**Тема:** «Проводники, полупроводники. Прилагательные в английском языке»

**Цель:** Повторить лексику по теме «Материалы и их свойства»

**Задачи:** Отработать навык работы (в т.ч. перевода) с профессиональной лексикой по теме «электричество», повторить тематический материал, актуализировать имеющиеся знания.

**Специальность:** 13.02.09 Монтаж эксплуатации линий электропередачи, 13.02.11 Техническая эксплуатация и обслуживание электрического и электромеханического оборудования (по отраслям)

1. **Study the new words.**
2. **Read the text.**
3. **Learn the rule.**
4. **Do the tasks.**

**Conductive Properties of Materials**

In order for current to flow, there must be a conducting medium such as a copper wire, water, air, or some other pathway. Some materials are better conductors of electricity than others because of the structure of the atoms from which they are made. The atoms in a good conductor more readily give up their electrons in the outer orbit. For that reason, they offer little resistance to the flow of electricity.

Copper, gold, silver, aluminum, and other metallic elements are good conductors. Other materials such as carbon, wood, paper, and rubber are poor conductors of electricity. The atoms from which they are made are structured in a way that requires a lot of energy to pull electrons from their orbit. They are considered good insulators because they inhibit the flow of electricity. Still others, such as germanium and silicon, will conduct electricity under certain conditions. For example, by raising their temperature or placing them in the presence of an electric field

we can increase their conductivity. These materials are known as semiconductors.

**Summary**

Electricity is the transfer of energy through the flow of electrons. Electrons are subatomic particles with a negative charge orbiting about the nucleus of an atom in an electron cloud. The electrons in some atoms are more loosely bound than in other atoms. When an external force such as a voltage is applied to an element with loosely bound electrons in the outermost orbit, the electrons can be pulled free of the atom.

Electron drift is the gradual migration of free electrons toward a positive charge. The actual path of individual free electrons is a random zigzag, and the friction produced by bumping into other free electrons produces heat. The free electrons may eventually slow down and fall into a hole, or an atom that is missing an electron. The transfer of energy propagates through the conducting material at a rate approaching the speed of light.

Some materials, such as gold, silver, and copper, are more conductive than others, such as carbon, wood, paper, and rubber. Still others, such as germanium and silicon, can be nonconductors or conductors depending on certain conditions. The direction of current is considered by most people to be opposite the direction of the electron flow.

1. **Answer the following questions:**
2. What are the three main categories of material are mentioned in the text?
3. Give examples of conductors and insulators.
4. Why some materials can’t conduct electricity?
5. Why semiconductors are useful?

**Degrees of comparison rule**

1. **Give the proper form to adjectives in brackets.**
2. How could I imagine (random) methods of computing the data?
3. Gold is (good) conductor than wood.
4. Electrons in some atoms are (loose) than in others.
5. Some particles move (slow) than the others.
6. Rubber is (reliable) insulator.
7. We need to get a (little) resistance in this circuit
8. Electricity is (good) thing that ever happened to humanity
9. **Fill in the gaps, use your glossary:**
10. Electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the negative charge
11. There are conductors, insulators and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that require some special conditions
12. The movement of particles that has no order is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Don’t touch this equipment without special dressing! Don’t you see the sign “High\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”
14. The wire or cord is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_for current flow
15. The power converter may\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the voltage and frequency of the current
16. Lots of patricles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_around the nucleus
17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is the most widespread conducting material in the world
18. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is not the best insulator because it is pretty flammable
19. Silver and\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are the most expensive materials in the world
20. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of electrons produces heat
21. Every atom and every cell has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
22. You can use a clamp-on measuring device to detect the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
23. What is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_? I don’t know really, but I think it is connected with electrons flowing somewhere
24. **Translate into Russian:**

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other pathway. Some materials are better conductors of electricity than others because of the atoms structure from which they are made. The atoms in a good conductor more readily give up their electrons in the outer orbit. For that reason, they offer little resistance to the flow of electricity.

Copper, gold, silver, aluminum, and other metallic elements are good conductors. Other materials such as carbon, wood, paper, and rubber are poor conductors of electricity. The atoms from which they are made are structured in a way that requires a lot of energy to pull electrons from their orbit. They are considered good insulators because they inhibit the flow of electricity. Still others, such as germanium and silicon, will conduct electricity under certain conditions. For example, by raising their temperature or placing them in the presence of an electric field

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