

Electrical Safety

Key Terms

- Live wire: The wire that carries current into an appliance.
- Neutral wire: The wire that carries current away from the appliance.
- Earth wire: A safety wire that carries current to the ground if a fault occurs.
- Fuse: A thin wire that melts and breaks the circuit when too much current flows.
- Circuit breaker: A reusable safety switch that cuts off electricity during a fault.
- Insulator: A material that does not allow electricity to pass through.
- Electric shock: When electricity passes through a person's body.

Reading Passage: Electrical Safety

Electricity is extremely useful, but it can also be dangerous if not handled properly. In homes, electrical safety features are designed to protect people from electric shocks and prevent fires. One important feature is the earth wire, which provides a safe path for current to flow into the ground if a metal appliance becomes live. This prevents the user from receiving a shock.

Another safety device is the fuse. If too much current flows through a circuit, the fuse wire melts and breaks the circuit. This stops the flow of electricity and protects the appliance from overheating. Modern homes often use circuit breakers instead of fuses. Circuit breakers detect faults and switch off the electricity automatically. They can be reset easily, making them more convenient than fuses.

Electrical appliances are also covered with insulating materials such as plastic. These materials prevent users from touching live wires. Together, these safety features help ensure that electricity can be used safely in everyday life.

Section A: Open-Ended Questions

1. Why is the earth wire important in electrical appliances?
2. How does a fuse protect an appliance?
3. Why are circuit breakers considered more convenient than fuses?
4. What role do insulating materials play in electrical safety?
5. Why is electricity both useful and dangerous?

Section B: Close-Ended Questions

6. The earth wire provides a path for current to flow: A) Into the fuse B) Into the ground C) Into the neutral wire D) Into the circuit breaker
7. A fuse works by: A) Switching off automatically B) Melting when current is too high C) Storing extra electricity D) Cooling the appliance
8. True or False: Circuit breakers must be replaced every time they switch off.
9. True or False: Insulators help prevent people from touching live wires.
10. Fill in the blank: A material that does not allow electricity to pass through is called an _____.
11. Fill in the blank: Circuit breakers can be easily _____ after a fault.

Vocabulary Practice

12. Earth wire - A device that melts to stop excessive current / A material that prevents electric flow / A wire that directs current safely into the ground
13. Fuse - A device that melts to stop excessive current / A material that prevents electric flow / A wire that directs current safely into the ground
14. Insulator - A device that melts to stop excessive current / A material that prevents electric flow / A wire that directs current safely into the ground

Answer Key

1. It provides a safe path for current to flow into the ground if a fault occurs.
2. The fuse wire melts when too much current flows, breaking the circuit.
3. They can be reset easily and do not need to be replaced.
4. Insulators prevent users from touching live wires.
5. Electricity is useful for powering appliances but dangerous because it can cause shocks or fires.
6. B
7. B
8. False
9. True
10. Insulator
11. Reset

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