

The Theme: **HARDWARE**

Objectives:

- to broaden students' outlook
- to develop students' language skills
- to cultivate the ability of original thinking and making conclusions

Equipment: a blackboard, handouts for group and individual works, computer

PROCEDURE

I. Greeting:

- Who is on duty today?
- What date is it today?
- Who is absent?

A proverb: "A sound mind in a sound body"

Mind the sounds "b", "d"

II. Warming-up:

Teacher: Look at the blackboard. Here you can see a statement of a famous person Alfred Tennyson "**A noble hart is above all titles.**" Would you like to comment it?

Students:

Teacher: Really, it is better to have the features which are characteristic for a well-bred, generous person. The task of each teacher is to cultivate such features in his or her students to help them in determining their life principles, in realization of their life and professional plans. Your future specialty is "Software Development". It is one of the most important among others. No branch of human activity could do very well without this profession: education, medicine, enterprise or agriculture. The higher the level of your professional knowledge and skills is the higher life standards in our society will be. So, you are responsible for your future, that's why you have to study thoroughly. Your future specialty being international you have to study English accurately.

The theme of today's lesson is "Hardware". We'll work with vocabulary to this topic, watch the film "Hardware", and improve your language skills because **the aim of our lesson is to reach the highest form of speaking activity – the monologue speech.**

III. The main part of the lesson:

III.1. Vocabulary Revision. (HO1)

III.2. Listening Comprehension. Watching the film "Hardware". (HO2)

We start studying the components of a personal computer, in other words called PC.

Let's watch the **appearance** of the personal computer. What components does it consist of? First of all this is the central processing unit – the main component which contains the devices of processing, storing and transmitting the information. Then you can see the monitor, on the screen of which the information is displayed. The monitor is connected to the CPU. Except the monitor some other devices are connected to the CPU, too. They are: keyboard with the help of which alphabetical or digital information is put into the computer. You also can see a manipulator called "mouse" with the help of which the information input becomes faster, easier, and more convenient. Here are the **speakers** called Multi – Channel Audio, the task of which is to put out the sound.

Now we are watching the elements which are situated on the front CPU panel. We have to know how to use them. First of all this is CD-ROM or DVD-ROM. All the devices of this type usually operate equally.

In the right low corner you can see a button. It moves the **tray**. To put the disk in you should press the button. Disk tray ejects automatically. Then you place the disk, and the **label side** should face up. Press the tray easily or the button again, disk tray will retract. Besides, on the front CPU panel there are some **terminals** to connect the speakers for listening to the audio disks.

You also see the volume control button which helps us to increase or decrease the sound level in our phones.

On the panel you can see light indicators which are blinking while disks are being read.

A little lower there are two or more other devices. One of them is the device for reading magnetic disks Zip, and the other – the disk drive for reading floppy disks. To put a disk into a disk drive it necessary to put it into a **slot**. Mind that the flexible metal plate should be **ahead**. After that you have to press it easily until you hear a **click**. To extract the diskette you have to press the button on the disk drive panel.

Pay additional attention to the next words:(HO3)

- **appearance** – зовнішній вигляд
- **speakers** - колонки
- **tray** - лоток
- **label side** – лицьова сторона
- **terminals** – роз'єм
- **slot** – прорізь
- **ahead** – попереду
- **click** – клацання

The task for listening comprehension: (HO4)

Complete the sentences:

- First of all this is the central processing unit – the main component which contains the devices of processing, storing and ... the information.
- They are: ... with the help of which alphabetical or digital information is put into the computer.
- Here are the ... called Multi – Channel Audio, the task of which is to put out the sound.
- To put the disk in you should press the
- Then you place the disk, and the ... should face up.
- Besides, on the front CPU panel there are some ... to connect the speakers for listening to the audio disks.
- You also see the volume control button which helps us to increase or decrease the sound level in our
- To put a disk into a disk drive it necessary to put it into a
- Mind that the flexible metal plate should be
- After that you have to press it easily until you hear a

The correct answers according to the text:

transmitting
keyboard
speakers
button
lable side
terminals
phones
slot
ahead
click

Correct answers and marks:

3 – 5 – «3»

6 – 8 – «4»

9 – 10 – «5»

III. 3. Exercise «Express your opinion»:

Teacher: I offer you to continue the cogitation: “**Without hardware ...**”.

