



Electricity

Objectives

- Identify common appliances that run on electricity.
- Identify whether or not a lamp will light in a simple series circuit.
- Construct a simple series electrical circuit, identifying and naming cells, wires, bulbs, switches and buzzers.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. (Linked to D & T)
- Recognise some common conductors and insulators, and associate metals with being good conductors

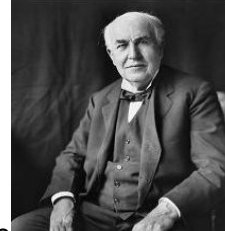
Questions

- 1) Name four appliances that use electricity.
- 2) Explain the meaning of a conductor and an insulator.
- 3) Share a material that is a conductor.
- 4) Share a material that is an insulator.
- 5) Can you sort these appliances into those that need mains power and those that use batteries? x-box, torch, TV, computer, camera, torch and alarm clock
- 6) Sort these materials into conductors and insulators:
electricity. wood, plastic spoon, tin foil, metal spoon and fabric.

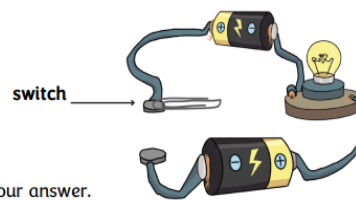
Scientist: Thomas Edison 1847-1931

Thomas Edison created more than 1,000 devices on his own or with others. His best-known inventions include the phonograph (record player), the lightbulb, and the motion-picture projector.

Light Bulb - Although he did not invent the first electric light, Edison made the first practical electric light bulb that could be manufactured and used in the home.



Will this circuit work? YES/NO ☐



Explain your answer.

Can you name the components?



Scientific Terminology

Components – the parts of a circuit

Conductor - a material that **allows** electricity to pass through it easily.

Current - a flow of electrons in a circuit.

Electrons - very small particles that travel around an electric circuit and carry energy. These are negatively charged.

A **filament bulb** is a light bulb that contains a thin wire, or **filament**, that heats up and emits light when an electric current passes through it.

Insulator - a material that **does not** allow electricity, heat, light, or sound to pass through it easily.

Mains power – electricity provided by power stations

Resistance - A measure of the difficulty of passing an electric current through a conductor. The more resistance in a circuit, the less electricity will flow through.

Static electricity - a stationary electric charge, typically produced by friction, which causes sparks, crackling or the attraction of dust or hair.

