

Objective	Milestone Indicators	Basic Activities	Advanced Activities	Deep Activities	Resources
<p>Milestone 3</p> <p>To understand electrical circuits.</p>	<p>Milestone 3</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>On Worksheet 1A, children use the pictures to help them draw a simple circuit to light a bulb. Children should make sure the wires come out of the + and - ends of the battery and are linked to the metal part of the bulb. Children then answer the true or false questions about electricity.</p>	<p>Children draw a series circuit and a parallel circuit. Children then answer questions about series and parallel circuits.</p>	<p>Provide children with wires, motors and bulbs, batteries and switches in pairs. Challenge children to create various series circuits and parallel circuits using the components they have been given. Challenge children to think about questions such as:</p> <p>Does the order in which you place the components matter?</p> <p>What might these circuits be used for?</p> <p>Children draw each of the circuits they have created and annotate each diagram. What did you find out? Are there different ways of creating the same circuit?</p>	<p>PowerPoint Slides Worksheet 1A Wires, batteries, bulbs, motors, switches</p>

<p>Milestone 3</p> <p>To understand electrical circuits.</p>	<p>Milestone 3</p> <p>Associate the brightness of a bulb or the volume of a buzzer with the number and voltage of cells used in the circuit.</p>	<p>On Worksheet 2A, children decide which of the diagrams will have the brightest bulbs and explain their choices for each one.</p>	<p>On Worksheet 2C, children order the circuits from dulllest to brightest according to the voltage of the batteries and how many bulbs there are. Can children recognise the circuit that will blow the bulb and therefore not shine at all? (Answers from dulllest to brightest = E will burn out, C, B, A, D).</p>	<p>Provide children with wires, batteries, bulbs, buzzers and switches and give them some time to investigate how to make the bulbs brighter and the motors speed up or slow down. Remind children not to use too many batteries or the components will blow out. Children write up their findings.</p>	<p>PowerPoint slides Worksheet 2A/2C Batteries, bulbs, motors, wires, switches</p>
<p>Milestone 3</p> <p>To understand electrical circuits.</p>	<p>Milestone 3</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p>	<p>On Worksheet 4A, children plan an experiment to find out how the thickness of wire affects the brightness of the bulb. Provide children with 3 different thicknesses of fuse wire to test and support them in carrying out and evaluating their experiment.</p>	<p>On Worksheet 4B, children plan an experiment to find out how the length of wire affects the brightness of a bulb. Children then carry out their experiment and record their results.</p>	<p>Children plan their own experiment about how different wires affect the brightness of a bulb. Children then carry out their experiment and record their results. Challenge children to think about how they could repeat the experiment several times to check for accuracy.</p>	<p>PowerPoint slides Worksheets 4A/4B Batteries and bulbs Different thicknesses of fuse wire</p>