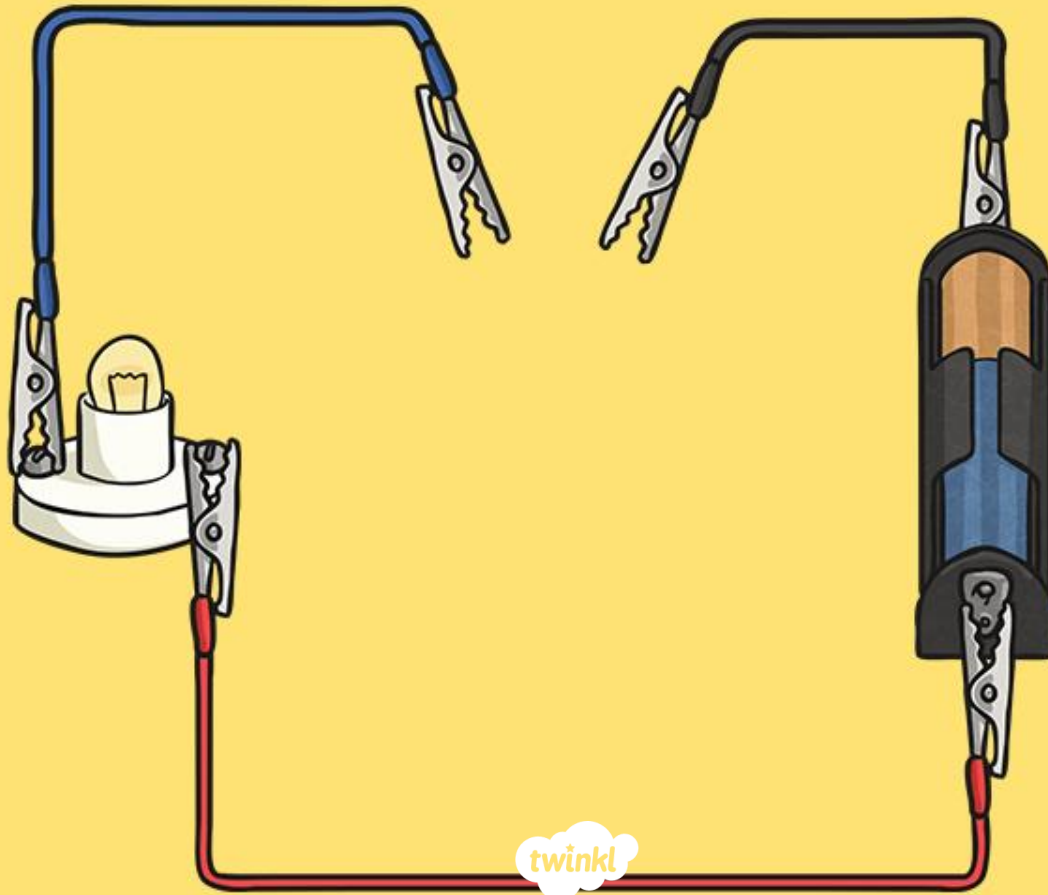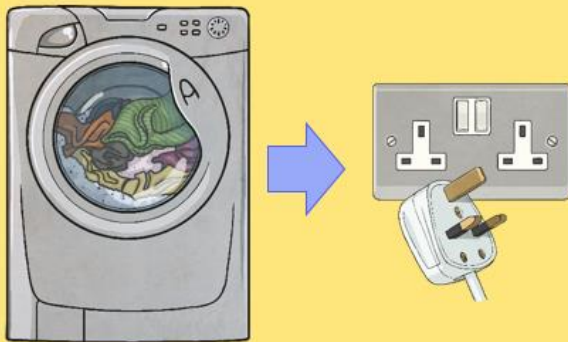# Electrical Circuits

