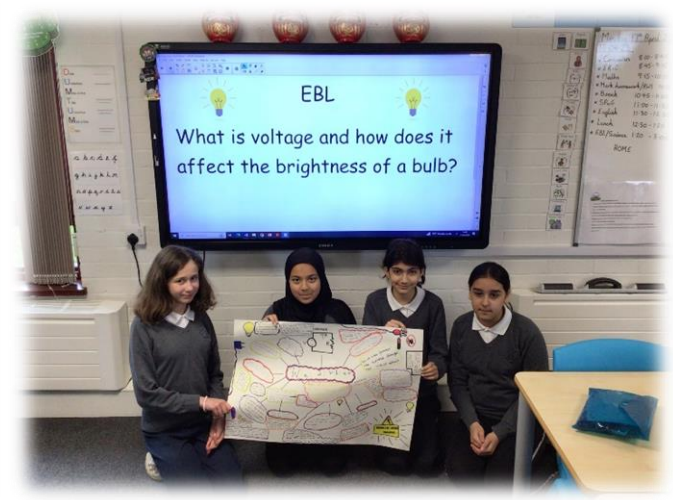
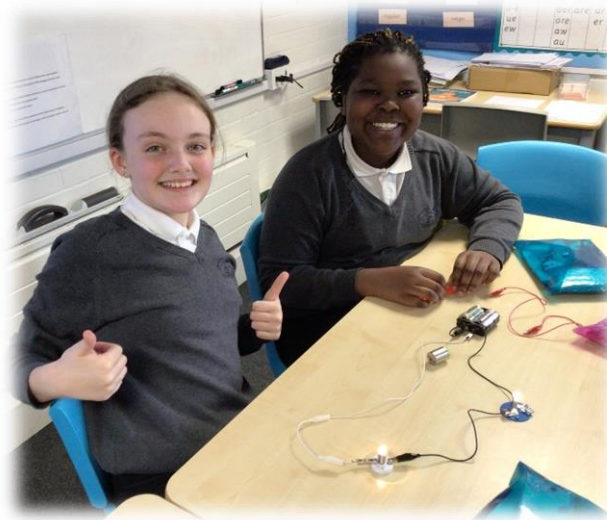


Year 6 Leopards

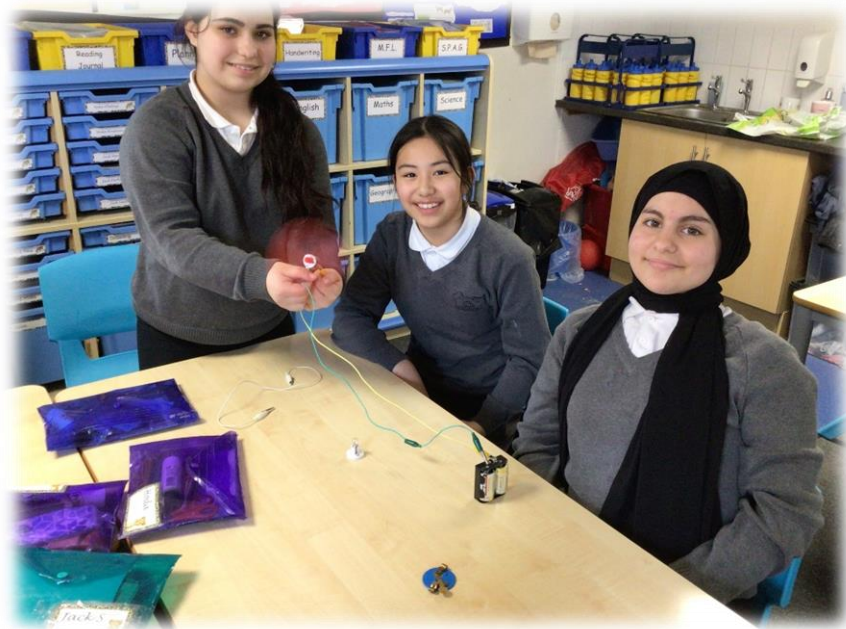
Spring Term Enquiry Question 2023



What is voltage and how does it affect the brightness of a bulb?

