



Electrical systems > Year 5 > Upper key stage 2 >
Design and technology > Electrical systems:
Doodlers

Suggested prior learning

[Electrical systems: Torches](#)

Unit outcomes

Pupils who are **secure** will be able to:

- Identify simple circuit components (battery, bulb and switch) with a basic explanation of their function.
- Explain that a series circuit is assembled in a loop to allow the electricity to flow along one path.
- Describe a motor as a circuit component that changes electrical energy into movement.

- Provide examples of motorised products that use movement to rotate or spin different parts.
- Remove and replace different parts of a Doodler, as part of a team.
- Suggest ways to switch the configuration to amend the form or function of the Doodler.
- Explain, in an investigation report, each of the changes they made and the effect this had on the Doodler's ability to draw scribbles (function) and appearance (form).
- Develop design criteria with consideration for the target user, the purpose of their Doodler, a key function and the Doodler's form and final appearance (e.g. fun, bright, soft).
- Explain simply why their Doodler has a certain configuration based on the findings of their investigation (e.g. I used four pens because the Doodler would fall over with two).
- Create a functional Doodler that creates scribbles on paper with or without a switch.
- Identify and list each of the required materials, tools and circuit components required to build a Doodler.
- Explain simply the steps to assemble a Doodler as part of a set of instructions (or storyboard).

- Write instructions to build a functional circuit, explaining how to identify if it is functional or not.
- Provide suggestions to improve a peer's set of instructions after testing how effective they are at guiding someone.

Key vocabulary

circuit component

configuration

current

develop

DIY

investigate

motor

Unit specific links

[Vocabulary display - D&T Y5: Electrical systems: Doodlers](#)

<p>motorised</p> <p>problem solve</p> <p>product analysis</p> <p>series circuit</p> <p>stable</p> <p>target user</p>			
Week 1	Week 2	Week 3	Week 4
Lesson 1: Electrical systems and motors	Lesson 2: Meet the Doodlers	Lesson 3: Doodler design and construction	Lesson 4: Doodler DIY kits
To understand how motors are used in electrical products.	To investigate an existing product to determine the factors that affect the product's form and function.	To apply the findings from research to develop a unique product.	To develop a DIY kit for another individual to assemble their product.
Suggested next steps			
Electrical systems: Steady hand game			

Logo