

Complete Circuit



Incomplete Circuit



Class Tamar

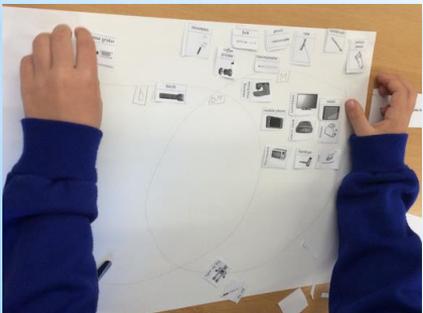
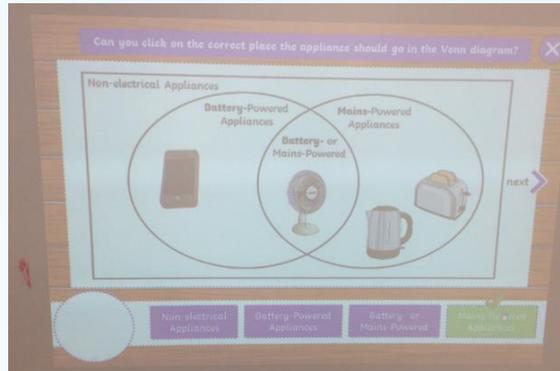
Science

Electricity

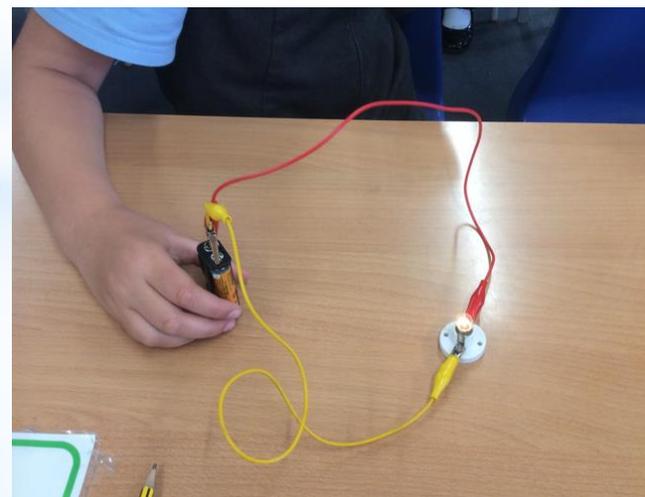
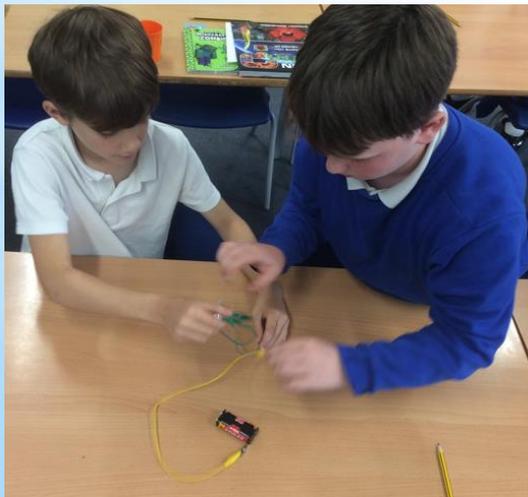
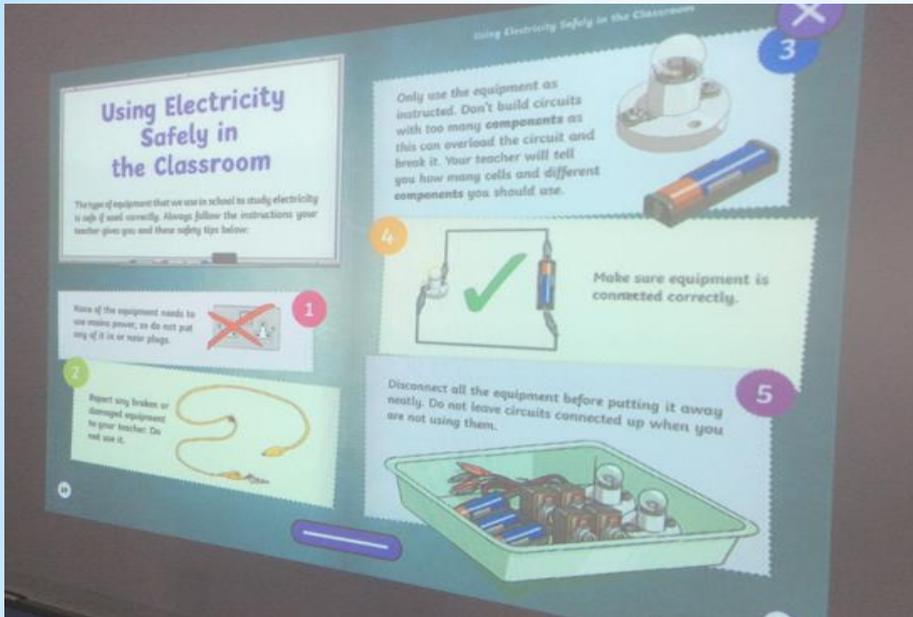
Summer 2 2022

We were introduced to the unit and learnt the difference between battery operated appliances and appliances that run on mains electricity. We classified and presented data, identifying common appliances that run on electricity using a Venn diagram.

Some battery powered appliances need mains to charge it!



We had a go at constructing a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. We then drew and labelled diagrams of our circuits.



We helped each other to problem solve and check which components worked and didn't work.

We had a go at using an energy stick! As a class we made a circuit. We learnt that in order for the light and buzzer to work, we had to make a full circuit with no breaks. We then had a go at identifying complete and incomplete circuits, giving reasons for our thinking.

If someone lets go of someone's hand then the electricity can't get to the energy stick..



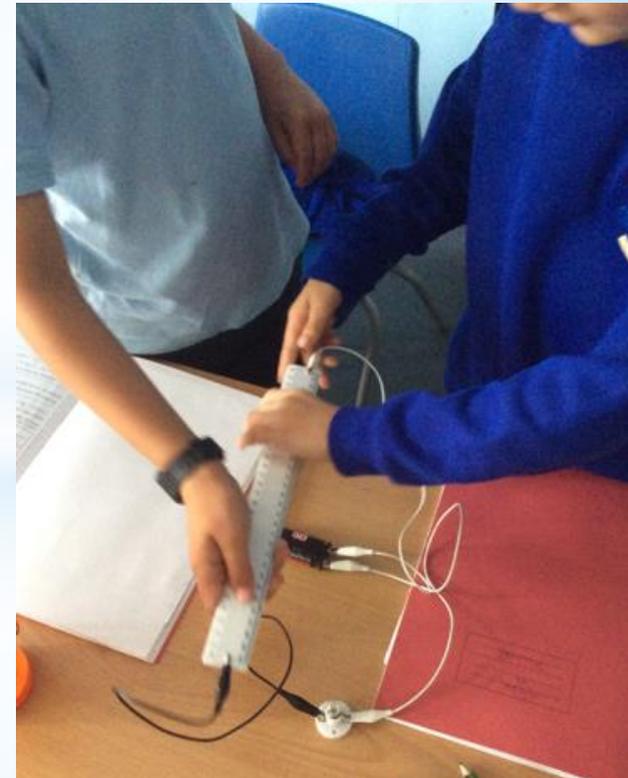
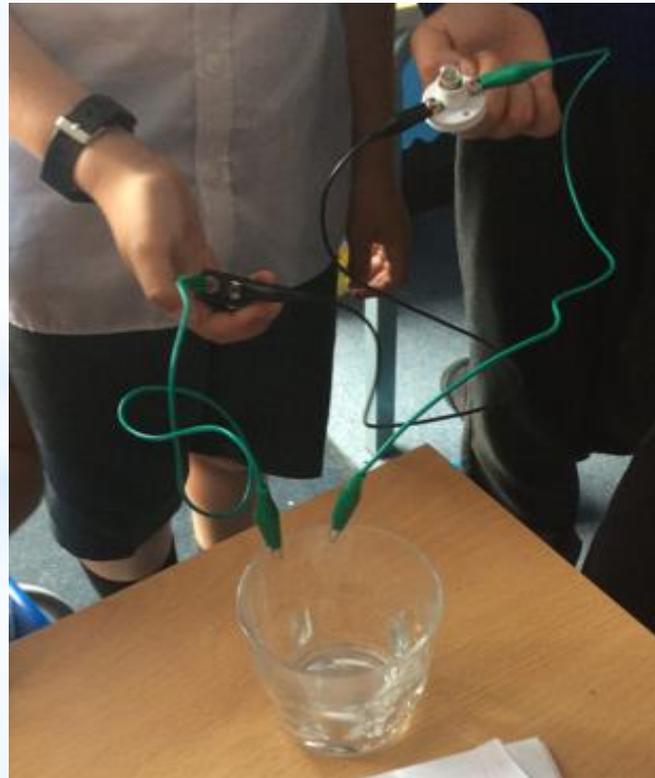
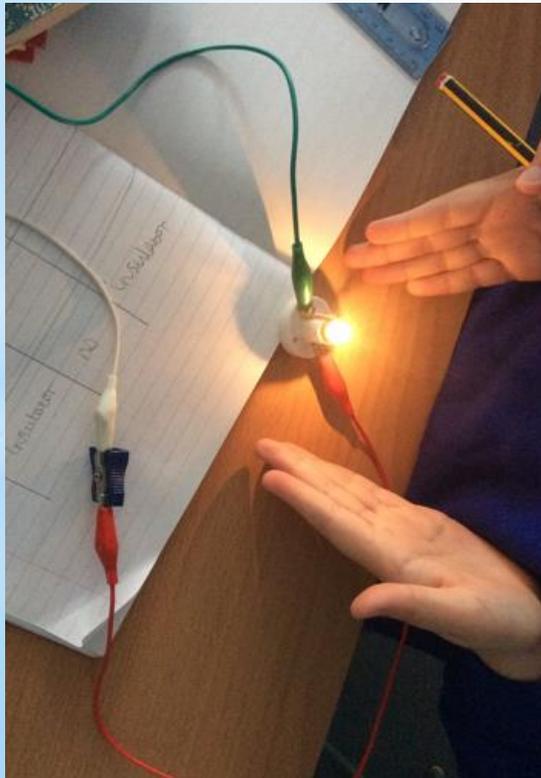
It was hard to pass the stick on without breaking the circuit!



We learnt about the difference between 'conductors' and 'insulators' and gave reasons why its important that we are aware of which materials allow electricity to travel through it and which do not. We then investigated which materials were conductors and insulators.

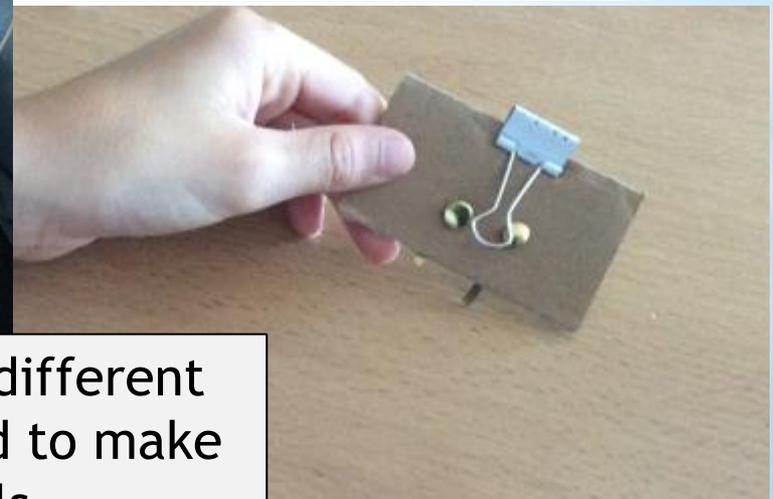
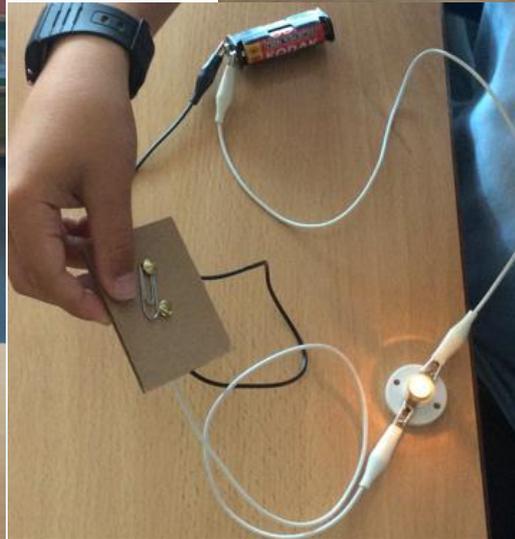
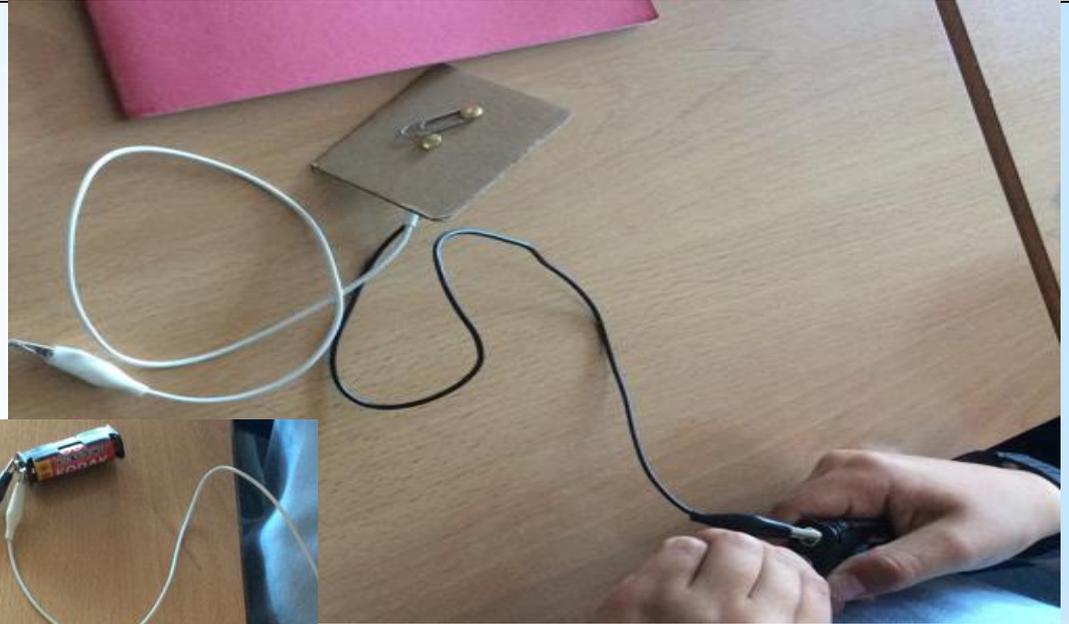
Metal is a condctor as the bulb lit up!

