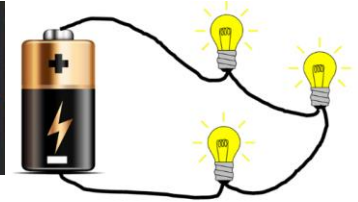




Scintillating Circuits

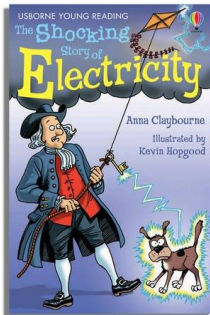
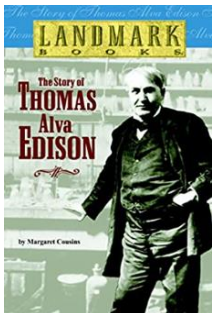


How do the lights on my Christmas tree work?



Electricity

- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- Use recognised symbols when representing a simple circuit in a diagram



Thomas Edison (February 11, 1847 – October 18, 1931) was an American inventor and entrepreneur who invented many things. Edison developed one of the first practical light bulbs, but contrary to popular belief, did not invent the light bulb.

Thomas Edison

American inventor



Scintillating Circuits

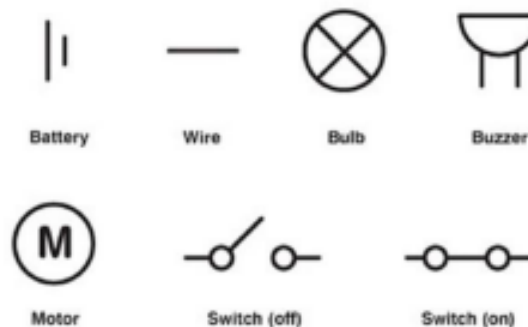


Key vocabulary – Electricity

cell/battery	A device that stores energy as a chemical until it is needed. A cell is a single unit. A battery is a collection of cells
circuit	A path that an electrical current can flow around
component	A material or device which allows heat or electricity to carry through
conductor	One of the parts or units of a system
current	The flow of electrons, measured in amps
electricity	A form of energy resulting from the existence of charged particles
electrons	Very small particles that travel around an electrical circuit
insulator	A material that is a poor conductor of electricity
resistance	The difficulty that the electric current has when flowing around a circuit
switch	A device for making and breaking the connection in a circuit
voltage	The force that makes the electric current move through the wires. This is measured in volts. The greater the voltage, the more current will flow



Main components of an electrical circuit



These symbols can be used to create electrical circuit diagrams.

The battery pushes electricity along the wires from positive, through the bulb and back to negative.

A simple series circuit



In order for electricity to flow, a circuit needs three things:

1. a source of electricity
2. no gaps in the circuit
3. conductors

A circuit that has only one route for the current to take.

If just one part of this series circuit breaks, the circuit is broken and the flow of current stops