

Name _____

How Do Electric Circuits Work?

Open-Ended Response Answer Key

1. Series circuits have components connected in a single path, while parallel circuits have components in multiple paths. Series circuits have the disadvantage of all devices stopping if one fails, whereas parallel circuits allow devices to continue functioning independently.
2. Safety measures in electric circuits include using insulation to prevent electrical shocks and protective gear for personal safety. Following proper procedures and precautions is essential when working with electricity.
3. A world without electric circuits would mean no electronic devices, no lighting, and no power. It would have a profound impact on our daily lives and technological advancements.
4. Conductors, like copper wires, allow electrons to flow easily through a circuit. Insulators, like rubber or plastic, prevent the flow of electrons and are used to cover wires and components for safety and insulation. Examples of conductors and insulators in real-life scenarios can be found in electrical wiring and household appliances.

