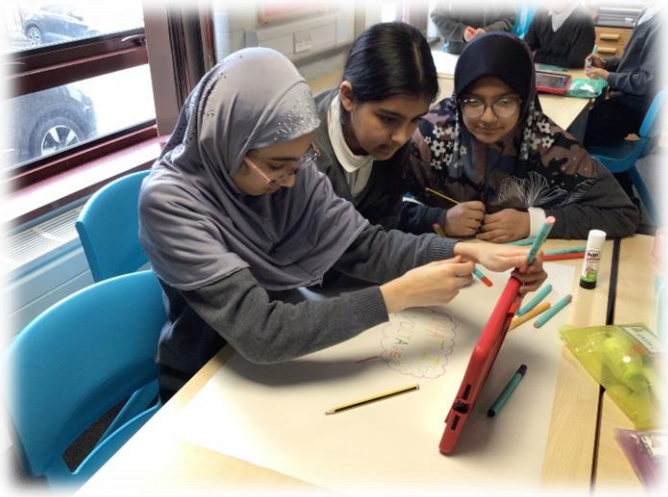
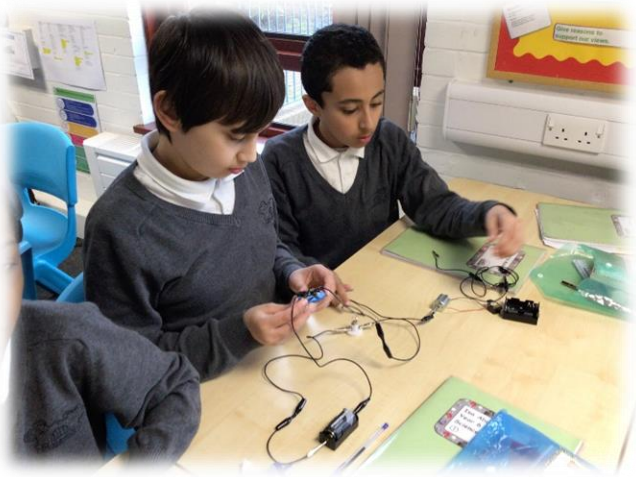
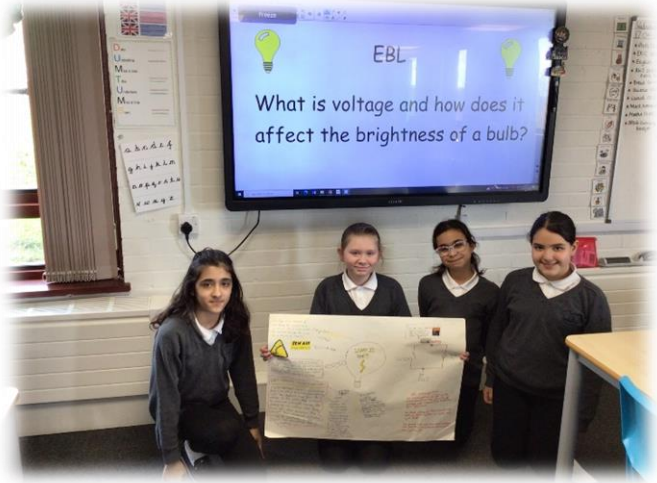
Year 6 Leopards