Start your speech with such conversational phrases: “I think /I suppose/As far as I know/If I’m not mistaken...”

III. 4. Group work:

III.4.1. The students are divided into some groups. Each group gets a task:

a. Some students make up a «**Cinquain**» (From a French word which means «five»), a white poem of five lines:

1. – 1 noun
2. – 2 adjectives
3. – 3 verbs
4. – the sentence of four words
5. – 1 synonym to the point 1.

(The word from the text: **hardware**)

b. Some students solve computer quiz;

c. And the rest of students work with their teacher completing the sentences from the text . (HO5)

1. Computer hardware can be divided into
2. The purpose of the input hardware is to collect data and
3. The purpose of the processing hardware is to retrieve, interpret and
4. The Central Processing Unit reads and interprets
5. RAM is the volatile computer memory
6. ROM is the nonvolatile, no modifiable computer memory
7. The purpose of storage hardware is to store computer instructions and data
8. Hard disk is a rigid disk
9. Floppy disk is a thin, usually flexible plastic disk
10. CD-ROM is a compact disk
11. The purpose of output hardware is to provide the user
12. Monitor is a component
13. Printer is a computer output device
14. Modem is an example of communication hardware

III.4.2. The students are divided into four groups. Each group has its own task: ex. 8.6, 8.7, 8.8, 8.9. (HO6)

III. 5. The questions to the text. (HO7)

IV. Home Assignment Checking:

The home-task was to make up dialogues. The students had to work in two groups. Each group has its leader. The task of the leader was to organize the conversation, to determine its aim, language means for dramatizing the dialogue; to control the process of conversation.

To check up the home-task we use the “**Round Table**”.

V. Pre – speaking activities:

V.1. Working in pairs/groups. Each pair/group of students gets a list of vocabulary to make up a **communicative situation**: (HO8)

a.

- nowadays
- to use
- a computer
- to know
- to be divided
- to collect data
- input device
- to retrieve
- to interpret
- to direct
- the most common component
- CPU
- Memory
- RAM
- ROM

b.

- to be
- necessary
- storage hardware
- the most common ways
- to provide
- hardcopy
- softcopy
- to be a component
- to be a computer output device
- to be an example
- to be displayed
- a display screen
- monitor
- printer

V.2. After doing all the exercises students are offered to make up a «**Cinquain**» to the p. III.4.1.a. once again. The aim of this task is to see if there is a difference between the former and the latter one.

V.3. We continue to do p. III.3 «**Express your opinion**». Students may get fresh ideas and they have the opportunity to express their attitude towards the cogitation “**Without hardware ...**”.

VI. Speaking:

Students have to make all the information into the whole.

VII. Summing-up.

VIII. Home Assignment.

НО1

Vocabulary:

amount — кількість

capacity — місткість

circuitry — електричний ланцюг

CPU, microprocessor — мікропроцесор

hard disk — жорсткий диск, «вінчестер»

input hardware — пристрій вводу даних

keyboard — клавіатура

modem — модем

mouse — пристрій для переміщення об'єктів на екрані, «миша»

output hardware — ввідний пристрій відображення інформації

printer — принтер

processing hardware — пристрій обробки даних

RAM — ОЗП (оперативний запам'ятовуючий пристрій)

ROM — ПЗП (постійний запам'ятовуючий пристрій)

CD-ROM — накопичувач на компакт-дисках (CD)

scanner — сканер

sensitive — чутливий

sophisticated — складний

storage hardware — пристрій зберігання даних

temporarily — тимчасово

temporary — тимчасовий

the purpose — ціль

tier — ярус

to affect — впливати

to connect — з'єднувати

to convert — перетворювати

to direct — керувати

to execute — виконувати

to interpret — переводити

to provide — забезпечувати

to reach — досягати

to retrieve — витягати

to roll — катати

volatile — нестійкий, тимчасовий

What is hardware? Webster's dictionary gives us the following definition of the hardware — the mechanical, magnetic, electronic, and electrical devices composing a computer system.

