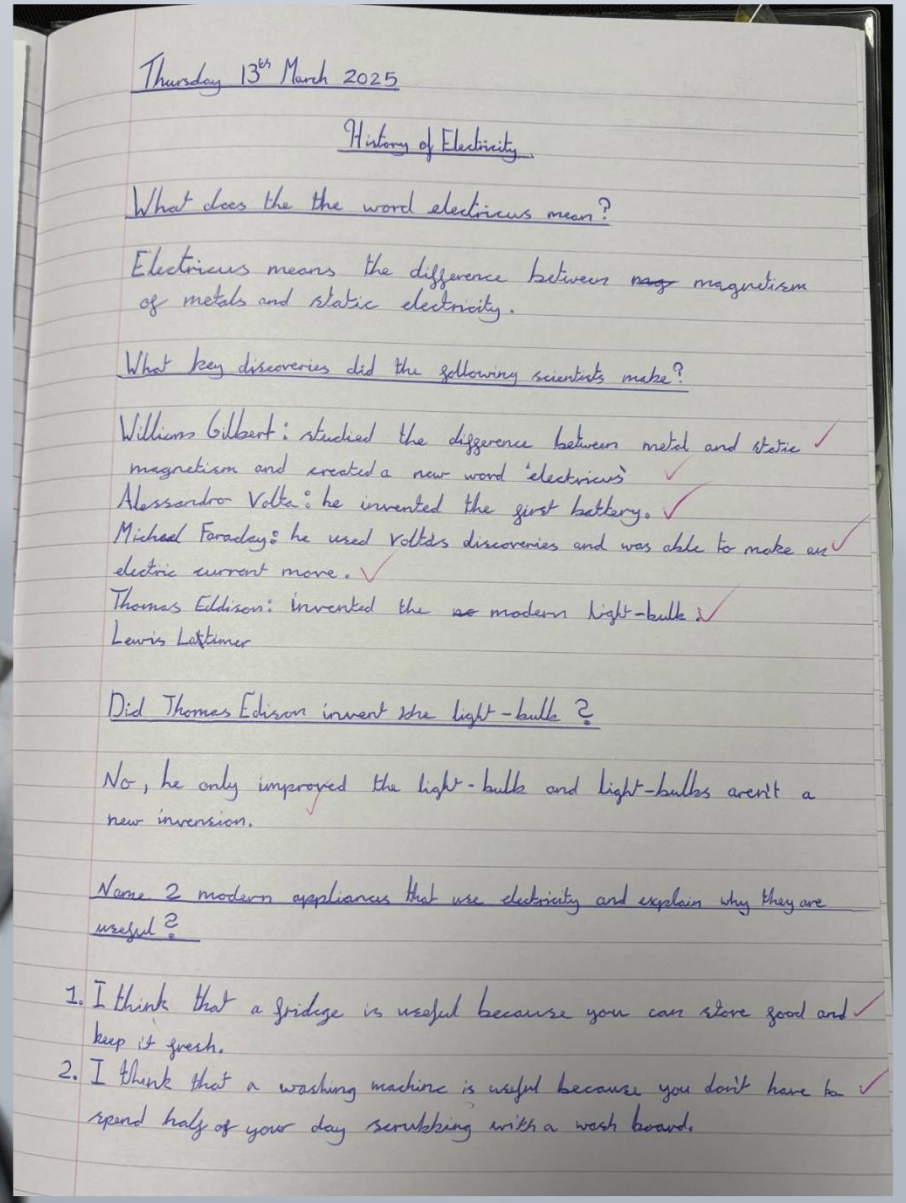
What Is Voltage and How Does It Affect the Brightness Of A Bulb?

We started our enquiry by researching what is voltage and some of the history of electricity.



Thursday 13th March 2025

History of Electricity

What does the the word electricus mean?

Electricus means the difference between ~~mag~~ magnetism of metals and static electricity.

What key discoveries did the following scientists make?

