**Тема:**  «Особенности перевода научных текстов. Явление света.»

**Цель:** Повторить грамматический материал , продолжить изучать лексическую тему «физические явления», освоить базовые принципы перевода научно-технических текстов.

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

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

1. **Translate the glossary**
2. **read the text**
3. **do the tasks**

**Light’s nature duality**

The nature of light has been a subject of inquiry since antiquity*. In the seventeenth century, Isaac Newton performed experiments with lenses and prisms and was able to demonstrate that white light consists of the individual colors of the rainbow combined together.* Newton explained his optics findings in terms of a "corpuscular" view of light, in which light was composed of streams of extremely tiny particles travelling at high speeds according to Newton's laws of motion. *Others in the seventeenth century, such as Christiaan Huygens, had shown that optical phenomena such as reflection and refraction could be equally well explained in terms of light as waves travelling at high speed via a medium called "luminiferous aether" that was thought to permeate all space.* Early in the nineteenth century, Thomas Young demonstrated that light passing via narrow, closely spaced slits produced interference patterns that could not be explained in terms of Newtonian particles but could be easily explained in terms of waves. Later in the nineteenth century, after James Clerk Maxwell developed his theory of electromagnetic radiation and showed that light was the visible part of a vast spectrum of electromagnetic waves, the particle view of light became thoroughly discredited. By the end of the nineteenth century, scientists viewed the physical universe as roughly comprising two separate domains: matter composed of particles moving according to Newton's laws of motion, and electromagnetic radiation consisting of waves governed by Maxwell's equations. Today, these domains are referred to as classical mechanics and classical electrodynamics (or classical electromagnetism). Although there were a few physical phenomena that could not be explained within this framework, scientists at that time were so confident of the overall soundness of this framework that they viewed these aberrations as puzzling paradoxes that would ultimately be resolved somehow within this framework. *As we shall see, these paradoxes led to a contemporary framework that intimately connects particles and waves at a fundamental level called wave-particle duality, which has superseded the classical view.* Visible light and other forms of electromagnetic radiation play important roles in chemistry, since they can be used to infer the energies of electrons within atoms and molecules. Much of modern technology is based on electromagnetic radiation. For example, radio waves from a mobile phone, X-rays used by dentists, the energy used to cook food in your microwave, the radiant heat from red-hot objects, and the light from your television screen are forms of electromagnetic radiation that all exhibit wavelike behavior.

1. **Translate the lines given in Italics into Russian.**
2. **Answer the following questions:**
3. Who has demonstrated the consistence of individual colors in white light?
4. How does Newton explained his term “corpuscular”?
5. What phenomena did Christiaan Huygens bring as a prove of light wavelike nature?
6. What theory did Clerk Maxwell elaborate?
7. Give modern technologies that are based on electromagnetic radiation.
8. **Find equivalents for the followings from the text:**
9. Оптические изыскания
10. Волновой признак
11. Два противоборствующих лагеря
12. Абсолютная истинность парадигмы
13. Непременно разрешенные
14. Выказывать признаки волновой природы
15. **Translate into Russian:**
16. Light wave
17. Neon light
18. Carbon dioxide particles
19. Television screen
20. Maxwell paradox
21. Paradox dependence
22. Radiation field
23. Scar tissue
24. Matter issue
25. **Fill in the gaps with your glossary:**
26. If we say, that the light consist of the particles, we mean a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_theory
27. With the help of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and prisms we can zoom objects.
28. Lots of “ancient” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_had lots of mistakes and mismatches as well
29. You have said, that he is a smart guy, and look at his wreck handiwork! It is a kind of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, you know!
30. White light is the only a visible part of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
31. Why would you say that? Where you so much \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in these facts?