Spring Term Enquiry Question 2024

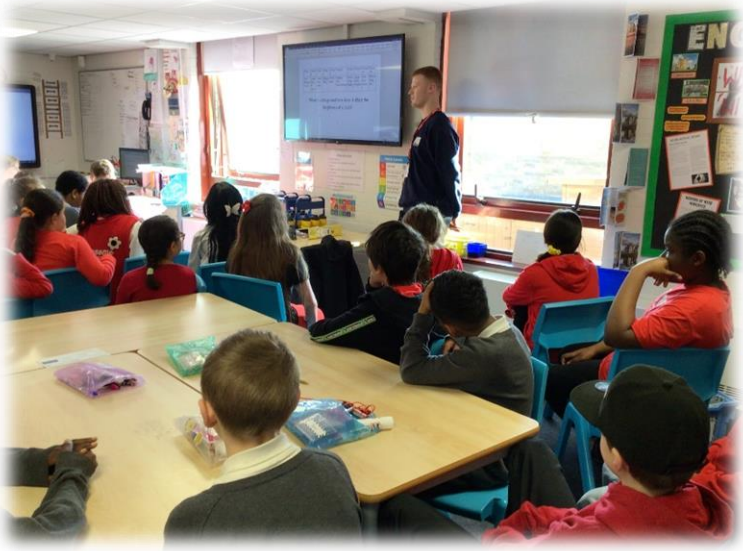




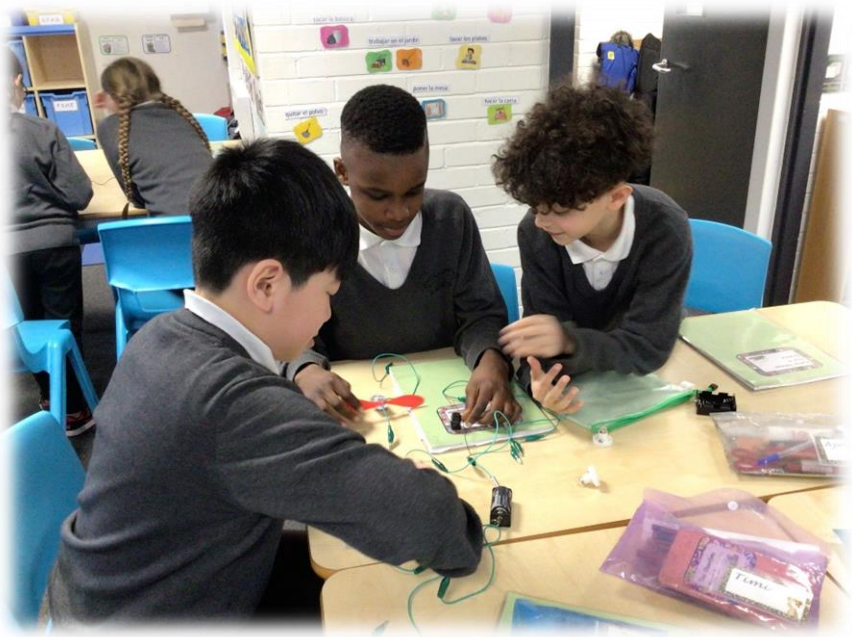


What is voltage and how does it affect the brightness of a bulb?

Our electricity topic started with a visit from Curtis who is an apprentice electrician. He talked to us about what being an electrician involves, how he has moved through different stages in his apprenticeship and why being safe around electricity is important. He also introduced us to the concept of 'voltage'.

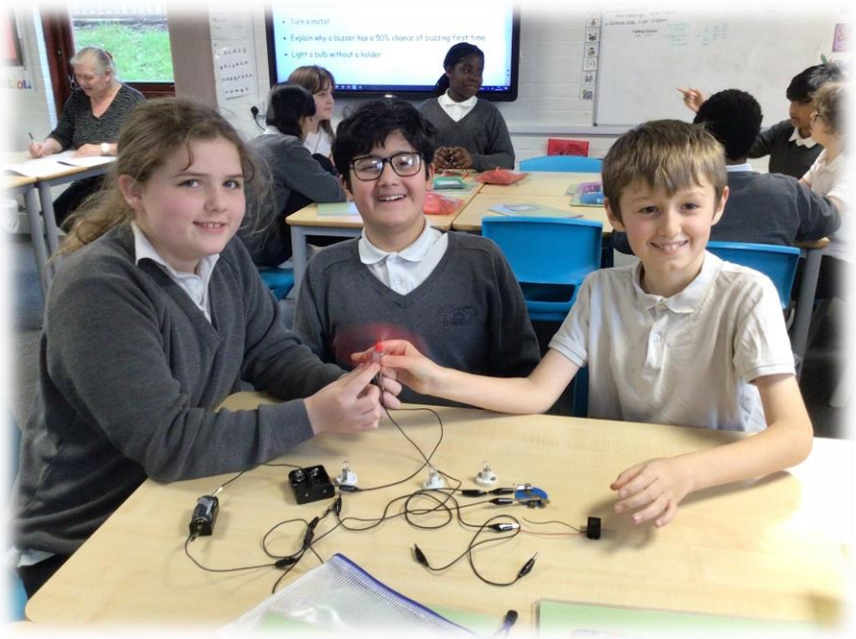


Miss Cameron then asked the question- "What is voltage?" We used iPads, science dictionaries and non-fiction books to begin gathering our ideas and research and coming up with an answer.