Williams Gilbert: studied the difference between metal and static ✓ magnetism and created a new word 'electricus' ✓
Alessandro Volta: he invented the first battery. ✓
Michael Faraday: he used Volta's discoveries and was able to make an ✓ electric current move. ✓
Thomas Eddison: invented the ~~se~~ modern light-bulb ✓
Lewis Latimer

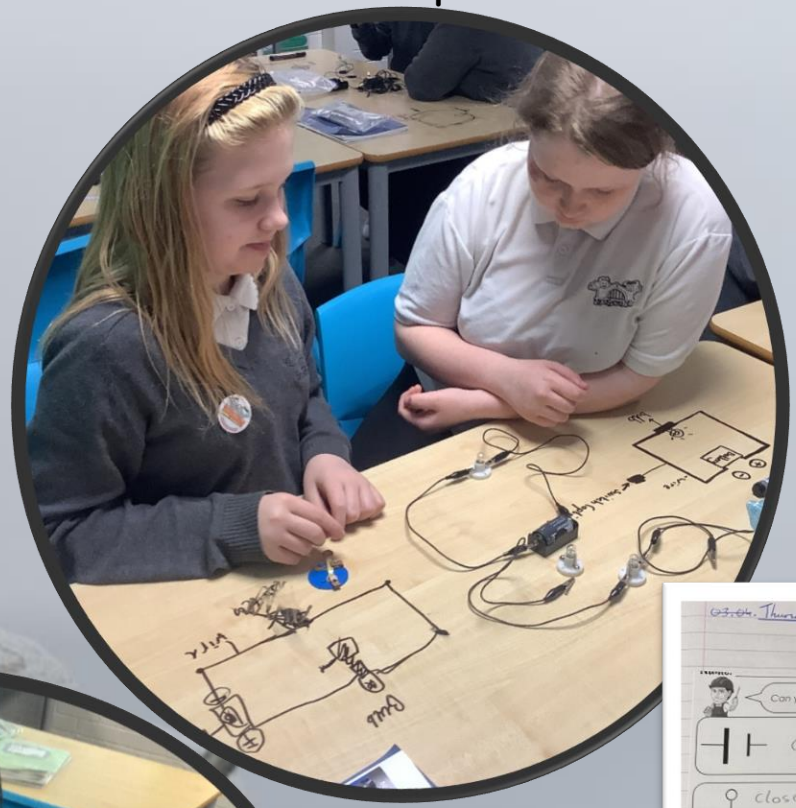
Did Thomas Edison invent the light-bulb?

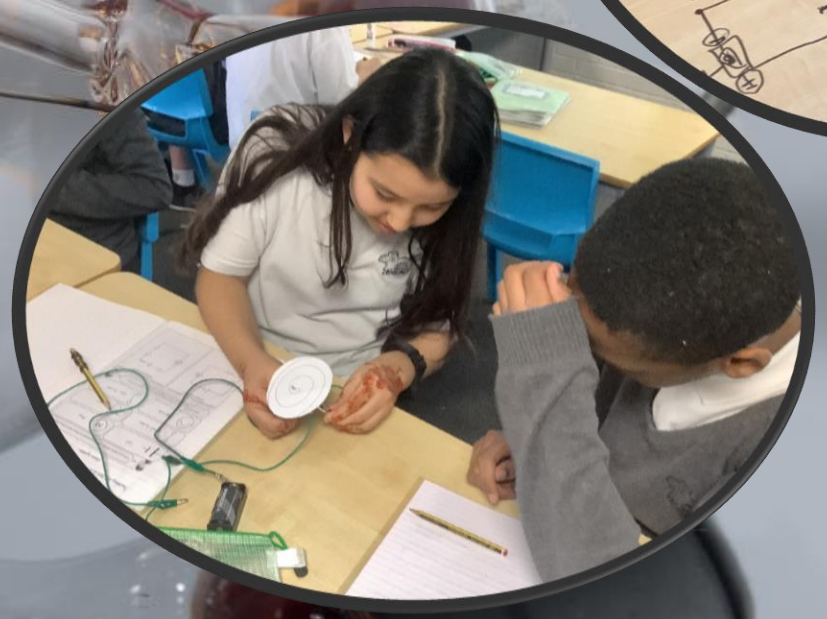
No, he only improved the light-bulb and light-bulbs aren't a new inversion.

