

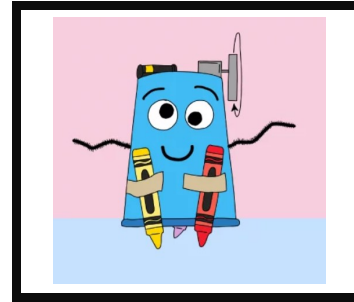
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Electrical systems: Doodlers

Year 5

What I should already know

- To understand that electrical conductors are materials which electricity can pass through.
- To understand that electrical insulators are materials which electricity cannot pass through.
- To know that a battery contains stored electricity that can be used to power products.
- To know that an electrical circuit must be complete for electricity to flow.
- To know that a switch can be used to complete and break an electrical circuit.



Sticky Knowledge

- To know that, in a series circuit, electricity only flows in one direction.
- To know when there is a break in a series circuit, all components turn off.
- To know that an electric motor converts electrical energy into rotational movement, causing the motor's axle to spin.
- To know a motorised product is one which uses a motor to function.



Technical skills

- Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product.
- Developing design criteria based on findings from investigating existing products.
- Developing design criteria that clarifies the target user.
- Altering a product's form and function by tinkering with its configuration.
- Making a functional series circuit, incorporating a motor.
- Constructing a product with consideration for the design criteria.
- Breaking down the construction process into steps so that others can make the product.
- Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses.
- Determining which parts of a product affect its function and which parts affect its form.
- Analysing whether changes in configuration positively or negatively affect an existing product.
- Peer evaluating a set of instructions to build a product.

Vocabulary

Circuit	A collection of components that make an electrical system. .
Circuit component	One of several parts that complete a circuit.
Configuration	How different parts are put together to form an object.
Current	The flow of electricity.
Develop	Continue to work from something to make progress or improve it.
DIY	'Do it yourself'
Investigate	Research something by looking at it in greater detail.
Problem solve	Develop and test solutions to an issue.
Product analysis	To look at an object and evaluate it based on certain criteria (e.g. function)
Stable	The object does not easily topple over.
Target user	A particular person at whom the product is aimed.