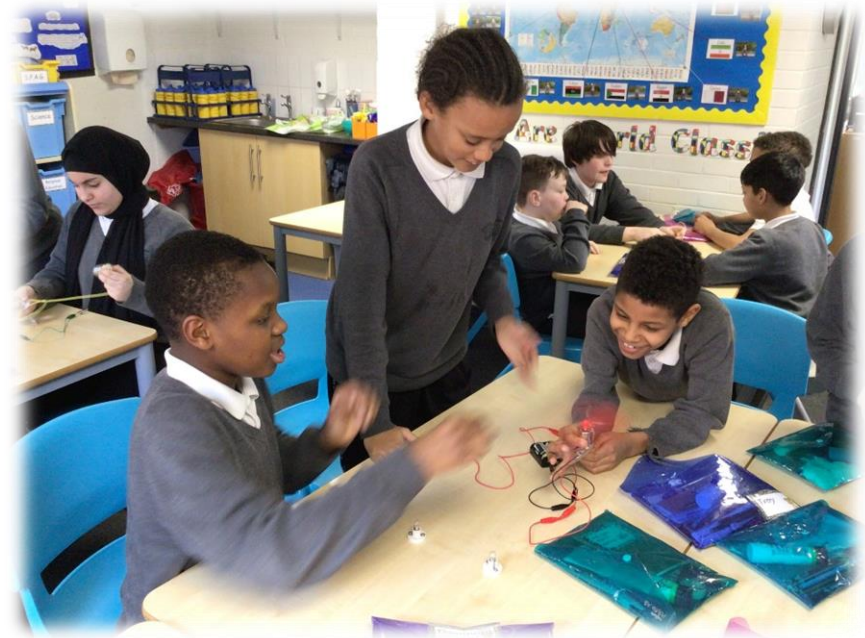
Miss Cameron asked the question- "What is voltage?" We used iPads, science dictionaries and non-fiction books to begin gathering our ideas and research and coming up with an answer.





After carrying out some research, we worked in groups of three to learn about the different components in an electrical circuit.

We enjoyed trying to complete different practical challenges such as getting a bulb to light up or making a motor spin in different directions!



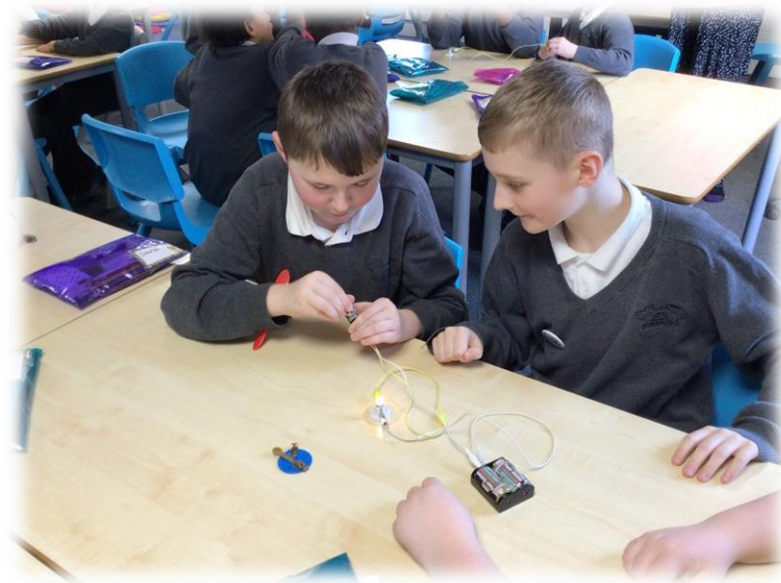
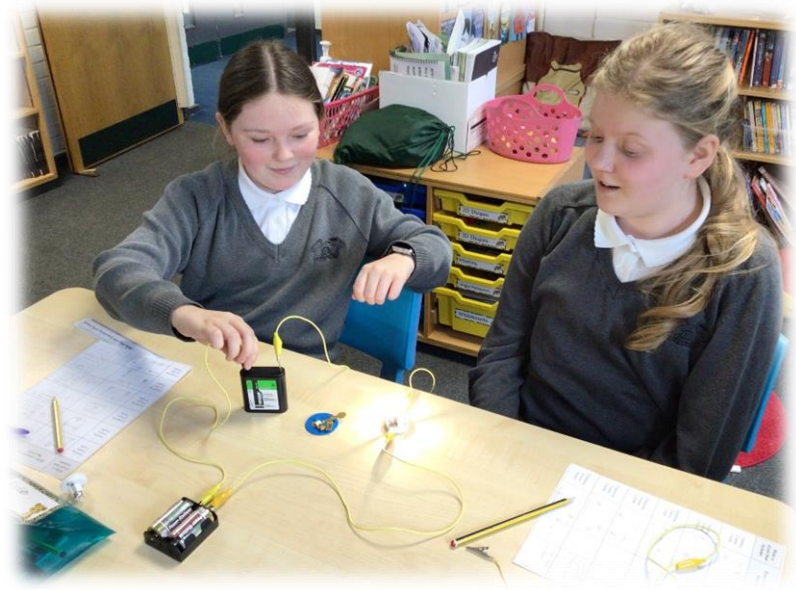