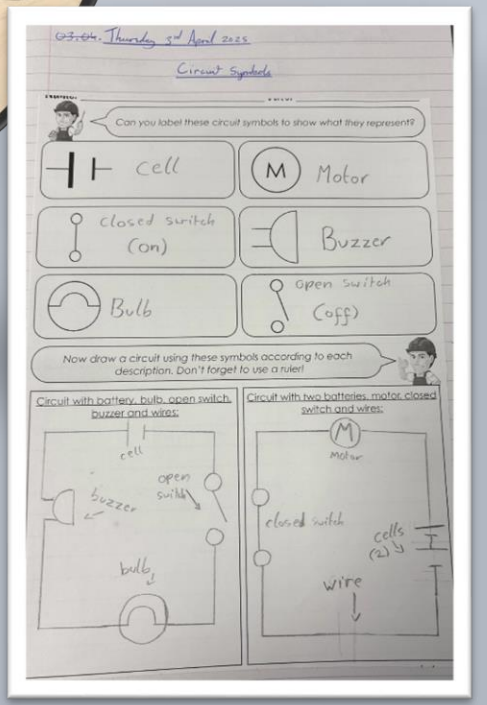
Name 2 modern appliances that use electricity and explain why they are useful?

1. I think that a fridge is useful because you can store food and ✓ keep it fresh.
2. I think that a washing machine is useful because you don't have to ✓ spend half of your day scrubbing with a wash board.

We then recalled our knowledge of electrical circuits and explored electrical components.







What do you think?
Does a larger cell have a larger voltage?

We investigated what happens when you increase the voltage in a series circuit.

Investigating Voltage

Examples:

a. b. c.

d. e. f.

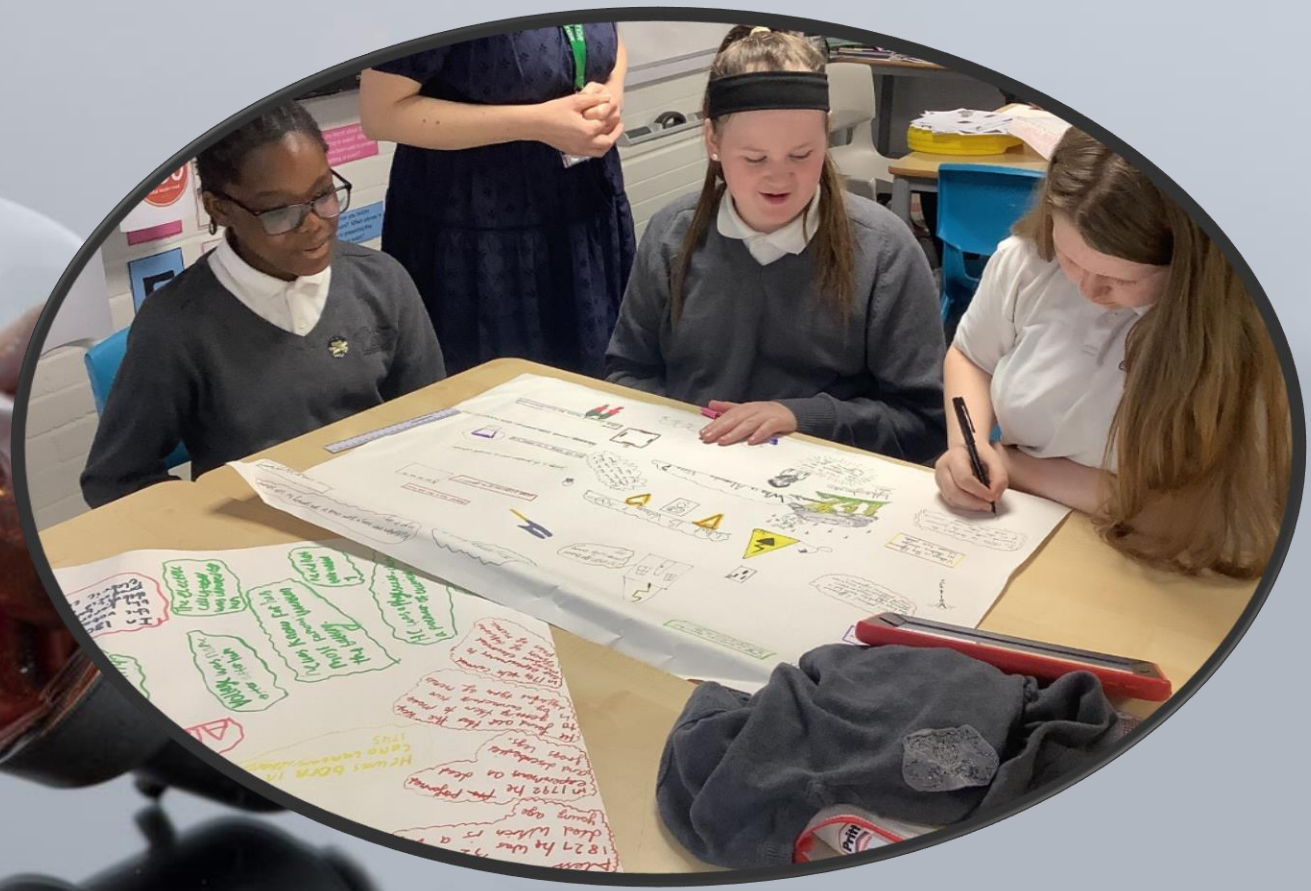
Length of cell (cm)	Predicted Voltage (V)	Voltage on the cell (V)
2cm ✓	1.5 V	3 V
5cm	3.0V *	3 V
7cm	1.5	1.5V
2.5cm	3V	1.5V
5cm	2V	9.0 V
4.4cm	2.5V	1.5V

