

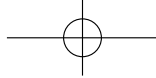


# UNIT ONE

## The Computer

### In this unit, you will

- learn two articles about computer hardware
- learn about several basic components of computers — input, output, processor, memory, and auxiliary storage
- become familiar with the nature of the computer monitor, keyboard, printer, mouse, floppy disks and hard disks
- learn several basic computer concepts such as input/output device, motherboard, microprocessor, internal memory, ROM, RAM, byte, CRT, resolution, pixel, cursor, etc.
- practice reading for the gist, details, and for inference
- learn some basic translation skills: conversion (转换)
- learn several words and phrases used to talk about computer hardware
- do sentence translation exercises
- do paragraph translation exercises



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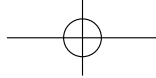
Task	Title	Skills & Knowledge	Length of Time (min)
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### Warm-up

In this unit, you will get to know some information about computers, and the focus of the issue is computer hardware.

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Computers are playing more and more important roles in our daily life. Nowadays, some people have their own computers as a kind of home appliance.

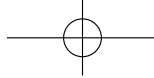


Many people use computers at work. With the rapid development of computer technology, we now have computer networks. How many kinds of computers can you classify according to their size? OK, here is the answer: in terms of size, computers are generally divided into three kinds: microcomputer (微型计算机: a small computer: PC—personal computer), minicomputer (小型计算机: a computer that is larger than a personal computer and smaller than a mainframe, used by businesses and other large organizations) and mainframe (大型机: a large computer that can work very fast and that a lot of people can use at the same time). The computers we usually use at home belong to the first kind — microcomputer.

In the section below, you are going to take a short quiz to test how many words you know about computer hardware. Do not worry if you cannot answer all of the questions. It is just brainstorming exercise that may help you to understand the reading passages to follow. Translate the following words into Chinese by filling in the following table.

Words and Expressions	Meanings Equivalent in Chinese
Input	
Output	
Processor	
Memory/Internal memory	
Auxiliary storage	
Monitor	
Keyboard	
Printer	
Mouse	
Floppy disk	
Hard disk	

If you want to know whether you have the right answers, please go to Text A and Text B. You may find some of the answers. Try to remember the words you have learnt in this exercise; you will need them in the following reading comprehension exercises.

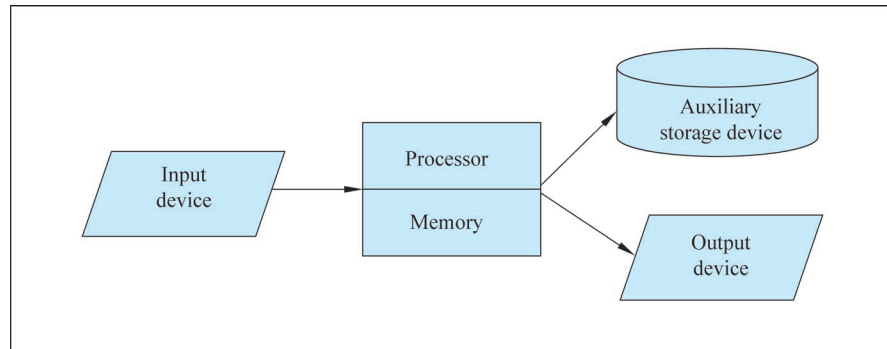


## Text A

### Computer Hardware (I)

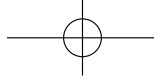
#### Computer logical structure

The computer is capable of the basic operation of data input, output, storage, arithmetic, and comparison. These actions correspond to the components of the computer illustrated in the following chart.



The Logical Structure of a Computer

- **Input.** Input devices bring input data into the computer system; the keyboard is the standard input device for the computer.
- **Output.** Output devices deliver processed results for “human” use; the monitor and printer are standard output devices for the computer.
- **Processor.** The processor is the heart of the computer. It contains the electronic circuitry to perform arithmetical operations, make comparisons, and provide overall control of the computer’s actions.
- **Memory.** The computer memory, also called internal memory, is the electronic component of the computer into which information is temporarily stored when processing takes place. For instance, to process an order, the order-processing program must be in memory. During processing activities, data will be moved into and out of memory. Information in memory is lost when another application is loaded into memory or when the computer is turned off.
- **Auxiliary storage.** Auxiliary storage is the component of the computer in which software and data are permanently stored. The floppy disk is the auxiliary storage medium for computers. Because most auxiliary storage units use rotating disks, the term disk storage is commonly used. During operation of the computer, software is copied from auxiliary storage to memory; data is also transferred back and forth between auxiliary storage and memory.