WALT: Understand how a circuit works.
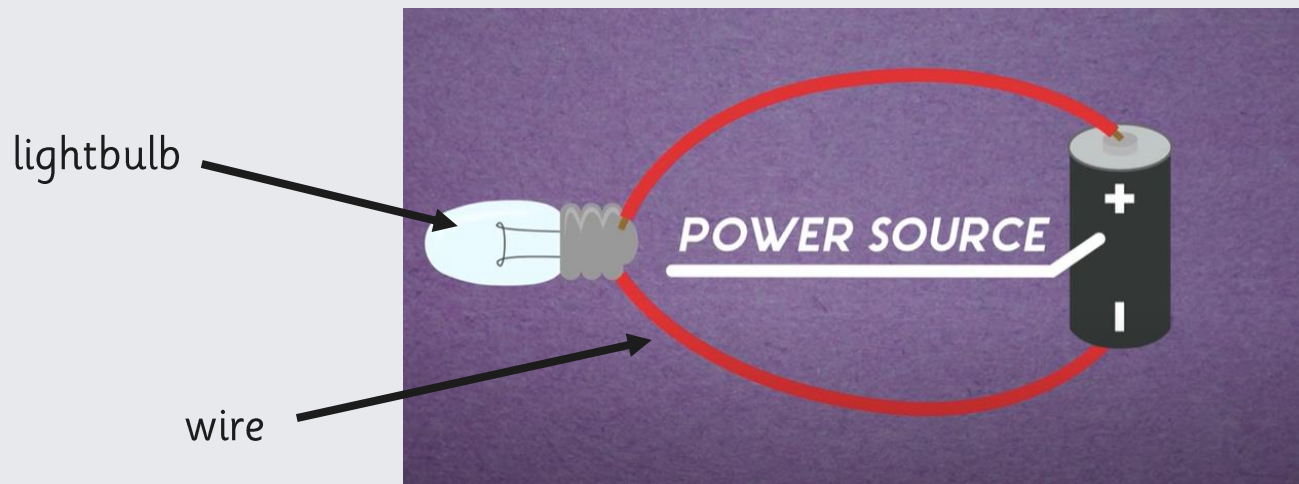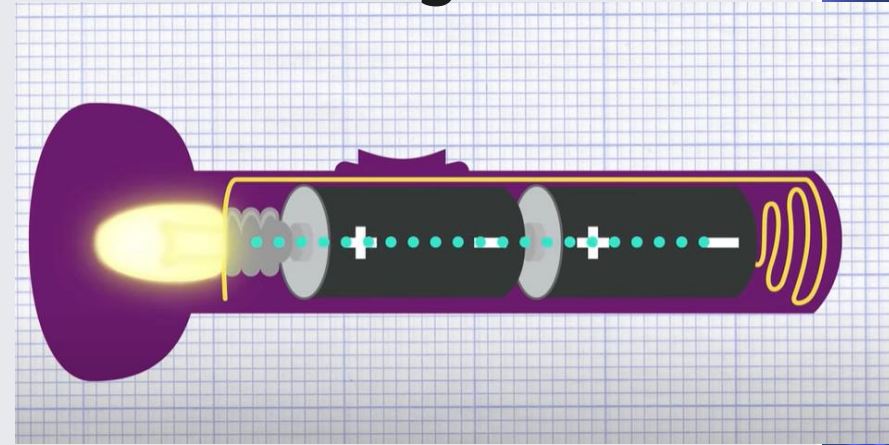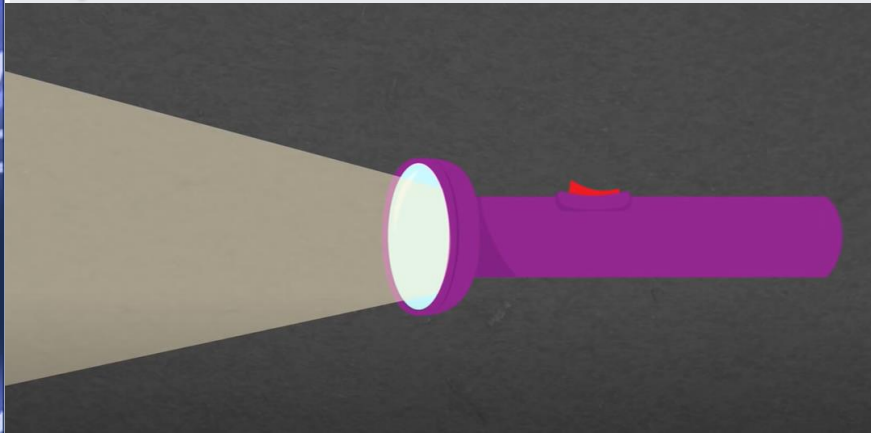
Recap of last week:

Mains Electricity

To use this type of electricity, you need to plug the appliance into a socket.