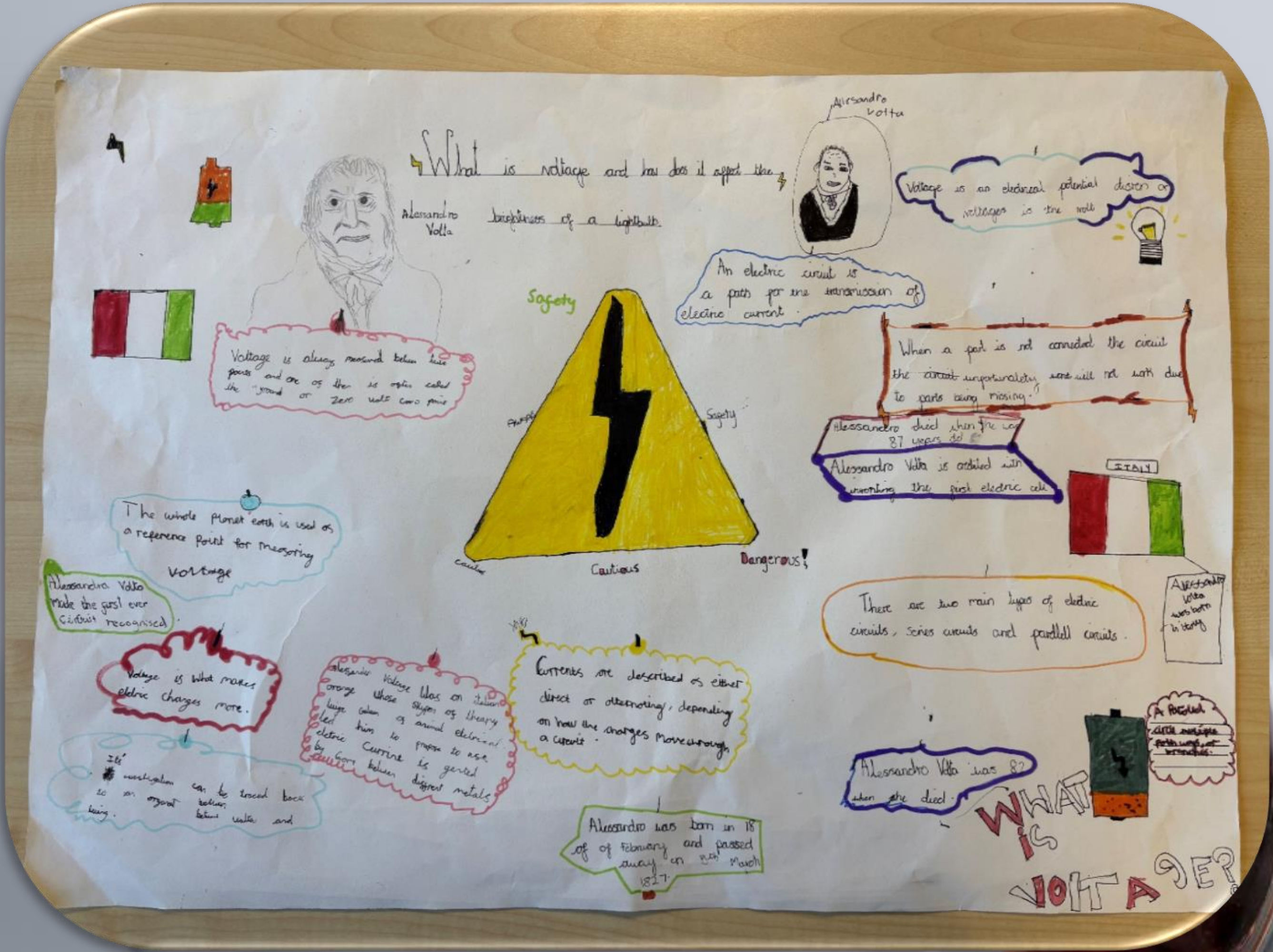
Thursday 10th April 2025

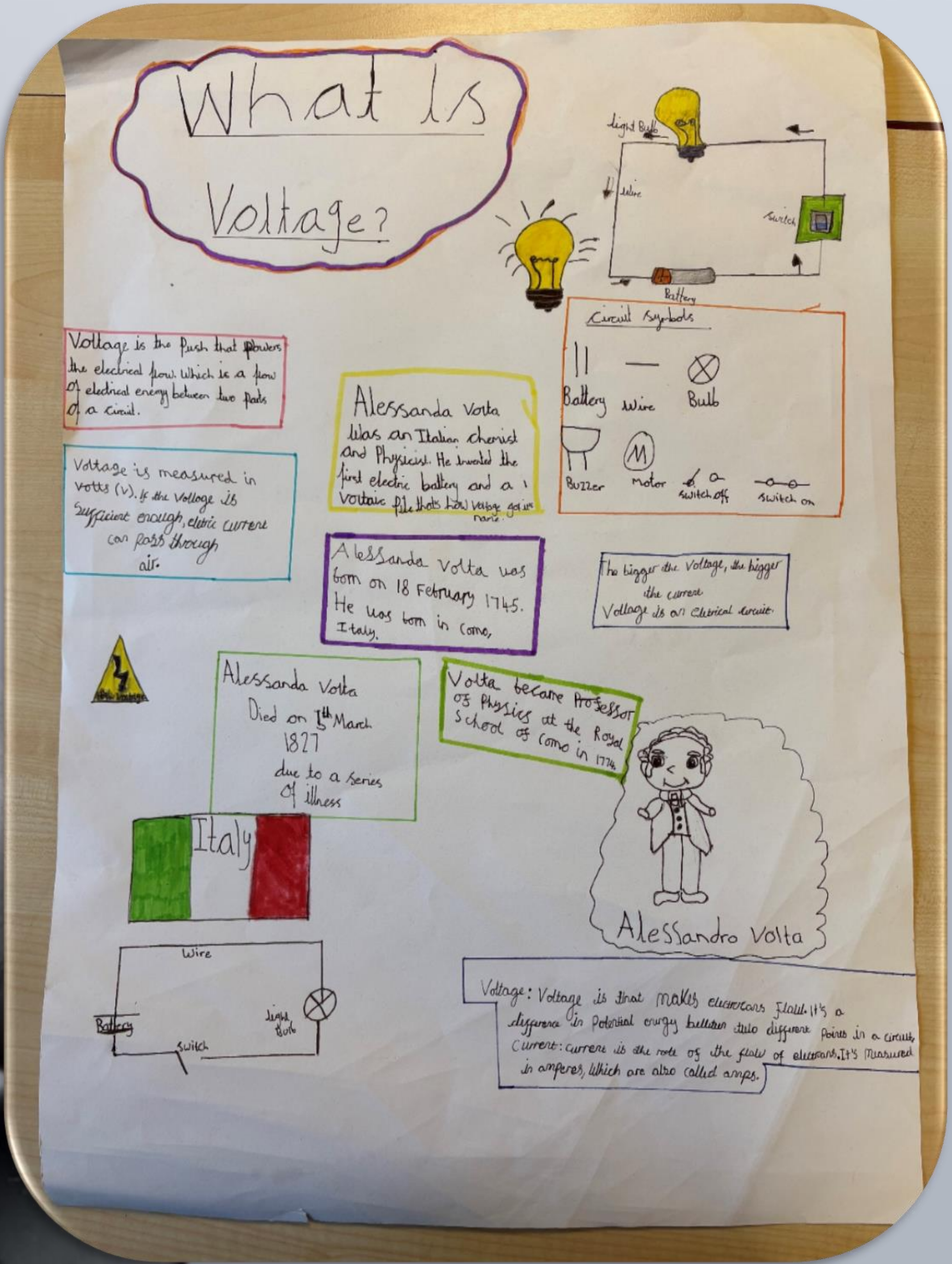