## Inside the computer

If you remove the cover from a computer, clearly visible are the power supply, disk drivers, speaker, main system board, and expansion slots.

- **The system board.** The system board, also called the motherboard, is the main circuit board of the computer. It includes expansion slots into which other circuit boards can be inserted in order to increase the capabilities of the computer.
- **The microprocessor.** The microprocessor is the controlling nerve center of the computer. It includes a control unit for controlling overall operation of the computer, an arithmetic/logic unit for doing arithmetic and comparisons, and a system clock for timing coordination.

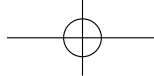


## Internal memory

Internal memory is the “work area” of the computer. Whenever a program is to be run, it must first be copied into memory, from which its instructions can be carried out. Memory also serves to store data temporarily as it is being processed.

- **Computer memory.** Memory is commonly referred to as RAM (i.e. Random Access Memory). This describes a significant characteristic of the computer’s internal memory: data in any part of memory can be accessed just as quickly as data in any other part of memory.
- **ROM.** Rom (i.e. Read Only Memory) is memory manufactured with encoded information that cannot be changed and is not lost when power to the computer is turned off.
- **Byte.** The basic unit of storage in the computer is the byte, which consists of 8 binary digits (bits). A single byte of memory can store one letter, digit, or special character using the ASCII coding method. Two or more bytes can be combined to store numeric data.

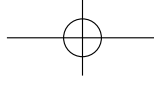
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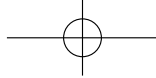
## Words and Expressions

hardware /'hɑ:dweə(r)/	<i>n.</i>	physical equipment used in data processing, as opposed to programs, procedures, rules, and associated documentation (电脑的) 硬件
logical structure		逻辑结构
input /'ɪnpʊt/	<i>v.</i>	to put information into a computer 输入
output /'aʊtpʊt/	<i>v.</i>	to produce information 输出
storage /'stɔ:rɪdʒ/	<i>n.</i>	a computer section used primarily for storing information 存储 (器, 空间)
arithmetic /ə'riθmətik/	<i>n.</i>	science of numbers; working with numbers 算术, 算法
input device		(同input unit) a device by which data can be entered into a computer 输入设备; 输入装置 (一种可以把数据输入计算机的设备)
keyboard /'ki:bɔ:d/	<i>n.</i>	a set of keys on a computer 键盘
output device		(同output unit) a device from which information in computing system can be fetched, for example, printer, etc. 输出设备; 输出装置 (一种可从计算机系统中取出信息的设备, 如打印机等)
monitor /'mɒnɪtə(r)/	<i>n.</i>	the part of a computer that looks like a television and that shows information 显示器
printer /'prɪntə(r)/	<i>n.</i>	a machine which is connected to a computer and makes a printed record of computer information 打印机
process /'prəʊses/	<i>v.</i>	to perform operations on data 处理
processor		a device or system capable of performing operations with data 处理器
	<i>n.</i>	
overall /'əʊvər'ɔ:l/	<i>adj.</i>	including everything; comprehensive 全部的, 全面的
circuitry /'sɜ:kɪtrɪ/	<i>n.</i>	a system of electric circuits 电路, 电路系统; 电路元件



