

Do all of the exercises  
Don't forget to write down the brief  
retelling of the text

Send me your answers as photos of  
your exercise books in VK

Have a nice day 😊

## Unit Eight (B)

1. a) Cover the right column and read the English words. Translate them into Russian and check your translation.

b) Cover the left column and translate the Russian words back into English.

capacity	[kə'pæsɪtɪ]	емкость
power	['paʊə]	мощность
heat		теплота, нагрев
rate		скорость, степень
to produce	[prə'dju:s]	производить
to change	[tʃeɪndʒ]	менять(ся)
to vary	['veəri]	варьировать(ся)
low	[ləʊ]	низкий
high	[haɪ]	высокий
fixed	[fɪkst]	постоянный
any		(зд.) любой
variable	['veəriəbl]	переменный
the (more) ... the (more)		чем (больше) ... тем (больше)

**4. Translate into Russian. Mind *no*.**

1. There is no energy in this machine.
2. No charges move through an open circuit.
3. No material is a perfect conductor of electricity.
4. No electric machinery is used without protection.
5. No special material is needed in this case.

## **Resistors**

A resistor is one of the most common elements of any circuit. Resistors are used:

1. to reduce the value of current in the circuit;
2. to produce IR voltage drop and in this way to change the value of the voltage.

When current is passing through a resistor its temperature rises high. The higher the value of current the higher is the temperature of a resistor. Each resistor has a maximum temperature to which it may be heated without a trouble. If the temperature rises higher the resistor gets open and opens the circuit.

Resistors are rated in watts. The watt is the rate at which electric energy is supplied when a current of one ampere is passing at a potential difference of one volt. A resistor is rated as a 1-W resistor if its resistance equals 1,000,000 ohms and its current-carrying capacity equals 1/1,000,000 amp, since  $P = E \times I = IR \times I = I^2R$  where P – power is given in watts, R – resistance is given in ohms and I – current is given in amperes.

If a resistor has a resistance of only 2 ohms but its current-carrying capacity equals 2,000 amp, it is rated as a 8,000,000-W resistor.

Some resistors have a constant value – these are fixed resistors, the value of other resistors may be varied – these are variable resistors.

**5. Complete the sentences using the correct variant:**

- |   |  |
|---|--|
| 1. A resistor is used                                 | a) to measure the resistance.<br>b) to reduce the current.<br>c) to change the resistance.<br>d) to produce IR voltage drop. |
| 2. When current passes through a resistor             | a) its temperature drops.<br>b) its temperature rises.   |
| 3. Resistors are rated                                | a) in ohms.<br>b) in volts.<br>c) in watts.  |
| 4. Power is given                                     | a) in amperes.<br>b) in watts.   |
| 5. Fixed resistors have                               | a) a constant value.<br>b) a variable value.   |
| 6. The value of a variable resistor                   | a) is fixed.<br>b) is varied.  |
| 7. A two-ohm resistor rated as a 8,000,000-W resistor | a) has a current-carrying capacity equal to 2,000 amp.<br>b) has a current-carrying capacity equal to 200 amp.               |
| 8. The higher the value of current,                   | a) the lower is the temperature of a resistor.<br>b) the higher is the temperature of a resistor.                            |

**6. Complete the sentences using *while*. Follow the model on page 13.**

1. The value of a fixed resistor is constant ... ..
2. Current-carrying capacity is given in amperes ... ..
3. The lower the value of current, the lower is the temperature of a resistor ... ..
4. An electric source produces energy ... ..

**7. Pair work. Put these questions to your groupmate and let him/her answer them.**

1. What is a resistor used for?
2. When does the temperature of a resistor rise?
3. What element is used to change the value of voltage?
4. How are resistors rated?
5. What types of resistors do you know?
6. When does a resistor get open?
7. What does an open resistor result in?
8. What is the difference between a fixed resistor and a variable resistor?
9. How much is the current-carrying capacity of a two-ohm resistor?
10. What resistors have a variable value?