Voltage Investigation

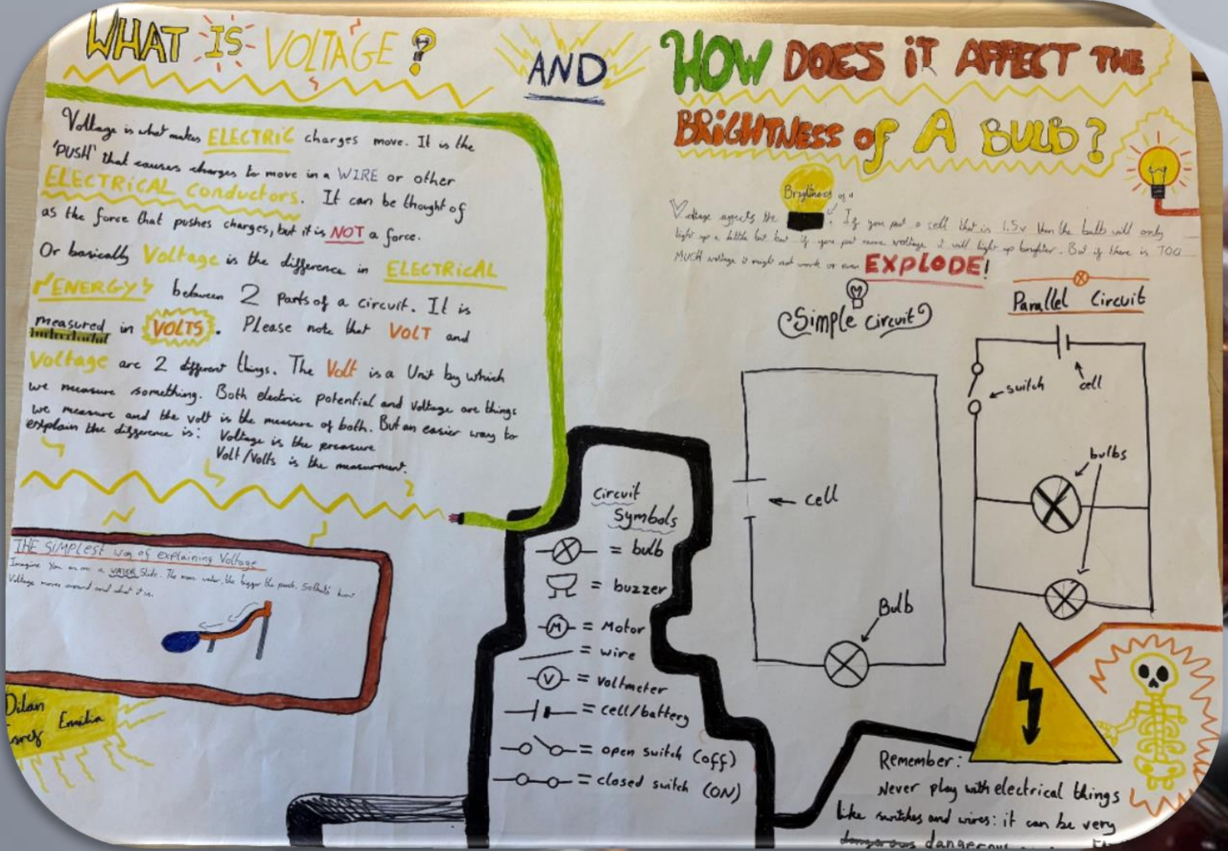
	Number of cells	Voltage (V)	Brightness of bulb (Lux)
1	~~1.5~~ 1	1.5	-0.951
2	2	3	-0.281
3	3	4.5	0.631
4	4	6	1.871

