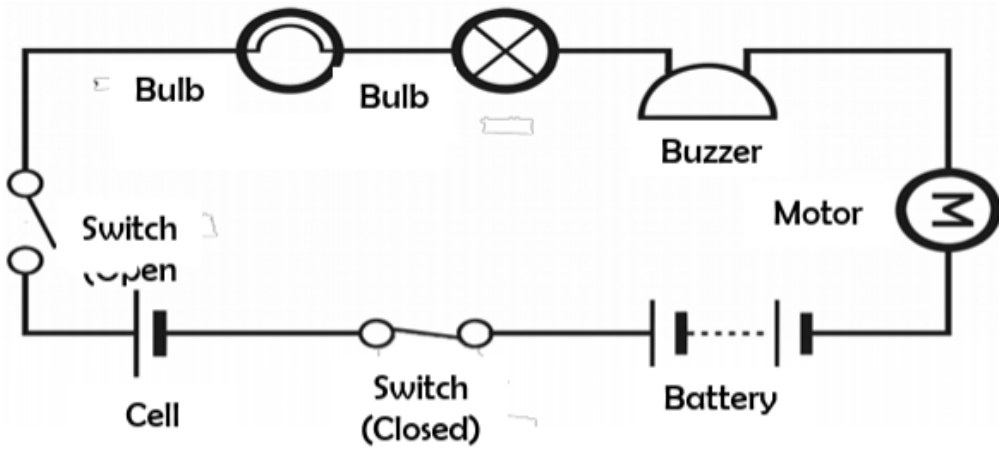
What should I already know?

I can identify common appliances that run on electricity.
I can build a simple series electrical circuit, identifying and naming its basic parts.
I can identify whether or not a lamp will light in a circuit, based on whether or not it is part of a complete loop with a battery.
I know that a switch opens and closes a circuit and associate this with whether or not a lamp lights up in a simple circuit.
I know some common conductors and insulators and know that metals are good conductors.

Enquiry Question

How does the voltage in a circuit affect the loudness of a buzzer?

Circuit symbols



The more cells together the more voltage it give in a circuit.

1.5 V 3.0 V

4.5 V

Vocabulary

Series circuit	a circuit where all the components are connected in one single loop
Current	the flow of electricity in a circuit
Voltage	causes the current to flow
Complete circuit	a circuit that does not have a break in it
Incomplete circuit	a circuit that has a break in it
Switch	a component that allows a current in a circuit to be turned on and off
Buzzer	a component that makes a buzzing or beeping sound

Variations within circuits

When changes are made to circuits, components can function differently:

When switches are open or wires are removed from a circuit it is no longer a closed circuit so bulbs, motors and buzzers will turn off as the circuit is not complete.

When more batteries or cells are added or batteries are included with a higher voltage the brightness of bulbs and the volume of buzzers will increase.

When more bulbs are added to a simple circuit, they will be dimmer than if there were one bulb. This is because the electricity is shared between the bulbs. More voltage would be needed to make them brighter. Using more than one motor or buzzer will make them spin more slowly or they will be quieter for the same reason.

Examples: