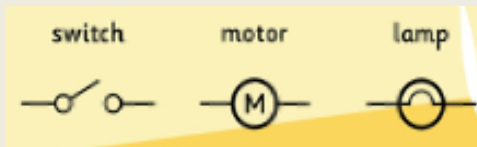


# NPA Knowledge Organiser: Year 4 DT - Spring

How will you make a switch?



How will your circuit work?



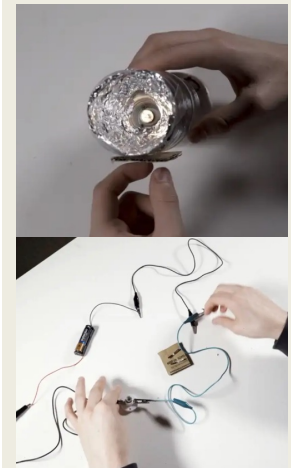
## Electrical Systems - Torches



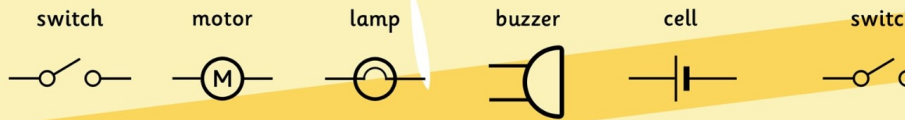
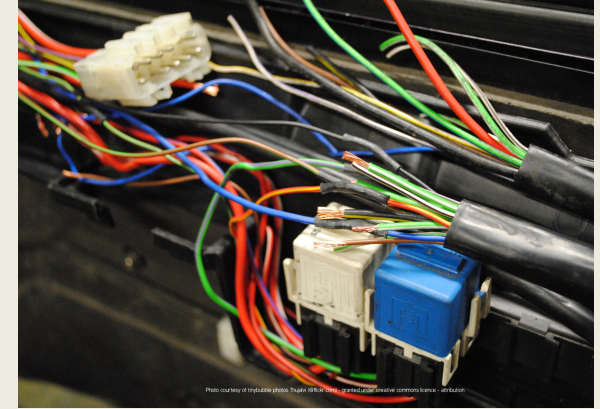
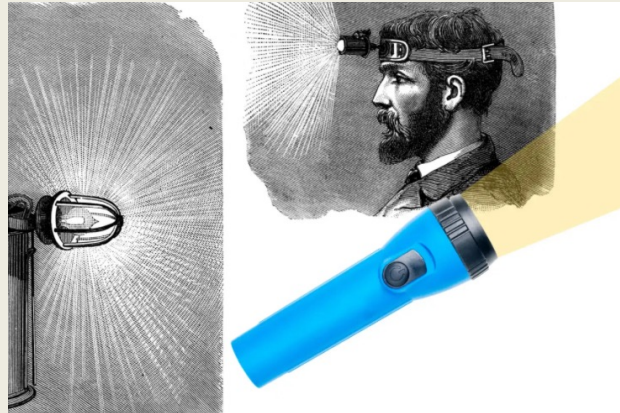
Our topic this term, is Electrical systems and we will be exploring how to make a working torch. The children will develop circuits and look at what parts must be connected to make the bulbs light up. We will then look at how to attach it all together!

<b>Battery</b>	Two or more cells put together to provide electrical energy to power a circuit.
<b>Bulb</b>	A circuit part, made from glass or plastic, which gives out light when electricity passes through it.
<b>Buzzer</b>	A circuit part which will make a buzzing noise when electricity is passed through it.
<b>Cell</b>	A single unit that provides electrical energy to power a circuit.
<b>Conductor</b>	A material that allows electricity to flow through it. e.g. metal.
<b>Copper</b>	A reddish metal material that is good at letting heat and electricity flow through it. It is often used to make wires and pipes.
<b>Design criteria</b>	A set of rules to help designers focus their ideas and test the success of them.
<b>Electrical item</b>	Objects that need electricity to work such as hair dryers, toasters and kettles.
<b>Electricity</b>	A type of energy, that is usually invisible, that can be made or stored and used to make objects work (for example to move things or to heat them up).
<b>Electronic item</b>	Electrical items that have an element of computer processing in them such as mobile phones and laptops.
<b>Insulator</b>	A material that does not allow electricity to flow through it. e.g. plastic.
<b>Series circuit</b>	A closed circuit where the current follows one path.
<b>Switch</b>	A circuit part that you can open or close to allow electricity to flow through or to stop it flowing through. (For example, in a house, an electric light switch lets you turn the lights on or turn the lights off.)
<b>Test</b>	To find out whether something works as it should.
<b>Torch</b>	A battery-powered electric lamp.
<b>Wire</b>	A thin piece of copper thread which conducts electricity to connect circuit components together.

Many products use batteries!



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By the end of the unit, we will be able to; Identify electrical products and explain why they are useful, help to make a working switch, identify the features of a torch and how it works and describe what makes a torch successful.



Washing board



Washing machine

Once upon a time, there were no electrical items to use!  
They had not been invented.  
How would life be different for you without electrical items?