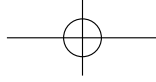


memory /'meməri/ <i>n.</i>	a) the part of a computer in which information can be stored 存储器 b) the amount of space that can be used for storing information on a computer 内存
internal /ɪn'tɜ:nəl/ <i>adj.</i>	of or in the inside 内部的；内在的
internal memory	内存（存储器）；内存储器
component /kəm'pəʊnənt/ <i>n.</i>	internal storage part of a larger or complex object 元（部，组）件
auxiliary /ɔ:g'zɪljəri/ <i>adj.</i>	helping; supporting 辅助的
software /'sɒftweə(r)/ <i>n.</i>	written or printed data, such as programs, routines, and symbolic languages, essential to the operation and maintenance of computers 软件
rotate /rəʊ'teɪt/ <i>v.</i>	to move round a central point 旋转
transfer /træns'fɜ:(r)/ <i>v.</i>	to change position; move 传送；转移
visible /'vɪzəbl/ <i>adj.</i>	capable of being seen 可见的
expansion slot	扩充插槽
motherboard /'mʌðəbɔ:d/ <i>n.</i>	a (non-removable) printed circuit board to which other (removable) printed circuit boards connect 母板 / 母盘（一种（固定的）印制电路板，其他的印制板电路板就连接到这块板上）
circuit /'sɜ:kɪt/ <i>n.</i>	a closed path for an electric current 电路
capability /kəɪpə'bɪləti/ <i>n.</i>	power or capacity（实际）；能力；性能；容量
microprocessor <i>n.</i> /ˌmaɪkrəʊ'prəʊsesə(r)/	the central chip in a computer, which controls most of its operations 微处理器
coordination /kəʊ.ɔ:di'neɪʃən/ <i>n.</i>	making things work together 协调，协同
instruction /ɪn'strʌkʃən/ <i>n.</i>	a unique set of characters that specifies computer operation 指令
RAM <i>abbr.</i>	(Random Access Memory) a storage device in which data can be written and read at any time 随机存取存储器，内存（一种存储器，其中的数据随时可以写入和读出）
access /'ækses/ <i>vt.</i>	to get information, especially on a computer 存取



ROM <i>abbr.</i>	(Read Only Memory) 只读存储器
encode /en'kəʊd/ v.	to convert data by the use of code or a coded character set in such a manner that reconversion to the original form is possible 编(译)码(通过使用代码或编码字符集转换数据, 并使其可以再转换为原始形式)
byte /baɪt/ n.	a unit of computer information equal to eight bits (二进制)字节, 二进位组
binary /'bainəri/ adj.	二进制的
digit /'dɪdʒɪt/ n.	any one of the ten Arabic numerals 0 to 9 (从0到9的任何一个)数字
bit /bɪt/ n.	in the pure binary numeration system, either of the digits 0 and 1 在纯二进制记数系统中, 数字0和1中的任何一个; 二进制数字; 二进制位; 比特 (binary digit的缩写, 存储设备中的最小信息容量单位)
ASCII <i>abbr.</i>	(American Standard Code for Information Interchange) the standard code, using a coded character set consisting of 7-bit coded characters (8-bits including parity check), used for information interchange among data processing systems, data communication systems, and associated equipment. the full code has 128 characters including 96 upper- and lower-case letters, digits, symbols, and 32 control characters 美国信息交换标准码(一种标准码, 使用由七位编码字符——如为八位, 则包括奇偶校验——组成的编码字符集, 用于数据处理系统, 数据通讯系统和有关设备之间的信息交换。ASCII字符集由128个代码组成, 其中96个是大小写字母、数字和符号, 32个为控制符)





## Task 1: Text A — Reading for General Comprehension

After you read Text A, do the following exercises.

### Exercise 1

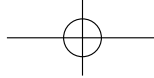
Skim the text and write T (for True) or F (for False) to each statement according to the text.

- \_\_\_\_\_ 1. A computer has five basic operations.
- \_\_\_\_\_ 2. The keyboard is the standard output device for a computer.
- \_\_\_\_\_ 3. An output device is a device from which the information in computing system can be fetched.
- \_\_\_\_\_ 4. The heart of a computer is the memory.
- \_\_\_\_\_ 5. Memory can be used to store information temporarily.
- \_\_\_\_\_ 6. Auxiliary storage is different from disk storage.
- \_\_\_\_\_ 7. Computer users can move data from memory to auxiliary storage, but cannot move data from auxiliary storage to memory.
- \_\_\_\_\_ 8. Other circuit boards can be put into the motherboard to increase the capabilities of the computer.
- \_\_\_\_\_ 9. The microprocessor is composed of three parts: a control unit, an arithmetic unit and a system clock.
- \_\_\_\_\_ 10. RAM and ROM are expressions to describe the characteristics of internal memory.
- \_\_\_\_\_ 11. A bit consists of 8 binary digits.

### Exercise 2

Which statement best summarizes the main idea of the text?

- A. An introduction of a computer.
- B. An introduction of computer hardware.
- C. An introduction to computer devices.
- D. The function of a computer.



