

## Electricity

### What's the science story?

An introduction to electricity covering current, charge, voltage and potential difference, how to model electricity and how to build series and parallel circuits.

### Previous knowledge:

None

### Next steps...

Static electricity is covered in year 9 and then electricity is revisited at KS4.



### Keywords

Current, potential difference, charge, series,  
parallel, voltage, Ohms, resistance,  
component.

<b>Working scientifically skills:</b> WS3 make predictions WS9 Variables WS13 Constructing tables WS19 Make Conclusions	<b>Assessments:</b>  End of unit test (summative)  <ul style="list-style-type: none"> <li>• <b>2 exit tickets – one on circuits (S&amp;P)</b>  <b>One on General circuit questions.</b></li> </ul>
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Lesson No. and Title	Learning objectives	National Curriculum	Practical equipment
1. Electricity	ARE - Set up a closed series circuit AGD – Draw a scientific diagram of a series circuit		Circuit equipment
2. Current	ARE – Describe what current is, include the unit. AGD – Explain how current is measured and how electrons move around a circuit	<ul style="list-style-type: none"> <li>• electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge</li> </ul>	

**KS3 – Year 7**

3. Potential difference	<p>ARE – Describe what is meant by potential difference.</p> <p>AGD – Explain why potential difference was measured in parallel.</p>	<ul style="list-style-type: none"> <li>potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference (p.d.) to current</li> </ul>	Make a potato lamp – potato, wires, nails, lamps
4. Series circuits	<p>ARE – Describe how potential difference and current varies in series circuits.</p> <p>AGD – Apply theory to practical work. Evaluate results.</p>	<ul style="list-style-type: none"> <li>electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge</li> </ul>	Circuit equipment
5. Parallel circuits	<p>ARE – Describe how potential difference and current varies in parallel circuits.</p> <p>AGD – Apply theory to practical work. Evaluate results.</p>	<ul style="list-style-type: none"> <li>electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge</li> </ul>	Circuit equipment

**KS3 – Year 7**

6. Resistance	ARE – Calculate resistance of a circuit. AGD – Compare the effect of resistance in different materials.	<ul style="list-style-type: none"><li>differences in resistance between conducting and insulating components (quantitative)</li></ul>	Circuit equipment, range of objects to test – insulators and conductors
7.			