



Key People/Scientists

Michael Faraday (1791-1867)

A Victorian chemist and physicist who invented the electric motor. The son of a poor London blacksmith. Although he had little schooling, he taught himself from science books while working for a book binder and did his own experiments after work.



Maria Telkes (1900-1995)

A Hungarian - American famous scientist who made a lot of discoveries around solar power. Given the nickname 'The Sun Queen'.



Misconceptions/Key facts

Misconception: An electric cell is called a battery.

Fact: A battery is made up of two or more electric cells connected in series.

Misconception: Electric current is 'used up' by an electric bulb in a circuit, so there is less current 'going back' to the battery in the wire after the electric bulb in a series circuit.

Fact: Electric current in the wires on both sides of the electric bulb is the same.

Key Questions

What is electricity?

Electricity is a secondary energy. It means, it is made from other energies, such as coal, water or wind. This energy can be used to power electrical items such as toasters, kettles, cookers, televisions and computer tablets. Electrical energy is caused by electrons (the particles in atoms) moving about to make a current.

What is the role of a switch in a circuit?

Circuits allow electricity to flow through which can then power bulbs, motors and buzzers. Switches are used to control circuits. They can break a circuit - and so switch bulbs, motors and buzzers off - or complete a circuit - and so switch them on again.

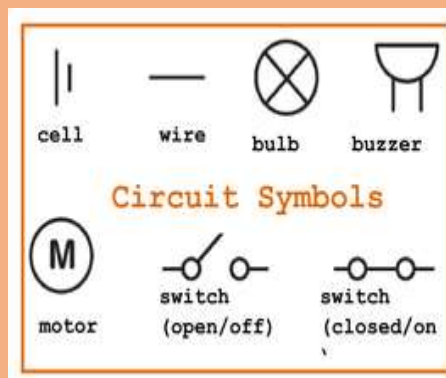
What are common conductors and insulators?

Conductors allow electrical current to flow very easily because of their free electrons. Insulators oppose electrical current and make poor conductors. Some common conductors are copper, aluminum, gold, and silver. Some common insulators are glass, air, plastic, rubber, and wood.

How can we stay safe while using electricity?

Stay clear of power lines and substations. Never tug on the wire of a plug to remove it from the socket - this may damage the wire or the socket. Keep any electrical equipment away from water. Keep a safety cap on all electricity outlets.

Diagrams/Visual Aids



Key Vocabulary

circuit	A simple series electrical circuit is a circuit for electricity to flow around.
conductors	Materials which let electricity pass through them easily such as copper and iron.
current	Electrical current is the rate of flow of electricity.
danger	The possibility of suffering harm or injury or electric shock.
insulators	Materials which don't allow electricity to pass through the - wood and plastic.
safety	Working sensibly to ensure individual is protected from or unlikely to cause danger, risk, or injury.