Computer hardware can be divided into four categories:

- 1) **input hardware**
- 2) **processing hardware**
- 3) **storage hardware**
- 4) **output hardware.**

Input hardware. The purpose of the input hardware is to collect data and **convert** it into a form suitable for computer processing. The most common input device is a **keyboard**. It looks very much like a typewriter. The **mouse** is a hand held device connected to the computer by small cable. As the mouse **is rolled** across the mouse pad, the cursor moves across the screen. When the cursor **reaches** the desired location, the user usually pushes a button on the mouse once or twice to signal a menu selection or a command to the computer.

The light pen uses a light **sensitive** photoelectric cell to signal screen position to the computer. Another type of input hardware is optic-electronic **scanner** that is used to input graphics as well as typeset characters. Microphone and video camera can be also used to input data into the computer. Electronic cameras are becoming very popular among the consumers for their relatively low price and convenience.

Processing hardware. The **purpose** of processing hardware is **retrieve, interpret** and **direct** the execution of software instructions provided to the computer. The most common components of processing hardware are the Central Processing Unit and main memory.

The Central Processing Unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU **affects** the processing power and the speed of the computer, as well as the **amount** of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly **sophisticated** tasks in a very short time.

Memory is the system of component of the computer in which information is stored. There are two types of computer memory: **RAM** and **ROM**.

RAM (random access memory) is the **volatile** computer memory, used for creating loading, and running programs and for manipulating and **temporarily** storing data;

ROM (read only memory) is nonvolatile, non-modifiable computer memory, used to hold programmed instructions to the system.

The more memory you have in your computer, the more operations you can perform.

Storage hardware. The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. Storage hardware serves the same basic functions as do office filing systems except that it stores data as electromagnetic signals. The most common ways of storing data are **hard disk**, floppy disk and **CD-ROM**.

Hard disk is a rigid disk coated with magnetic material, for storing programs and relatively large amounts of data.

Floppy disk (diskette) — thin, usually flexible plastic disk coated with magnetic material, for storing computer data and programs. There are two formats for floppy disks: 5.25" and 3.5". 5.25" is not used in modern computer systems because of its relatively large size, flexibility and small **capacity**. 3.5" disks are formatted 1.4 megabytes and are widely used.

CD-ROM (compact disc read only memory) is a compact disc on which a large amount of digitized read-only data can be stored. CD-ROMs are very popular now because of the growing speed which CD-ROM drives can **provide** nowadays.

Output hardware. The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand, such as paper with text (word or numbers) or graphics printed on it. Softcopy output is displayed on a monitor.

Monitor is a component with a display screen for viewing computer data, television programs, etc.

Printer is a computer output device that produces a paper copy of data or graphics.

Modem is an example of communication hardware— an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

Hardware comes in many configurations, depending on what the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your **lap**.

HO2

We start studying the components of a personal computer, in other words called PC.

Let's watch the **appearance** of the personal computer. What components does it consist of? First of all this is the central processing unit – the main component which contains the devices of processing, storing and transmitting the information. Then you can see the monitor, on the screen of which the information is displayed. The monitor is connected to the CPU. Except the monitor some other devices are connected to the CPU, too. They are: keyboard with the help of which alphabetical or digital information is put into the computer. You also can see a manipulator called “mouse” with the help of which the information input becomes faster, easier, and more convenient. Here are the **speakers** called Multi – Channel Audio, the task of which is to put out the sound.

Now we are watching the elements which are situated on the front CPU panel. We have to know how to use them. First of all this is CD-ROM or DVD-ROM. All the devices of this type usually operate equally.

In the right low corner you can see a button. It moves the **tray**. To put the disk in you should press the button. Disk tray ejects automatically. Then you place the disk, and the **label side** should face up. Press the tray easily or the button again, disk tray will retract.

Besides, on the front CPU panel there are some **terminals** to connect the speakers for listening to the audio disks.

You also see the volume control button which helps us to increase or decrease the sound level in our phones.

On the panel you can see light indicators which are blinking while disks are being read.

A little lower there are two or more other devices. One of them is the device for reading magnetic disks Zip, and the other – the disk drive for reading floppy disks. To put a disk into a disk drive it necessary to put it into a **slot**. Mind that the flexible metal plate should be **ahead**. After that you have to press it easily until you hear a **click**. To extract the diskette you have to press the button on the disk drive panel.

