

Knowledge

1. Who is considered the inventor of the first electric battery?

- A) Nikola Tesla
- B) Alessandro Volta
- C) Thomas Edison
- D) Michael Faraday
- E) Benjamin Franklin

Correct Answer: B) Alessandro Volta

2. What was the main material used in the electrodes of Volta's first battery, known as the "Voltaic Pile"?

- A) Gold and silver
- B) Zinc and copper
- C) Aluminum and lead
- D) Nickel and cadmium
- E) Carbon and lithium

Correct Answer: B) Zinc and copper

3. Which of the following describes a "primary" battery?

- A) Batteries that can be recharged multiple times
- B) Batteries made only from lithium-ion
- C) Single-use batteries that cannot be recharged
- D) Batteries used in electric vehicles
- E) Batteries that directly store solar energy

Correct Answer: C) Single-use batteries that cannot be recharged

4. Which of the following is a typical characteristic of lithium-ion batteries?

- A) High energy density and rechargeable
- B) Low cost and non-rechargeable
- C) High durability and lead-based
- D) Exclusively used in toys and flashlights
- E) Only usable once

Correct Answer: A) High energy density and rechargeable

5. In a battery, what is the role of the electrolyte?

- A) To store electric charge between the anode and cathode
- B) To block the flow of electrons between the poles
- C) To facilitate ion movement and complete the circuit
- D) To provide the positive pole of the battery
- E) To prevent any chemical reactions within the battery

Correct Answer: C) To facilitate ion movement and complete the circuit

6. What type of battery is most common in conventional (non-electric) cars?

- A) Lithium-ion batteries
- B) Lead-acid batteries
- C) Nickel-cadmium batteries
- D) Alkaline batteries
- E) Nickel-metal hydride batteries

Correct Answer: B) Lead-acid batteries

7. Which type of battery is most commonly used in smartphones and laptops today?

- A) Nickel-cadmium battery
- B) Lead-acid battery
- C) Alkaline battery
- D) Lithium-ion battery
- E) Zinc-air battery

Correct Answer: D) Lithium-ion battery

8. What is generated by the movement of electrons from one pole of the battery to the other?

- A) Temperature increase
- B) Electric current
- C) Chemical reaction in the electrolyte
- D) Energy dissipation
- E) Ion storage

Correct Answer: B) Electric current

9. Which type of battery would be most suitable for an emergency flashlight?

- A) Lead-acid battery
- B) Alkaline battery
- C) Nickel-metal hydride battery
- D) Lithium-ion battery
- E) Nickel-cadmium battery

Correct Answer: B) Alkaline battery

10. Which of the following applications would likely use a nickel-metal hydride (NiMH) battery?

- A) TV remote control
- B) Portable power tool
- C) Home solar panel
- D) Car battery in electric vehicles
- E) Wristwatch

Correct Answer: B) Portable power tool