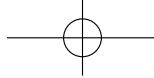
## Task 2: Text A — Reading for Specific Information

After you have done Task 1, you may have a general idea about Text A. Now you are going to do some detailed studies to have a better idea of the text.

### Exercise 1

Read Text A, and then work for the organization of the text by completing the following outline.

1. The logical structure of a computer
  - 1) A computer has 5 basic functions:
    - (1) data input
    - (2) \_\_\_\_\_
    - (3) storage
    - (4) arithmetic
    - (5) \_\_\_\_\_
  - 2) A computer has 5 basic components:
    - (1) Input devices: \_\_\_\_\_ is the standard input device for the computer.
    - (2) Output devices: \_\_\_\_\_ and \_\_\_\_\_ are standard output devices for the computer.
    - (3) Processor contains \_\_\_\_\_ to perform arithmetic operation, make comparisons, and provide overall control of the computer actions.
    - (4) Memory is also called \_\_\_\_\_, and it is used to store information \_\_\_\_\_.
    - (5) Auxiliary storage is used to store \_\_\_\_\_ and \_\_\_\_\_ permanently.
2. Inside a computer
  - (1) The system board is the \_\_\_\_\_ of a computer.
  - (2) The microprocessor is the \_\_\_\_\_ of a computer. It includes a control unit, an arithmetic unit and \_\_\_\_\_.
3. Internal memory
  - (1) RAM: The full name for RAM is \_\_\_\_\_.
  - (2) ROM: Read Only Memory cannot be \_\_\_\_\_ when power to the computer is turned off.



- (3) Byte: Byte is the basic unit of \_\_\_\_\_ in the computer, and it consists of 8 \_\_\_\_\_.

## Exercise 2

Read the text again if necessary, and match the following useful words or phrases with their proper definitions.

### Column A

1. be capable of
2. correspond to
3. process
4. deliver
5. load
6. transfer
7. insert
8. visible
9. refer to
10. consist of

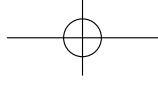
### Column B

- a) to include
- b) to mention or speak about someone or something
- c) that can be seen
- d) to put something into an opening
- e) to change position, to move
- f) to put something into or onto something else
- g) to send
- h) to deal with
- i) to be equal to; to be similar to
- j) to have the ability necessary for

## Exercise 3

Fill in the following blanks with the proper expressions in Exercise 2. Change forms if necessary.

1. The United Kingdom \_\_\_\_\_ Great Britain and Northern Ireland.
2. They agreed never to \_\_\_\_\_ the matter again.
3. The smoke from the fire was \_\_\_\_\_ from the road.
4. He \_\_\_\_\_ the key in the lock but could not open the door.
5. His employer \_\_\_\_\_ him to another office last month.
6. We \_\_\_\_\_ the truck with bananas after the driver parked the truck.
7. Some new books have been \_\_\_\_\_ to the school.
8. Your application is \_\_\_\_\_ at the moment.
9. His expenses do not \_\_\_\_\_ his income.
10. The little boy \_\_\_\_\_ climbing that tree.



## Task 3: Text A — Sentence and Paragraph Translation

### Exercise 1

Translate the following English sentences into proper Chinese by applying the following skill: conversion (转换). In this exercise, you are going to learn to change words from one part of speech (句子成分) into another. You can first read the examples given and then translate underlined parts of the sentences into Chinese.

#### 1. Conversion into adjectives

The pressure inside equals the pressure outside. 内部的压力和外部的压力相等。(副词转换为形容词)

#### 2. Conversion into adverbs

The helicopter is free to go almost anywhere. 直升机几乎可以自由地飞到任何地方去。(形容词转换为副词)

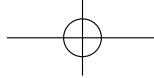
#### 3. Conversion of sentence elements (句子成分)

(from passive 被动语态 to active 主动语态; from the subject to the object and vice versa, and so on)

As the match burns, heat and light are given off. 火柴燃烧时发出光和热。(主语转换为宾语)

- 1) This experiment was a success. 这个实验很 \_\_\_\_\_. (名词转换为形容词)
- 2) I have the honor to inform you that your request is granted. 我 \_\_\_\_\_ 通知你, 你的请求已得到批准。(动词词组转换为副词)
- 3) Care must be taken at all times to protect the instrument from dust and damp. \_\_\_\_\_ 保护仪器, 使其不沾染灰尘和受潮。(被动语态转换为主动语态)
- 4) Careful comparison of them will show you the difference. \_\_\_\_\_, 你就会发现不同之处。(名词性词组转换为动词词组)
- 5) This sort of stone has a relative density of 2.7. \_\_\_\_\_ 是 2.7。(句子转换为名词性词组)

After you have done Exercise 1, you have already got a rough idea of how to employ the skill of conversion into different parts of speech or forms. You are going to do some more exercises to strengthen your ability in it.