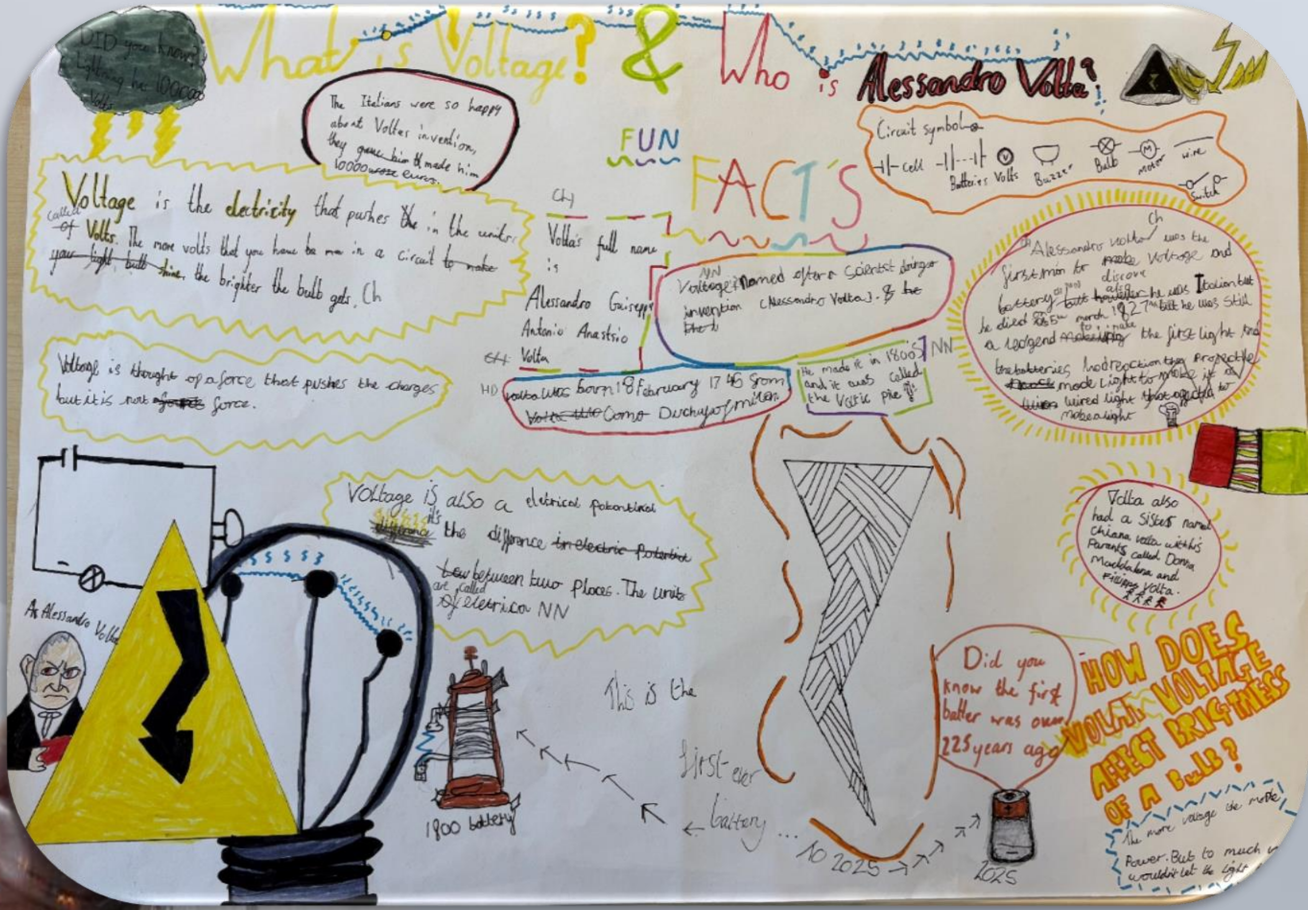
We created posters and then presented our findings to the class.




