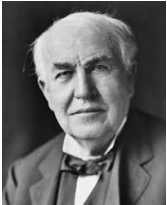




Topic: Electricity	Year: 4	Strand: Physics
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Significant Scientist

Thomas Edison
(1847-1931)



Thomas Edison was an American inventor. He is sometimes described as America's greatest inventor. He invented the first practical incandescent light bulb.

Enquiry questions

What makes it work? (does it need electricity, and what is the difference between battery and mains)

How does a circuit work?

What does a switch do?

What types of materials conduct electricity?

Key Vocabulary

electricity	A form of energy used for lighting, heating, making sound and making machines work.
electrical appliance	A machine or device that runs on electricity.
mains	The electricity supplied to households from power stations.
electrical circuit	This consists of a cell or battery connected to a component using wires. It needs to be a complete circuit to work.
cell and battery	A cell is a single unit and a battery is a collection of cells.
electrical component	A part that combines with others to form a circuit. E.g. bulb, motor, buzzer
switch	Can be added to a circuit to turn a component on or off. It allows the electricity to flow or it stops it.
conductor	Material that allows electricity to pass through.
insulator	Material that does not allow electricity to pass through it.

Electricity - key information

Appliances that run on electricity

Some plug into the mains and others run on batteries.



Conductors and insulators

Conductors

Some materials let electricity pass through them easily. These are known as electrical conductors. Many metals are good electrical conductors, such as iron, copper and steel.

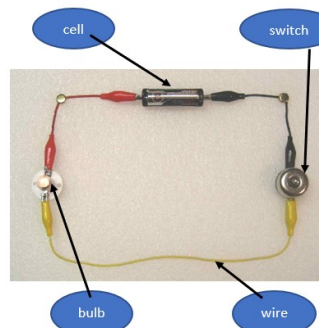


Insulators

Some materials do not allow electricity to pass through them. They are known as insulators. Plastic, wood, rubber and glass are good electrical insulators.

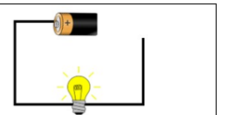


Electrical circuit with a bulb

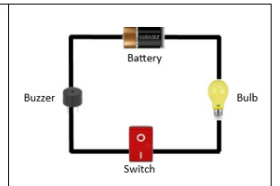


The switch opens and closes the circuit. The bulb lights in this circuit because the switch is on.

This circuit will not work as it is not complete.



This circuit is complete so the buzzer will sound and the bulb will light.



Retrieval Quiz

- Name 3 household appliances that need electricity to work.
- An electrical appliance can either plug into the a) _____ or run on b) _____.
- What are the function of wires in an electrical circuit?
- What **must** a circuit have for it to work?
- What can be put into a circuit to allow you to turn a component on or off?
- What is a material known as which allows electricity to pass through it?
- Name **three** metals which conduct electricity.
- Name **three** materials which are electrical insulators.

Useful Websites

[Electricity - KS2 Science - BBC Bitesize](#)