## Exercise 2

Translate the underlined English sentences into proper Chinese.

### Internal memory

Internal memory is the “work area” of the computer. 1. Whenever a program is to be run, it must first be copied into memory, from which its instructions can be carried out. 2. Memory also serves to store data temporarily as it is being processed.

- **Computer memory.** Memory is commonly referred to as RAM (meaning Random Access Memory). This describes a significant characteristic of the computer’s internal memory: 3. data in any part of memory can be accessed just as quickly as data in any other part of memory.
- **ROM.** 4. Rom (i.e., Read Only Memory) is memory manufactured with encoded information that cannot be changed and is not lost when power to the computer is turned off.
- **Byte.** The basic unit of storage in the computer is the byte, which consists of 8 binary digits (bits). A single byte of memory can store one letter, digit, or special character using the ASCII coding method. 5. Two or more bytes can be combined to store numerical data.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

## Exercise 3

Translate the whole paragraph in Exercise 2 into proper Chinese.

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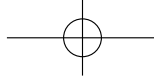
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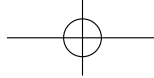
In Text A, you have learnt something about computer hardware. In Text B, you are going to read a passage containing detailed information about each part of the computer hardware covered in Text A.

## Text B

### Computer Hardware (II)

#### Basic input and output devices

- **The monitor.** The basic output device with a computer is the television-like video monitor. It is frequently referred to as a CRT, or cathode ray tube. The characters that are displayed on the screen are formed by a series of pinpoints of light — the more points, the clearer is the image. The measure of the number of elements is called the resolution: the more elements used to form a character, the higher the resolution of the monitor is. The basic element of screen illumination (resolution) is called the pixel, meaning picture element. A pixel is a single point on the screen that can be illuminated.
- **The keyboard.** Whereas the monitor is the basic computer output device, the typewriter-like keyboard is the primary data input device. The combination of the keyboard and monitor is somewhat analogous to the typewriter. As each key of the computer keyboard is struck, the corresponding character is displayed on the monitor screen. Actually, the computer detects which key was struck, stores the character into memory, and then sends an image to the monitor. The position at which each character from the keyboard is displayed on the screen is marked by an element called the cursor.
- **The printer.** One way of categorizing printers is as impact and nonimpact. Impact printers create the letter images by a printing element striking the paper through an inked ribbon such as dot-matrix printers. Nonimpact printers, such as laser printers use copying machine techniques.
- **The mouse.** The mouse is a pointing device used in conjunction with the monitor that streamlines editing and input operations. A mouse is a hand-sized unit connected to the computer that, as it is dragged across a flat surface, relays positioning information to the computer. This information can be used to position the cursor quickly at any desired point. The mouse has one or more buttons that can be pressed to control positioning of the cursor as well as selection operations. It is especially convenient for designating one or more characters or words to be deleted, moved, or changed in appearance. Although the same actions can be performed with the keys of the keyboard, many of them are done much more quickly with a mouse.



### Auxiliary storage

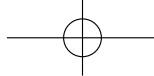
- **The magnetic disk concept.** Magnetic disk storage units are of two broad types: those in which the storage medium is removable and those in which the storage medium is fixed and cannot be removed. Both are used with computers and both are based on the same principles for storing and accessing information from the disk.
- **The floppy disk.** Floppy disks provide the user with the ability to store information limited in amount only by the number of relatively low-cost disks. When inserted into a disk drive unit in the computer, the plastic disk surface, which is coated with a magnetic material, rotates inside the protective jacket. Under program control, data in memory can be written to disk and information previously written can be copied into memory.
- **The hard disk.** Hard disks provide the user with far greater storage capacity and much faster access than floppy disks. However, the medium is not removable as it is with floppy disks.

(538 words)

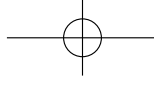
### Words and Expressions

CRT <i>abbr.</i>	(Cathode Ray Tube) 阴极射线管
display /dɪ'spleɪ/ <i>v.</i>	to provide information on a computer screen 显示
pinpoints of light	extremely small spots of light 细微的光线
resolution /ˌrezə'ljuːʃən/ <i>n.</i>	clearness (the power of a television, camera, microscope etc. to give a clear picture of things, or a measure of this) (显示器的) 分辨率
screen illumination	lighting on screen 屏幕照度; 分辨率
pixel /'pɪksəl/ <i>n.</i>	picture element: the smallest unit of an image on a computer screen (显示器或电视机图像的) 像素
analogous /ə'næləgəs/ <i>adj.</i>	similar 相似的; 类似的
detect /dɪ'tekt/ <i>v.</i>	to discover the existence of 发现; 察觉; 注意到
cursor /'kɜːsə(r)/ <i>n.</i>	a mark or a small light which can be moved around a computer screen to show where you are working 光标





categorize /'kætɪgəraɪz/ v.	to put people or things into groups according to what type they are, or to say which group they are in 分类；归类
impact /'ɪmpækt/ n.	strike 打击；撞击
dot-matrix printer	a machine connected to a computer that prints letters, numbers, etc. using many small dots 点阵打印机
laser printer	a machine connected to a computer system that prints by using laser light 激光打印机
copying machine	photocopier (a special electric machine used for making copies of written or printed material) 复印机
mouse /maʊs/ n.	a small object connected to a computer by a wire, which you move with your hand to give commands to the computer 鼠标
conjunction /kən'dʒʌŋkʃən/ n.	joining together 结合
in conjunction with sb./sth.	together with sb./sth. 和……一道
streamline /'stri:mlaɪn/ v.	to improve the efficiency of 使简化，使有效率；使现代化
relay /ri:'leɪ/ v.	to pass or send along 传递
character /'kærəktə(r)/ n.	a letter, mark, or sign used in writing, printing, or computing 字符
delete /dɪ'li:t/ v.	to remove or eliminate an item, record, or group of records from a file 删除
magnetic disk	a flat circular plate with a magnetizable surface layer on which data can be stored by magnetic recording 磁盘（一种带有可磁化表层的扁平圆盘，在其表层上可用磁记录方式存储数据）；同 magnetic disc，也叫 diskette
floppy disk	a flexible magnetic disk enclosed in a protective container 软盘（一种包装在保护套中的软性磁盘）
disk drive	a device for controlling the rotation of magnetic disks 磁盘驱动器



coat /kəʊt/ v.	to cover with a layer of something 涂上; 覆盖
jacket /'dʒækɪt/ n.	a cover that surrounds and protects some types of machine 壳, 盖, 保护罩
hard disk	a part that is fixed inside a computer and is used for permanently storing information 硬盘
capacity /kə'pæsəti/ n.	the total quantity of data that a part of a computer can hold or handle 容量

## Task 4: Text B — Reading for General Comprehension

Text A provides some useful information on the logical structure of the computer. You may want to know more about computer hardware. Text B offers you more detailed information about computer hardware. Read Text B, and then do the following exercises.

### Exercise 1

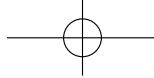
Read Text B through and then answer the following questions.

1. What is CRT?
2. What does the text tell us about the pixel?
3. What components of a computer function the same as a typewriter?
4. How can you know the position at which each character input from the keyboard is displayed on the screen?
5. How do impact printers work? Give an example of impact printers.
6. How do nonimpact printers work? Give an example of nonimpact printers.
7. How big is a mouse?
8. What are the functions of a mouse?
9. What are the differences between a floppy disk and a hard disk?

### Exercise 2

Skim the text again and then summarize it by filling in the missing information.

The article introduces five types of basic computer hardware. *The monitor* is a \_\_\_\_\_ where the characters are displayed; *the keyboard* is the main \_\_\_\_\_ device; *the printer* is divided into two kinds, \_\_\_\_\_ and \_\_\_\_\_



\_\_\_\_\_ ; *the mouse* is used to control \_\_\_\_\_ and selection of operations; *magnetic disk storage units* have two types: \_\_\_\_\_ and \_\_\_\_\_.