HO3

- appearance – зовнішній вигляд
- speakers - колонки
- tray - лоток
- lable side – лицьова сторона
- terminals – роз'єм
- slot – прорізь
- ahead – попереду
- click – клацання

HO4

- First of all this is the central processing unit – the main component which contains the devices of processing, storing and ... the information.
- They are: ... with the help of which alphabetical or digital information is put into the computer.
- Here are the ... called Multi – Channel Audio, the task of which is to put out the sound.
- To put the disk in you should press the
- Then you place the disk, and the ... should face up.
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HO5

1. Computer hardware can be divided into
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HO6

Exercise 8.6. Which of the listed below statements are true/false? Specify your answers using the text.

1. Computer is an electronic device therefore hardware is a system of electronic devices.
2. The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.
3. Scanner is used to input graphics only.
4. The purpose of processing hardware is to retrieve, interpret and direct the execution of software and print the results on paper.
5. User is unable to change the contents of ROM.
6. Printer is a processing hardware because its purpose is to show the information produced by the system.
7. Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.
8. The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve them when needed for processing.

Exercise 8.7. Give definitions to the following using the vocabulary:

1. CPU; ROM; Floppy-disk; CD-ROM; Printer; Modem; Motherboard; Hard disk; Keyboard; Sound-card

Exercise 8.8. Which of the following is HARDWARE?

1. program
2. mouse
3. CPU
4. printer
5. modem
6. command
7. port
8. cursor or the pointer
9. keyboard
10. character

Exercise 8.9. Match the following:

1. процесор
2. клавіатура
3. миша
4. дискета
5. «вінчестер»
6. модем
7. екран
8. ПЗП
9. ОЗП

- a. nonvolatile, nonmodifiable computer memory, used to hold programmed instructions to the system.
- b. the part of a television or computer on which a picture is formed or information is displayed.
- c. rigid disk coated with magnetic material, for storing computer programs and relatively large amounts of data.
- d. an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.
- e. a set of keys, usually arranged in tiers, for operating a typewriter, typesetting machine, computer terminal, or the like.
- f. volatile computer memory, used for creating, loading, and running programs and for manipulating and temporarily storing data; main memory.
- g. central processing unit: the key component of a computer system, containing the circuitry necessary to interpret and execute program instructions.
- h. a palm-sized device equipped with one or more buttons, used to point at and select items on a computer display screen and for controlling the cursor by means of analogous movement on nearby surface.
- i. a thin, usually flexible plastic disk coated with magnetic material, for storing computer data and program.

НО7

1. What is the Webster's dictionary definition of the hardware?
2. What groups of hardware could be defined?
3. What is input hardware?
4. What is mouse designed for?
5. What is processing hardware?
6. Can a PC-user change the ROM?
7. What is storage hardware?
8. What is modem used for?

H08

a.

- nowadays
- to use
- a computer
- to know
- to be divided
- to collect data
- input device
- to retrieve
- to interpret
- to direct
- the most common component
- CPU
- Memory
- RAM
- ROM

b.

- to be
- necessary
- storage hardware
- the most common ways
- to provide
- hardcopy
- softcopy
- to be a component
- to be a computer output device
- to be an example
- to be displayed
- a display screen
- monitor
- printer

Examples :

III. 3. Exercise «Express your opinion»:

Teacher: I offer you to continue the cogitation: “**Without hardware ...**”.

Start your speech with such conversational phrases: “I think /I suppose/As far as I know/If I’m not mistaken...”

For example:

As far as I know without processing hardware a computer couldn’t read and interpret software instructions.

III.4.1. The students are divided into some groups. Each group gets a task:

- a. Some students make up a «**Cinquain**» (From a French word which means «five»), a white poem of five lines:
1. – 1 noun
 2. – 2 adjectives
 3. – 3 verbs
 4. – the sentence of four words
 5. – 1 synonym to the point 1.

(The word from the text: **hardware**)

For example:

1. **Hardware**
2. **useful, necessary**
3. **retrieves, interprets, executes**
4. **Hardware represents various devices.**
5. **Devices**