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

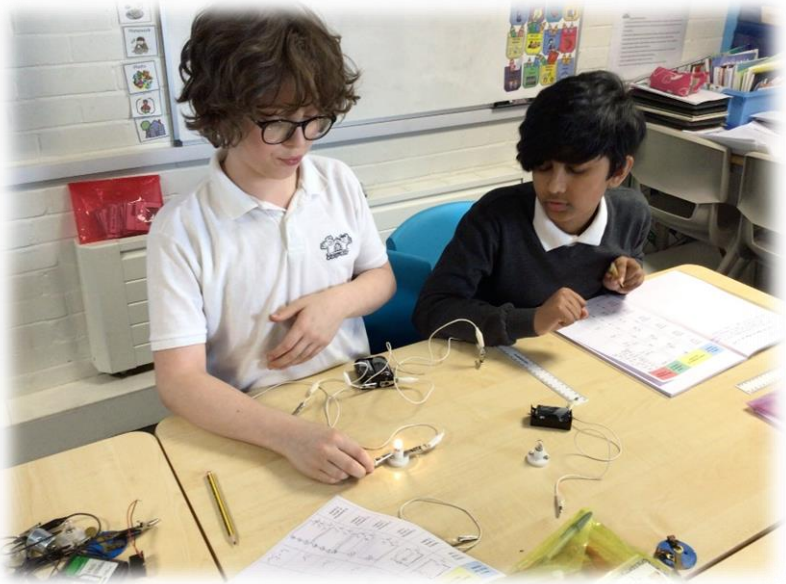
We enjoyed trying to complete different practical challenges such as getting a bulb to light up or making a motor spin in different directions!