Battery Electricity

To use this type of electricity, you need to insert a battery into the appliance.

What is a circuit and how do they work?

lightbulb

POWER SOURCE

wire

A circuit is needed for the electricity to reach the part of the appliance that needs power. In a torch, the power comes from the power source which is the battery and travels along the wires to the bulb.

What is a circuit and how do they work?

These videos are really useful to explain circuits in more detail:

https://www.youtube.com/watch?v=HOFp8bHTN3O

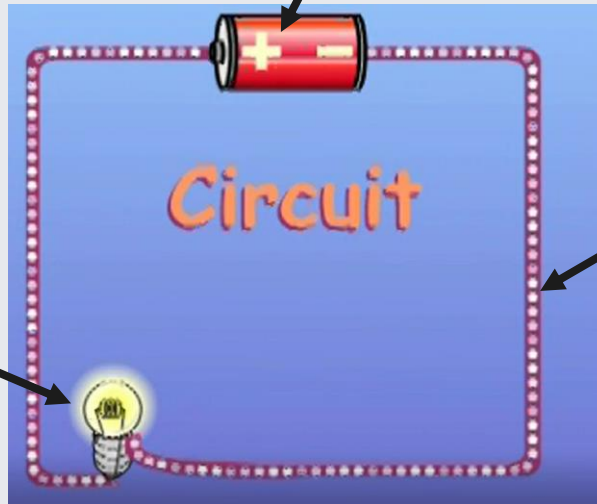https://www.bbc.co.uk/bitesize/clips/zq3fb9q

Parts of a circuit:

Battery – This is the power source. Each end looks slightly different, one is called the positive end and the other is negative. The circuit needs to send the electricity from the positive end, around the circuit and then back to the negative end so that the electric current is flowing continuously in one direction.

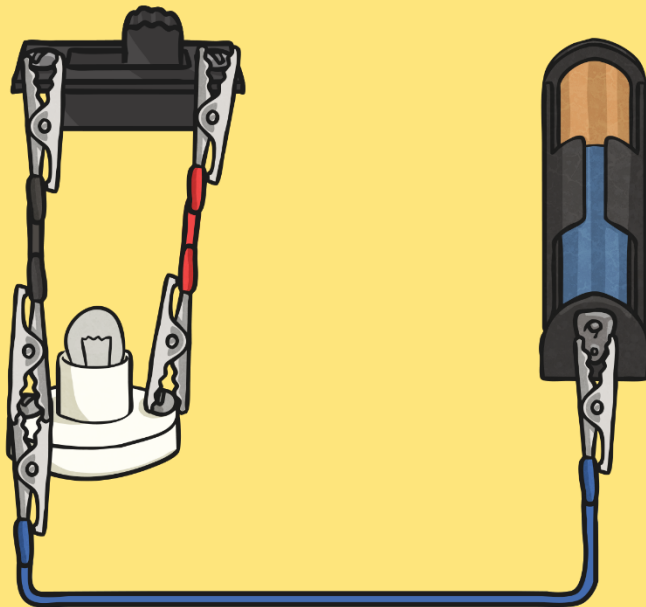Light bulb – This is the part of the appliance that needs the power.

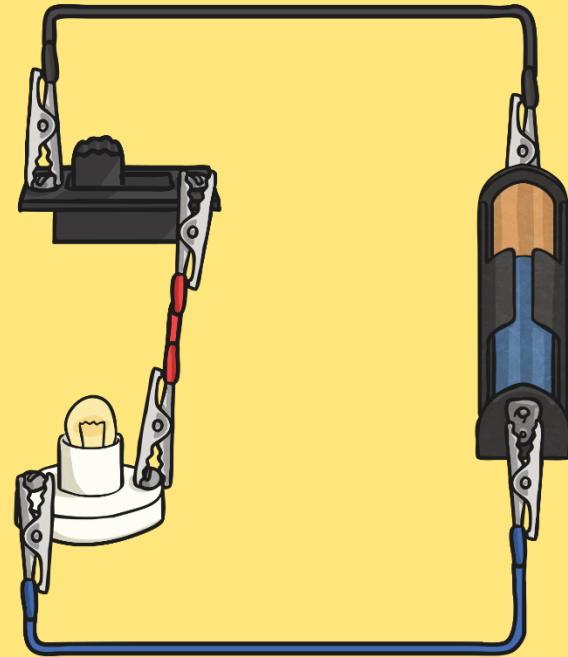Wires–The wires allow electricity to flow from the battery to the lightbulb.