Glass and plastic are insulators - the bulb didn't light up!



We learnt how switches work and made our own switches. When using our switches we were able to explain how our switches worked using scientific vocabulary.

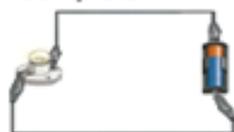
The paperclips with the plastic on the outside didn't work for our switches because plastic is an insulator



We finished our electricity unit by solving different electricity based problems to solve. We had to make sure that we used our reasoning skills.

What I have learnt before:

I know that some appliances need batteries or plugging in, in order to 'switch on' and work.

Complete Circuit**Incomplete Circuit****Forever Facts**

Many everyday appliances rely on electricity for them to work. Some appliances use mains electricity (are plugged into a socket) and others have a battery to make them work.

In a complete circuit, electricity can flow and the components will work. If there is a break in the circuit that prevents the electricity from flowing, the components will not work.

Switches can be used to open or close a circuit. When off, a switch 'breaks' the circuit to stop the flow of electricity. When on, a switch 'completes' the circuit and allows the electricity to flow.

Skills

I can use precise scientific language.

I can ask relevant questions.

I can make predictions based on scientific knowledge

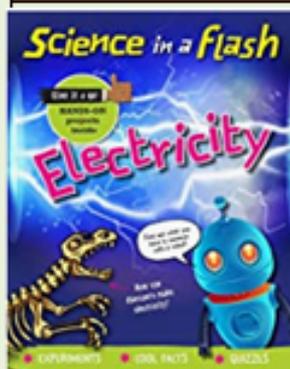
Provide explanations using scientific language

Make predictions based on scientific knowledge

Describe or show how to vary a factor and keep others the same

Culture capital: Children will gain skills to collect data and use this to draw their own conclusions.

The jobs it can be used in are: electricians, engineers.

Exciting Books**Our Endpoint**

To discuss and solve problems about electricity using reasoning skills.

Subject Specific Vocabulary

electricity	The flow of an electric current through a material, e.g. from a power source through wires to an appliance.
appliances	A piece of equipment or a device designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical energy as a chemical.
circuit	A pathway that electricity can flow around. It is based around wires and a power supply. Examples of components (parts) you can add in to a circuit are bulbs, switches, buzzers and motors.
Mains electricity	Electricity supplied through wires to a building.
electrical conductor	A conductor of electricity is a material that will allow electricity to flow through it.
electrical insulator	Materials that are electrical insulators do not allow electricity to flow through them.