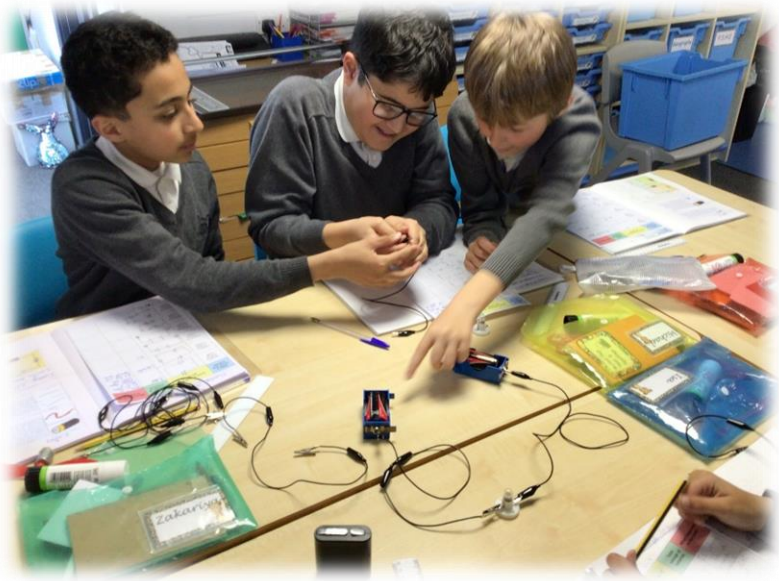


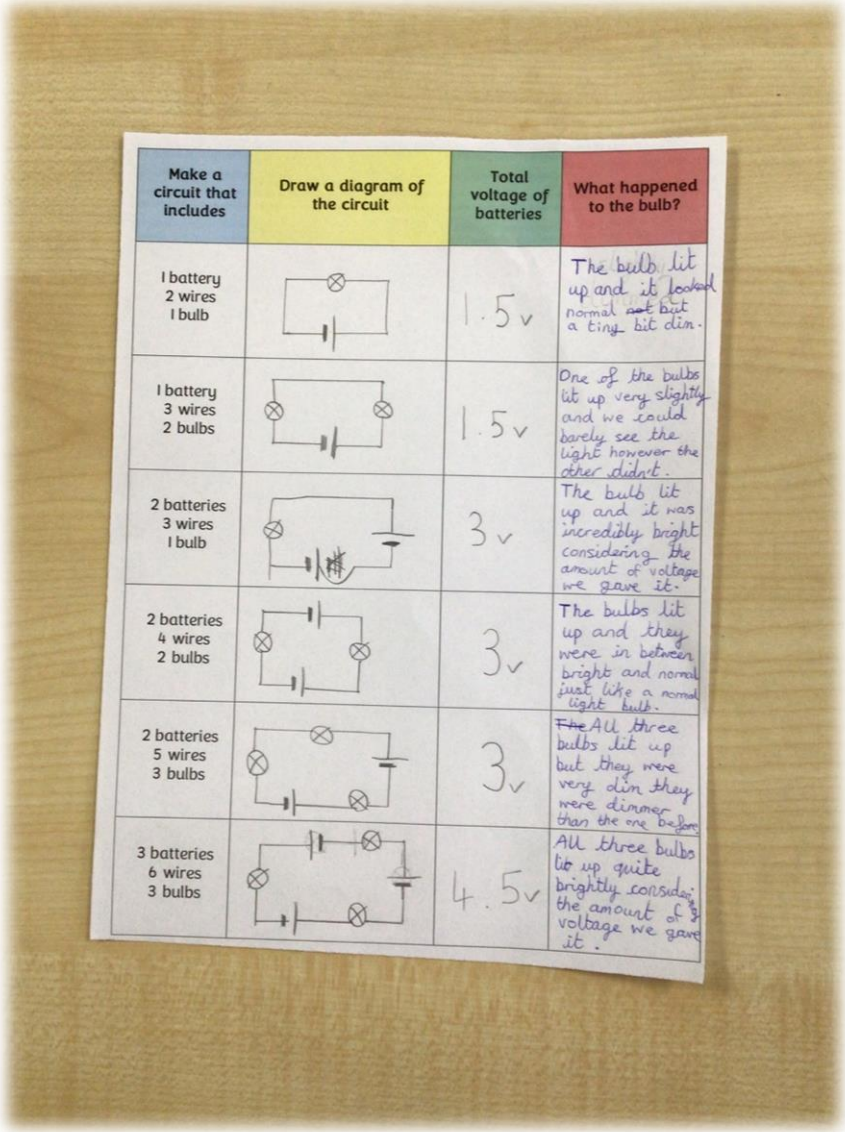
We continued working in our groups of three to start producing a poster about voltage and our findings so far.

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.