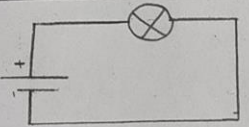
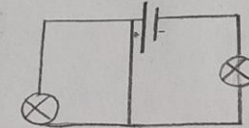
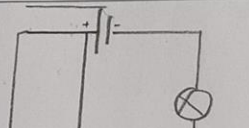
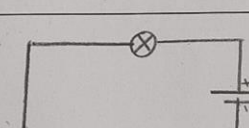
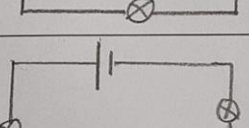
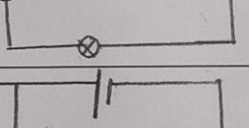
We continued working in our groups of three to start producing a poster about voltage and our findings so far.

We continued researching and found out about Alessandro Volta, a famous scientist who invented the first battery.

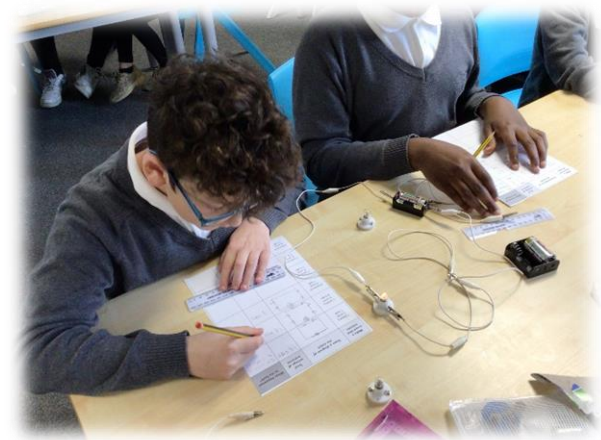


We were then set the challenge to investigate how voltage affects the brightness of a bulb in a circuit. We used different batteries ranging from 1.5v to 9v. We also learned that the larger batteries don't necessarily have the most voltage.

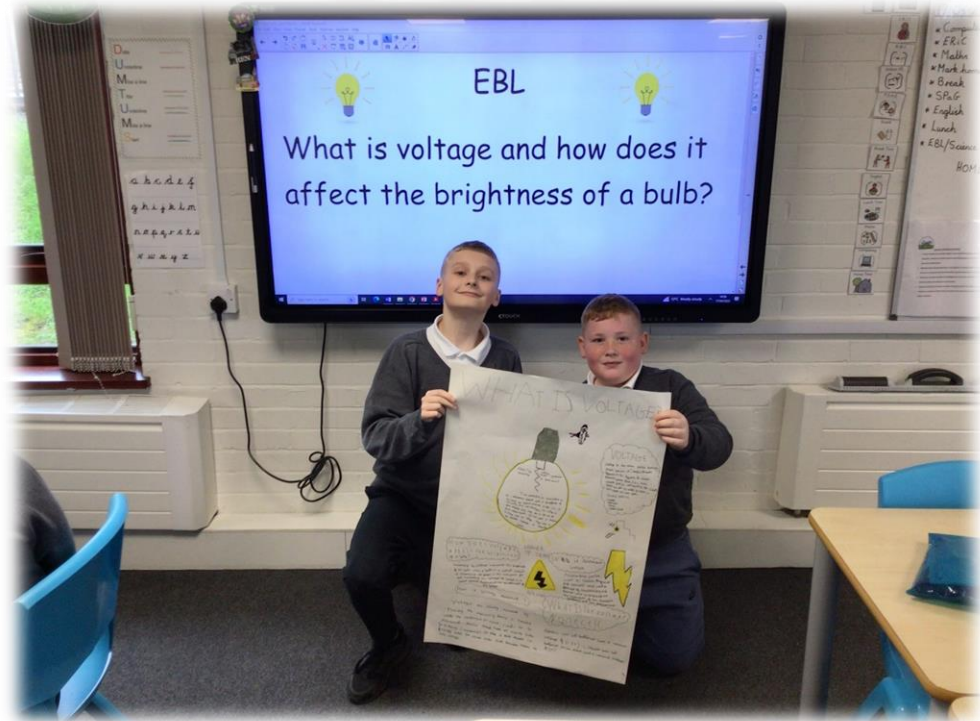
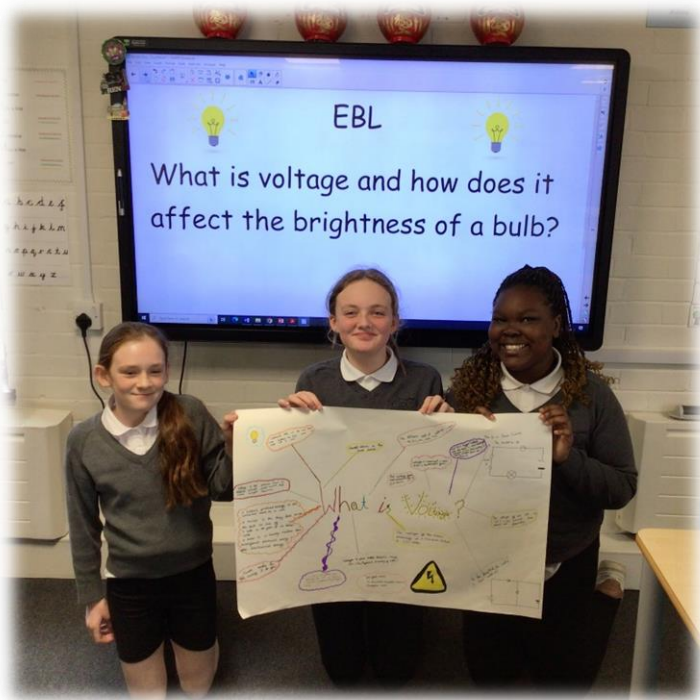


