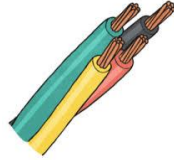
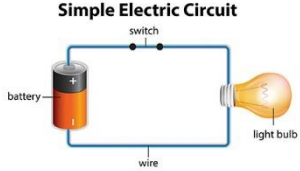


Electrical Systems- Torches

Prior Knowledge

Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3.

Key Vocabulary:

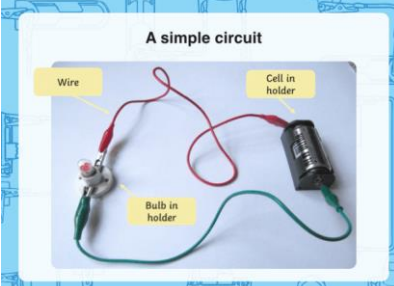
Word	picture	definition			
Battery		Two or more cells put together to provide electrical energy to power a circuit.	Insulator		A material that does not allow electricity to flow through it. e.g plastic.
Bulb		A circuit part, made from glass or plastic, which gives out light when electricity passes through it.	Series circuit		A closed circuit where the current follows one path.
Cell		A single unit that provides electrical energy to power a circuit.	Switch		A circuit part that you open or close to allow electricity to flow through or to stop it flowing through.
Conductor		A material that allows electricity to flow through it. e.g metal.	Test		To find out whether something works as it should.
Copper		A reddish metal material that is good at letting heat and electricity flow through it. It is often used to make wires and pipes.	Torch		A battery powered electric lamp.
Design criteria		A set of rules to help designers focus their ideas and test the success of them.	Wire		A thin piece of copper thread which conducts electricity to connect circuit components together

Buzzer		A circuit part which will make a buzzing noise when electricity is passed through it.	Electrical item		Objects that need electricity to work such as hair dryers, toasters and kettles.
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Key Skills

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductors (National Curriculum)

Key learning:

Lesson 1 	To complete a pre-assessment quiz and to construct a circuit with a switch.	Lesson 3 	To design a product to fit a set of specific user needs.
Lesson 2 	To analyse and evaluate electrical products.	Lesson 4 	To make and evaluate a torch.

Next Steps

- In year six you will learn how to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- You will 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.
- You will use recognised symbols when representing a simple circuit in a diagram (National Curriculum).