## Task 5: Text B — Reading for Specific Information

Now you are going to read the text again and do some detailed studies about it.

### Exercise 1

Fill in the relevant information about the computer hardware.

#### *The monitor*

1. \_\_\_\_\_: also called monitor — the basic output device.
2. \_\_\_\_\_: the measure of the number of elements.
3. \_\_\_\_\_: the basic element of screen illumination (resolution).

#### *The keyboard*

1. \_\_\_\_\_: the main data input device.
2. \_\_\_\_\_: marks the position at which each character from the keyboard is displayed on the screen.

#### *The printer*

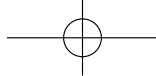
1. \_\_\_\_\_: create the letter images by a printing element striking the paper through an inked ribbon.
2. \_\_\_\_\_: use copying machine techniques.

#### *The mouse*

1. The functions of the mouse: to control \_\_\_\_\_ and \_\_\_\_\_.
2. The advantage: to perform the same actions \_\_\_\_\_ than with the keys of the keyboard.

#### *The magnetic disk concept*

1. \_\_\_\_\_:
  - a) removable storage medium
  - b) storing information limited in amount



2. \_\_\_\_\_:
- fixed storage medium
  - having far greater storage capacity and much faster access

## Exercise 2

Read the text again, and choose the proper synonym for the following underlined words and expressions.

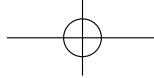
- The combination of the keyboard and monitor is somewhat analogous to the typewriter.  
A. is different from                      B. is similar to
- Actually, a computer detects which key was struck, stores the character into memory and then sends an image to the monitor.  
A. discovers                                B. decides
- The mouse is a pointing device used in conjunction with the monitor that streamlines editing and input operations.  
A. with the help of                      B. together with
- Floppy disks provide the user with the ability to store information limited in amount only by the number of relatively low-cost disks.  
A. supply with                              B. deal with
- One way of categorizing printers is as impact and nonimpact.  
A. distinguishing                        B. dividing
- It is especially convenient for designating one or more characters or words to be deleted, moved, or changed in appearance.  
A. choosing                                B. showing

## Task 6: Text B — Sentence and Paragraph Translation

### Exercise 1

Translate the following sentences from the text into proper Chinese by applying the translation skill of conversion. Pay special attention to the underlined parts.

- As a key of the computer keyboard is struck, the corresponding character is displayed on the monitor screen.



2. A mouse is a hand-sized unit connected to the computer that, as it is dragged across a flat surface, relays positioning information to the computer.
3. Although the same actions can be performed with the keys of the keyboard, many of them are done much more quickly with a mouse.
4. Under program control, data in memory can be written to disk and information previously written can be copied into memory.

## Exercise 2

Translate the underlined English sentences into proper Chinese.

### The monitor

1. The basic output device with a computer is the television-like video monitor. It is frequently referred to as a CRT, for cathode ray tube. 2. The characters that are displayed on the screen are formed by a series of pinpoints of light — the more points, the clearer is the image. The measure of the number of elements is called the resolution: 3. the more elements used to form a character, the higher the resolution of the monitor is. 4. The basic element of screen illumination (resolution) is called the pixel, meaning picture element. A pixel is a single point on the screen that can be illuminated.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## Exercise 3

Translate the whole paragraph in Exercise 2 into proper Chinese.

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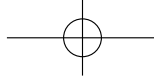
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## Review and Self-assessment

### Review

#### 1. Goal Checking

On a scale of A to E, where **A** stands for “**very well**”, **B** for “**well**”, **C** for “**moderately well**”, **D** for “**not very well**”, and **E** for “**not at all**”, rate how well you have achieved the goals set at the beginning of the unit.

A B C D E understand the two passages on computers

A B C D E learn and use the new words and expressions

A B C D E practice reading skills: get the gist and specific information

A B C D E practice translating skills: conversion

A B C D E learn how to translate some terms

If you have given yourself a C or lower rating on any of these goals, please do one or more of the following:

- Do self-assessment for additional practice
- Review the section which you have found difficult
- Ask your teacher for extra help
- Work with a peer or a study group to reinforce your progress.