Make a circuit that includes	Draw a diagram of the circuit	Total voltage of batteries	What happened to the bulb?
1 battery 2 wires 1 bulb		1.5v	The bulb was very dim when we attached the wire.
1 battery 3 wires 2 bulbs		1.5v	The 2 bulbs were very dim and after a while it turned very dim and off.
2 batteries 3 wires 1 bulb		3v	The bulb was very bright that the electricity hurt my eyes.
2 batteries 4 wires 2 bulbs		3v	The bulbs are quite dim and wasn't that effective.
2 batteries 5 wires 3 bulbs		3v	The bulb stayed on for a bit and then it turned off.
3 batteries 6 wires 3 bulbs		4.5v	The bulb was really bright and was very effective and it blew up.

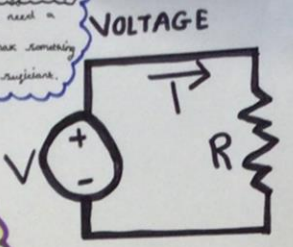
We recorded our results from our investigation and drew conclusions. We noticed that the larger the voltage, the brighter the bulb. However, if it can take then the filament will get too hot and the bulb will blow.



We collated all our research and finished our posters in our groups. We then presented our ideas and new-found knowledge to the rest of the class. We used Voice 21 strategies to ensure we were speaking clearly and were able to question each other and challenge ideas and thinking.



What is voltage?



A light bulb is a device used to convert electricity into light. There is a tungsten filament inside the glass.

Does a bigger house have a bigger voltage? No because then you will need a very very big battery to make something so useful and it won't be realistic.

What is voltage from the world? In the world of the world, a voltage (nominally) of 230 volts, and frequency is 50 Hz. A steady source of electricity is a steady flow of electrons.

It is what "pushes" the current through the circuit device.

Voltage is measured in units of volts using a voltmeter, the symbol for volt is V .

The unit of electric potential difference - electric force - is also known as voltage.

Current is the rate at which electrons pass a point in a complete electrical circuit.

Voltage can be only dangerous for the body and could kill you.

Voltage is what makes charges move.

Voltage is the force that pushes electrons through a circuit to produce electricity.

See also: Each atom has a central part called the nucleus with a number of even times electrons surrounding it.

Voltage is a measurement of how strong the current is in a circuit.

1 Joule / Coulomb = 1 volt. There are many definitions of voltage.

More voltage will affect the bulbs and make it brighter but some bulbs will make it dimmer (fluorescent).

A volt is a unit of electrical force that measures potential difference in two points.

The brightness of light bulbs is given by its power $P = I^2 R$ and so brightness depends on current and resistance.

Anything that goes round a complete loop is called a circuit.

Alessandro Volta was born on February 18, 1745, Como, Lombardy, and he died on March 5, 1827, Como. He is an Italian physicist whose invention of the electric battery provided the first source of continuous current.

Starts with more power (or higher voltage) will shine brighter than those with less power (lower voltage).

Bulbs are connected in series then the electric current in both bulbs is the same.

There are several types of batteries and most have different voltage ranging from 1.5 volt AA batteries to 12 volt car batteries.



What different size battery could you use? Different battery sizes contribute to the overall cost of your equipment, but it is important to understand why. Generally, the more large the battery capacity it has for energy storage.

Voltage in your household is always carrying 120 volts. Most outlets supply 120 volts which is provided by one hot wire bringing the power to the outlet and one neutral wire.

What is voltage of the main voltage source? Electricity is supplied by underground cable or over power line. Use at 230V.