Circuit

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twinkl.co.uk

Complete and Incomplete Circuits

For a circuit to work, it needs to be complete. This means no gaps.
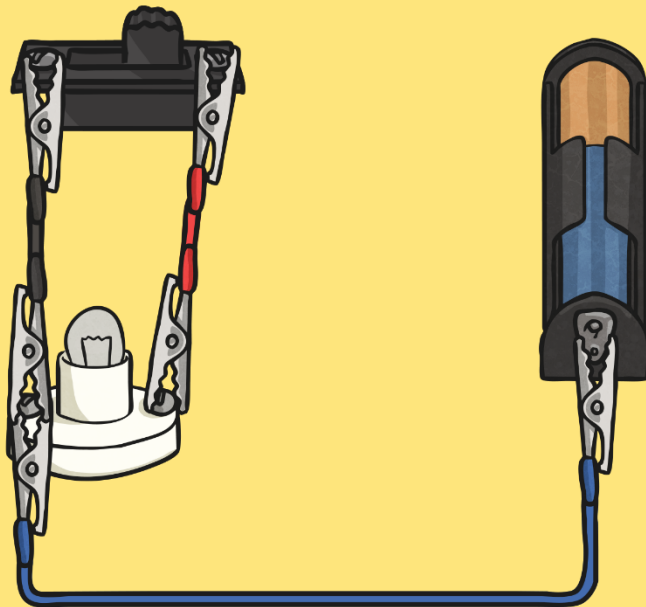
Incomplete Circuit

Complete Circuit

Complete and Incomplete Circuits

Incomplete Circuit

This circuit is incomplete.

1. There is a gap in the circuit, so the electrical current cannot flow around it.

2. The wires do not connect to the positive and negative ends of the power supply (the battery).
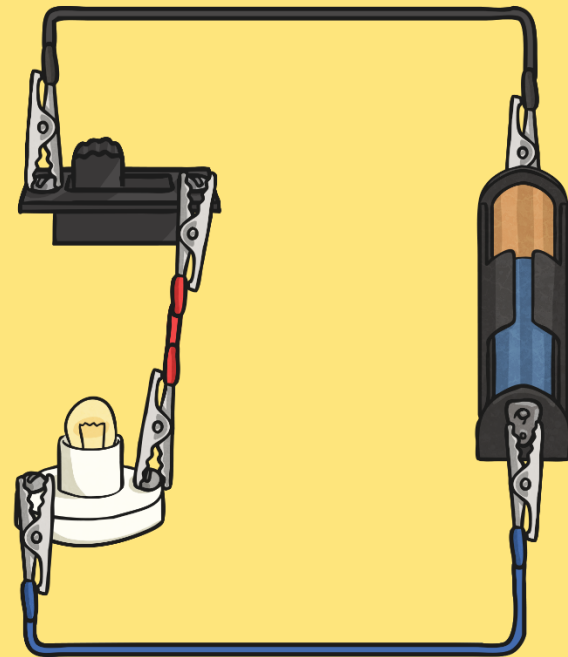
Complete and Incomplete Circuits
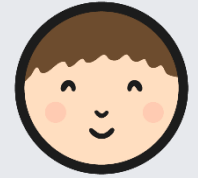
This is a complete circuit.

1. There is a power supply (the battery).

2. There are no gaps anywhere, so the electrical current can flow around the entire circuit.

3. The wires connect to both the positive and negative ends of the battery.

Complete Circuit

Your task today:

Task Instructions:

On your activity sheets, you will see pictures of circuits. You need to decide if they are complete and will work or if they are incomplete and will not work.

For those that are not complete, can you explain why?

Complete and Incomplete Circuits

Create the circuits in the pictures and test to see if they are complete (bulb will light) or incomplete (bulb will not light).

Circuit	Complete or Incomplete?