

## **The History of Electricity**

### ***Ex. 1. Read the text.***

The history of electricity is a tale of curiosity and innovation spanning centuries. Ancient civilizations like the Greeks first observed static electricity when rubbing fur against amber, but it wasn't until the 17th and 18th centuries that the scientific community began to unravel the mysteries surrounding this unseen force. One of the pioneering figures was William Gilbert, an English physician who coined the term "electricus" and made significant strides in studying magnetic fields and electric forces.

The journey continued with Benjamin Franklin's famous kite experiment in 1752, which demonstrated the connection between lightning and electricity, propelling further inquiries into this natural phenomenon. By the 19th century, the door to practical applications of electricity began to swing open. Alessandro Volta's invention of the voltaic pile in 1800 provided the first source of continuous electric current, making it possible to power devices.

Figures like Michael Faraday and Nikola Tesla further revolutionized the field. Faraday's work on electromagnetic induction laid the groundwork for electric generators and transformers, while Tesla's contributions to alternating current (AC) systems offered practical solutions for electrical power distribution, making it feasible to electrify entire cities.

The late 19th and early 20th centuries witnessed a rapid escalation in the use of electricity, transforming industries and daily life. Thomas Edison's creation of the electric light bulb marked the beginning of an era where electric power became accessible and indispensable. The establishment of power grids enabled electric energy to reach homes and businesses, fundamentally altering society's structure and the pace of technological progress.

Today, electricity is indispensable, driving everything from simple household appliances to advanced supercomputers. The history of electricity is not just a chronicle of discovery and invention but also a testament to human ingenuity and the relentless quest for understanding the natural world. Each milestone in this journey has powered the next, illuminating the path forward for future innovations.

*Ex. 2. Answer the questions.*

1. Who was William Gilbert, and what contributions did he make to the study of electricity?
2. What famous experiment did Benjamin Franklin conduct in 1752, and what did it demonstrate about electricity?
3. How did Alessandro Volta's invention of the voltaic pile impact the practical applications of electricity?
4. What role did Michael Faraday play in advancing the field of electricity, and what concept did he work on?
5. How did Nikola Tesla contribute to electrical power distribution, and what system did he focus on?
6. What significant event marked the beginning of widespread electric power accessibility in society?
7. In what ways has the use of electricity transformed industries and daily life over time?

*Ex. 3. Complete the text with the information given in the video.*

Circuits are closed loops containing a power source and components for \_\_\_\_\_(1).

Circuit diagrams are used to represent circuits, with symbols for different \_\_\_\_\_(2).

Common symbols include cells (basic batteries) and filament lamps (light \_\_\_\_\_(3)).

Adding a switch to a circuit can control the flow of \_\_\_\_\_(4).

Key terms in circuits are potential difference (voltage), current (measured in \_\_\_\_\_(5)), and resistance (measured in \_\_\_\_\_(6)).

Current flows from the negative terminal to the positive terminal due to the movement of negatively charged \_\_\_\_\_(7).

The convention of current flow from positive to negative is used in exams, even though electrons actually flow the other \_\_\_\_\_(8).

### **12.3. Communication**

***Ex. 1. Make sentences using the following words.***

1. capacitors/store/electrical
2. They/help/regulate
3. Capacitors/commonly/used
4. Do/capacitors/affect
5. Capacitors/come/different
6. They/found/most
7. Capacitors/essential/components
8. How/do/improve
9. Capacitors/known/ability
10. Have/you/replaced