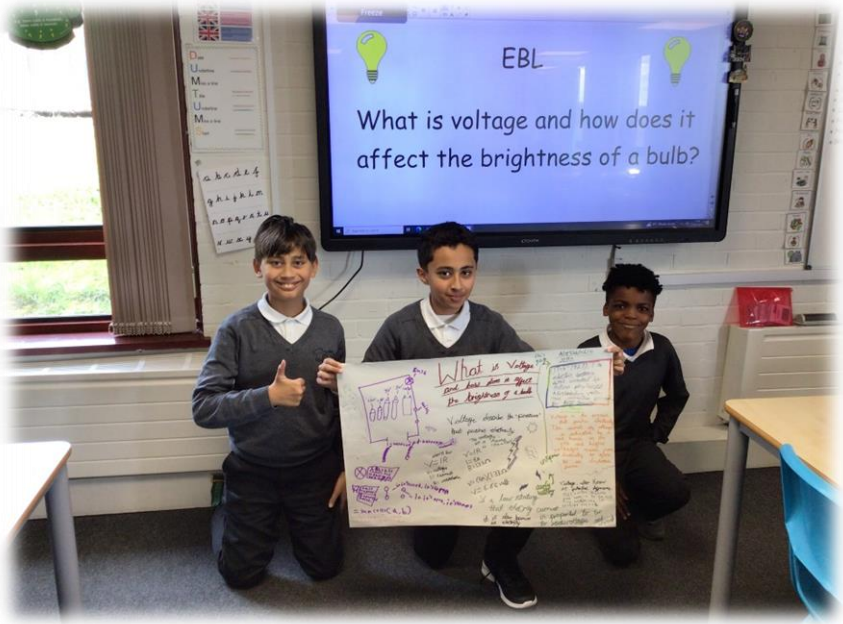


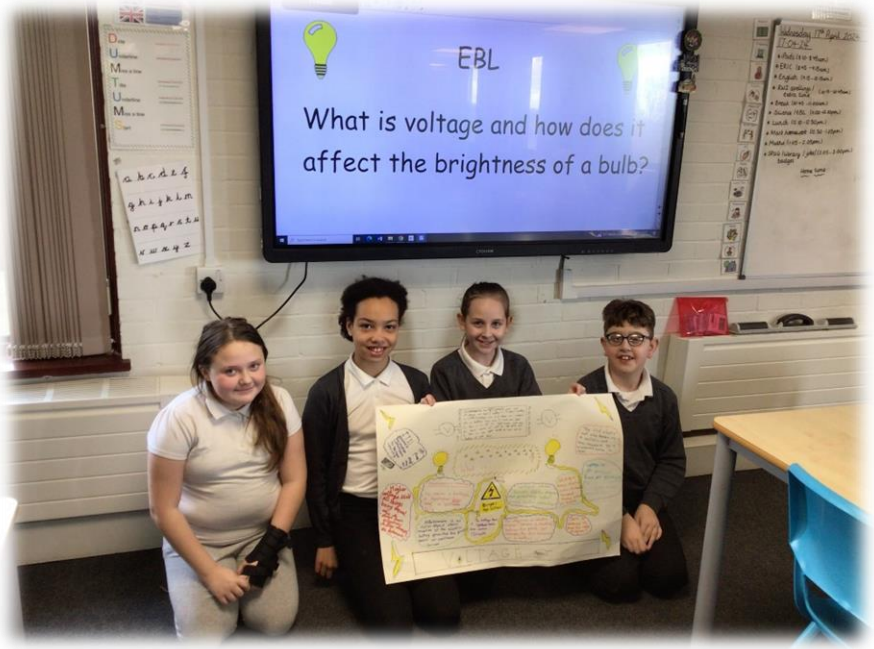


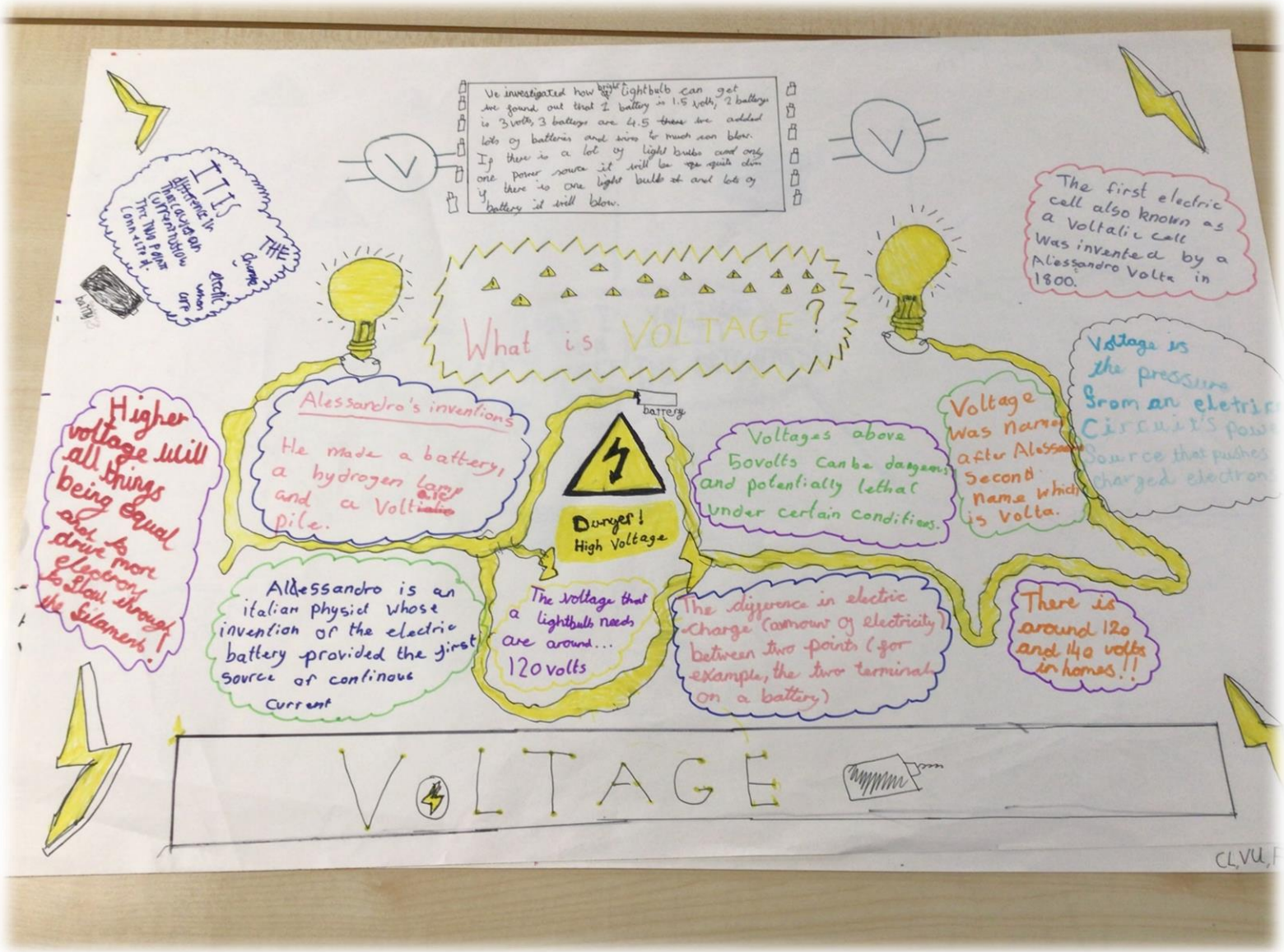
Make a circuit that includes	Draw a diagram of the circuit	Total voltage of batteries	What happened to the bulb?
1 battery 2 wires 1 bulb		1.5v	The bulb lit up and it looked normal ~~not~~ but a tiny bit dim.
1 battery 3 wires 2 bulbs		1.5v	One of the bulbs lit up very slightly and we could barely see the light however the other didn't.
2 batteries 3 wires 1 bulb		3v	The bulb lit up and it was incredibly bright considering the amount of voltage we gave it.
2 batteries 4 wires 2 bulbs		3v	The bulbs lit up and they were in between bright and normal just like a normal light bulb.
2 batteries 5 wires 3 bulbs		3v	~~The~~ All three bulbs lit up but they were very dim they were dimmer than the one before
3 batteries 6 wires 3 bulbs		4.5v	All three bulbs lit up quite brightly considering the amount of voltage we gave it.

We recorded our results from our investigation and drew conclusions. We noticed that the larger the voltage, the brighter the bulb. However, if the bulb has more voltage than 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.






We investigated how bright a lightbulb can get we found out that 1 battery is 1.5 volts, 2 batterys is 3 volts, 3 batterys are 4.5 volts we added lots of batteries and since to much can blow. If there is a lot of light bulbs and only one power source it will be the same dim if there is one lightbulb at and lots of batterys it will blow.
THE
What is VOLTAGE?
The first electric cell also known as a Voltaic cell Was invented by a Alessandro Volta in 1800.
Alessandro's inventions
He made a battery, a hydrogen lamp and a Voltaic pile.
battery
Danger! High Voltage
Higher voltage will all things being equal cause more electrons to flow through the filament!
Voltages above 50volts can be dangerous and potentially lethal under certain conditions.
Voltage was named after Alessandro Second name which is Volta.
Voltage is the pressure from an electric Circuit's power source that pushes charged electrons
Alessandro is an italian physicist whose invention of the electric battery provided the first source of continous current
The voltage that a lightbulb needs are around... 120 volts
The difference in electric charge (amount of electricity) between two points (for example, the two terminals on a battery)
There is around 120 and 140 volts in homes!!
VOLTAGE