What is voltage and how does it affect the brightness of a lightbulb
Alessandro Volta
Safety
Cautious
Dangerous!
An electric circuit is a path for the transmission of electric current
There are two main types of electric circuits, series circuits and parallel circuits.
Currents are described as either direct or alternating, depending on how the charges move through a circuit.
Voltage is what makes electric charges move.
The whole planet earth is used as a reference point for measuring voltage
ITALY
WHAT IS VOLTAGE?


What is Voltage?
Light Bulb
Wire
Switch
Battery
Circuit symbols
Battery
Wire
Bulb
Buzzer
Motor
Switch off
Switch on
Voltage is the push that powers the electrical flow which is a flow of electrical energy between two parts of a circuit.
Voltage is measured in Volts (V). If the Voltage is sufficient enough, electric current can pass through air.
Alessanda Volta was an Italian chemist and Physicist. He invented the first electric battery and a Voltaic pile thats how voltage got its name.
Alessanda Volta was born on 18 February 1745. He was born in Como, Italy.
The bigger the Voltage, the bigger the current. Voltage is an electrical circuit.
Alessanda Volta Died on 1th March 1827 due to a series of illness
Volta became Professor of Physics at the Royal School of Como in 1774
Italy
Alessandro Volta
Wire
Battery
Switch
Light Bulb
Voltage: Voltage is that makes electrons flow. It's a difference in potential energy between two different points in a circuit.
Current: current is the rate of the flow of electrons. It's measured in amperes, which are also called amps.


WHAT IS VOLTAGE ? AND HOW DOES IT AFFECT THE BRIGHTNESS OF A BULB ?
Voltage is what makes ELECTRIC charges move. It is the 'PUSH' that causes charges to move in a WIRE or other ELECTRICAL Conductors. It can be thought of as the force that pushes charges, but it is NOT a force.
Or basically Voltage is the difference in ELECTRICAL ENERGY between 2 parts of a circuit. It is measured in VOLTS. Please note that VOLT and Voltage are 2 different things. The Volt is a Unit by which we measure something. Both electric potential and Voltage are things we measure and the volt is the measure of both. But an easier way to explain the difference is: Voltage is the pressure
Volt/Volts is the measurment.
THE SIMPLEST way of explaining Voltage
Voltage affects the Brightness of a bulb. If you put a cell that is 1.5v then the bulb will only light up a little but if you put more voltage it will light up brighter. But if there is TOO MUCH voltage it might not work or even EXPLODE!
Simple circuit
cell
Bulb
Parallel Circuit
switch
cell
bulbs
Circuit Symbols
= bulb
= buzzer
= Motor
= wire
= Voltmeter
= cell/battery
= open switch (off)
= closed switch (ON)
Remember: Never play with electrical things like switches and wires: it can be very dangerous
Dilan
Emilia


What is Voltage? & Who is Alessandro Volta?
DID you know? Lightning has 100000 Volts
The Italians were so happy about Voltas invention, they made him 10000 euros.
Voltage is the electricity that pushes in the units called Volts. The more volts that you have in a circuit the brighter the bulb gets.
Voltage is thought of a force that pushes the charges but it is not force.
FUN FACTS
Volta's full name is Alessandro Guiseppi Antonio Anastsio Volta
Volta was born 18 February 1745 from Como Duchy of milan.
Voltage named after a scientist and inventor (Alessandro Volta).
He made it in 1800 and it was called the Voltic pile
Circuit symbols
cell
Batteries
Volts
Buzzer
Bulb
motor
wire
Switch
Volta also had a Sister named
VOLtage is also a electrical potential it's the difference between two places. The units are called of electric
Alessandro Volta
This is the first ever battery ...
1800 battery
to 2025
Did you know the first battery was over 225 years ago
2025
HOW DOES VOLT VOLTAGE AFFECT BRIGHTNESS OF A BULB ?