in computing.

#### Working with files or documents

- I** Ron: It would be a disaster if I lost all this work I've done.  
Martin: Well, you should **back up** your work **up** every day [*make a copy of computer information so that you do not lose it*]. I keep a **back-up** of important files on floppies or a CD-ROM [*noun: extra copy for safety*].
- II** Prof. Dell: I have to put all these statistics into my research paper. I hate typing figures; I'm so slow.  
Rana: Well, why don't you save time and pay one of your students to **type/key** them **in** [*put information into a computer using a keyboard*]?
- III** Kirsty: I find it difficult to read my work on screen. It doesn't seem real somehow.  
Trevor: Well, why don't you **print it out** [*produce a printed copy of a document that has been written on a computer*]?  
Kirsty: Yes, I always find it easier to read a **printout** myself [*noun: printed copy of an electronic document*].

- IV** Luke: I can't see the detail on this picture file, it's too small.  
 Anne: No problem. You can just **zoom in** by clicking on this icon here [*show a clear and detailed picture of something*]. And then you can just zoom out [*show something in less detail*] by clicking on this little icon here.

**Note** that with the verbs *back up*, *type in*, *key in* and *print out*, the object can go either before or after the particle, e.g. *back a file up* or *back up a file*.

### Using a network and the Internet

<i>phrasal verb</i>	<i>meaning</i>	<i>example</i>
<b>log in/on</b>	put your name into a computer so that you can start using it	You can <b>log on/in</b> using my password if you want to use the computer.
<b>log off/out</b>	finish using a computer system	Don't forget to <b>log off/out</b> when you've finished.
<b>hack into sth</b>	get into someone else's computer system without permission in order to look at information or do something illegal	Someone <b>hacked into</b> the computers at work and destroyed important data
<b>pick up sth</b> or <b>pick sth up</b>	connect to the Internet and access e-mails	I'll take my laptop so I should be able to <b>pick up</b> my e-mails while I'm away.
<b>scroll across/down/up (sth)</b>	move across/down/up a web page or other document on a computer screen	<b>Scroll up</b> to the top of the page.

**13. Many websites are in English. Next time you visit a website, note down any phrasal verbs that are used on the web pages, e.g. *check out new products*.**

**14. Imagine that you are writing a report on a computer in your office or college. Write the things from the box below in the order in which you would do them.**

back up your work	log off	key in your report	log on	print out your work
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**15. Complete each of these sentences, using a phrasal verb expression from the above.**







- If you find it hard to see the detail in the picture, \_\_\_\_\_ so you can see more. Then click on the same icon again to \_\_\_\_\_ and the picture will go back to normal size.
- Although I'll be working away from the office for a couple of weeks, I'll still be \_\_\_\_\_ my e-mails every day.
- If you \_\_\_\_\_ to the bottom of the page, you'll find the data you want.
- I \_\_\_\_\_ to this brilliant new website last night. Let me give you the address so that you can check it out.
- On these disks you'll find a \_\_\_\_\_ of all the data connected with the project.
- Do you think you could let me have a \_\_\_\_\_ of that screen? I don't have the time to write down all the details.

**16. Choose the correct word to complete these sentences.**

- Joe was very upset when he realised that someone had hacked \_\_\_\_\_ his computer.  
 a) off      b) on      c) into      d) out
- For security reasons, always log \_\_\_\_\_ when you leave your computer unattended for any period of time.  
 a) on      b) in      c) out      d) up

- 3) My secretary is very quick at keying \_\_\_\_\_ data.  
 a) onto      b) on      c) into      d) in
- 4) It took ages to print the whole report \_\_\_\_\_ .  
 a) out      b) down      c) up      d) in
- 5) The ability to zoom \_\_\_\_\_ is particularly useful when you are working on detailed diagrams.  
 a) out      b) in      c) up      d) on
- 6) Larry went into a cybercafé in Bangkok to pick \_\_\_\_\_ his e-mails.  
 a) out      b) on      c) off      d) up

**17. Explain when you would want to click on these icons.**

1.  2.  3.  4.  5.  6. 

**Home assignment after Lesson 1:**

1. Exs 7, 13, 14, 16, 17.