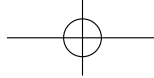
#### 2. Vocabulary

##### Text A

hardware	logical	structure	input	output
storage	arithmetic	input device	output device	keyboard
monitor	printer	process	deliver	perform
overall	processor	circuitry	memory	internal
component	auxiliary	software	data	rotate
transfer	visible	expansion slot	motherboard	circuit
capability	microprocessor	coordination	instruction	RAM
ROM	access	encode	byte	binary
digit	bit	ASCII		

##### Text B

monitor	CRT	display	pinpoint	resolution
illumination	pixel	illuminate	whereas	primary



analogous	detect	cursor	categorize	impact
nonimpact	dot-matrix printer		laser printer	mouse
designate	delete	magnetic	concept	removable
floppy disk	hard disk	insert	coat	jacket
capacity				

### 3. Patterns and Phrases

#### Text A

be capable of	correspond to	input something into
make comparisons	take place	load something into
turn off	back and forth	insert something into
carry out	refer to	consist of

#### Text B

be analogous	in conjunction with	be based on
provide sb./sth. with	be connected to	
be coated with	under...control	

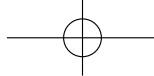
## Self-assessment (10 points)

Read the passage and do the exercises.

The “nerve center” of any computer is the processor, the component that performs all calculations and comparisons and controls overall operation of the computer and its components. In the microcomputer, these actions are carried out by the microprocessor. Introduced by Intel Corporation in 1971, microprocessors have had a huge impact not only on the computer industry, but on many other industries as well. The low cost and small size of microprocessors have made it possible to put “intelligence” in all sorts of machines. We can even buy a sewing machine controlled by a microprocessor. Automobiles with microprocessors to optimize (使尽可能完善, 使最佳化) the control of the engine and provide better pollution control are commonplace (普通的).

The task of directing operations within the computer is the function of the control unit, one of the basic components of the microprocessor. This unit can be considered analogous to a combination of traffic officer and automatic telephone switchboard. It obtains instructions from memory, interprets them, and makes





certain that they are carried out as required. These functions require the opening and closing of appropriate circuits, starting and stopping of input/output devices, and, in general, directing the flow of information within the computer.

The arithmetic (运算) /logic unit, another component of the microprocessor, performs all arithmetic and logical (comparing) operations. Herein (在此, 在这里) lies the key to the versatility (多功能性) of the modern computer, because logical operations provide decision-making capability.

The vast array of activities taking place within the microprocessor are synchronized (同时发生; 同步) by the system clock, an element that oscillates (振荡) millions of times per second. The clock speed is of significance to the typical user because it is a determinant of how fast the computer runs.

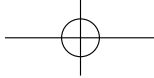
Just as automobile engines are different in their design, so are microprocessors, as it is within their electronic circuitry that primary characteristics of the computer are defined. Regarding automobile engines, we find gasoline, diesel, and rotary. The manner in which each of these operates is completely different from the others. However, the purpose of each is the same: to propel (推进) the auto. Much the same can be said of microprocessors used in microcomputers. There are many different designs, but they are all designed to “propel” the computer.

(378 words)

## Exercise 1

Answer the following questions. (0.5 point for each question)

1. What does the processor of a computer do?
2. What is a microprocessor?
3. When did microprocessors come into existence?
4. What is the importance of microprocessors?
5. What made it possible to put “intelligence” in all sorts of machines?
6. What machines are listed as examples controlled by microprocessors?
7. What does the control unit do?
8. What is the control unit compared to?
9. Which unit is responsible for arithmetic and logical operations?
10. What determines how fast the computer runs?
11. Why are automobile engines mentioned in the last paragraph?
12. In what way are microprocessors similar to automobile engines?



## Exercise 2

Choose the proper words to fill in the following short passage. Remember that not all the words can be filled in. (0.25 point for each statement)

put	run	moves	output
provides	auxiliary	operations	controls

The basic components of any computer are input, output, processor, memory, and \_\_\_\_\_ storage. The main circuitry of the computer is mounted on an electronic circuit board called the motherboard. Included is the microprocessor, which \_\_\_\_\_ both the overall control of the computer and the ability to perform arithmetic \_\_\_\_\_. Before anything can take place in a computer, the program of instructions must be placed in memory. While the program is being \_\_\_\_\_, it moves data in and out of memory. The basic memory element is the byte.

## Exercise 3

Translate the short paragraph in Exercise 2 into Chinese. (3 points)

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