

### LO: Voltage

I know what the terms voltage and current mean

I can carry out a scientific investigation making sure it is fair

I understand what my results mean in relation the the terms voltage and current

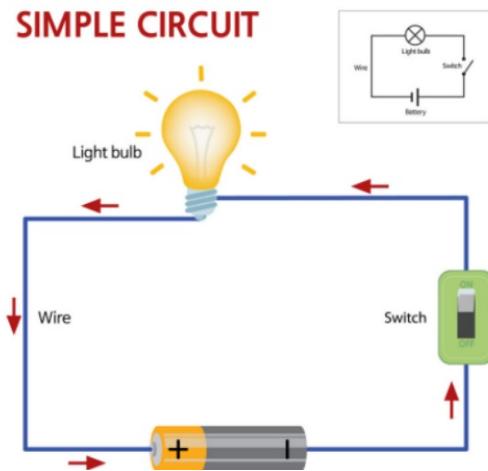


### What is voltage?

Voltage is the pressure from an electrical circuit's power source (battery or cell) that pushes charged electrons (current) around a circuit.

Current - this is the amount of electricity flowing through the circuit (basically a flow of electrons moving in a loop in the circuit). It can be measured using an ammeter and measured in amps.

### SIMPLE CIRCUIT



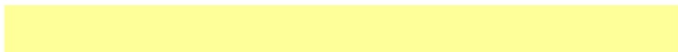
- In this circuit, the switch is closed (turned ON).
- Voltage in the power source—is activated, creating pressure that forces electrons to flow as current out the battery's negative terminal.
- Current reaches the light, causing it to glow.
- Current returns to the power source.

Write a definition in your book for voltage and current

Have a look at the cells and batteries on your table. Can you spot the voltage?



What do you notice?  
What might they power?



Our question to investigate:  
What will happen to the brightness of the bulb when I change the voltage of the cell or battery?

### Predict

We know voltage is the pressure from an electrical circuit's power source (battery or cell) that pushes charged electrons (current) around a circuit.

If we increase the voltage (push) how will affect the bulb?

higher                      brighter                      faster                      because  
voltage                      dimmer                      slower

Explore and think scientifically **stick me in!**



What will happen to the brightness of the bulb when I change the voltage of the cell or battery?

**Ask key Questions**

What do you want to find out?  
What variables are you changing or measuring?  
Does your question tell others this?

Ask a question

**Challenge Vocabulary**  
push    electrons    increase

a perfect example for staff. let the kids write their own after discussing the what we know

Chart for LA

Teacher note: To

Draw this chart in your book.  
For your prediction, use a scale to describe the brightness  
for example, 1 very dim, 2 bright, 3 very bright.  
Make sure you write a key so I know what your scale means



<i>Voltage of power source</i>			
<i>Prediction</i>			
<i>Observation/result</i>			

For each circuit, make sure you draw it in your book to show how many cells you used.  
Use the correct electrical symbols and a ruler!

Our question was:

What will happen to the brightness of the bulb when I change the voltage of the cell or battery?

Analyse and Conclude

What is the answer to the question?  
Can you give a reason for your results using scientific vocab?  
Did you spot any patterns?  
Were any of the results unexpected?

Review 1  
analyse &  
conclude

higher  
brighter  
faster  
voltage  
dimmer  
slower

*Can you explain your results using your your scientific knowledge?*

**challenge Vocab**  
push  
electrons  
increase

**Super Scientist Question**

How can you apply your results to predict what would happen if we swapped the bulb for a different component such as a buzzer or motor?

For the HA kids - stick in