



Waterbeach Community Primary School

Curriculum Capture for Year 6 D&T: Electrical Water Buggies

Key Knowledge

What makes a circuit work

Every complete circuit must have a power supply. A power supply could be the mains or it could be a battery. For a circuit to be complete there must be wires connected to both positive and negative ends of the power supply. Electricity can only flow around a complete circuit that has no gaps. A motor is a component which can be added to a complete circuit.

What makes an effective water vehicle

Float!
Streamlined shape
Eye-catching design
Durable design that will withstand multiple trips.
Lightweight material
Balanced
It should be fun!

Making an electrical water buggy

• Design

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose and aimed at individuals and groups.
Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design.

• Make

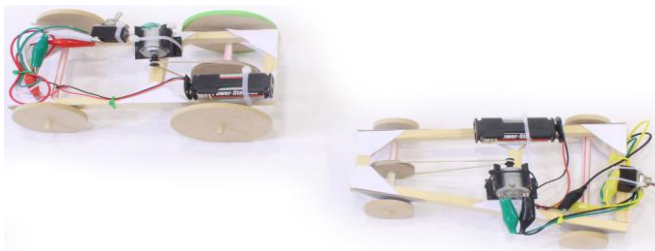
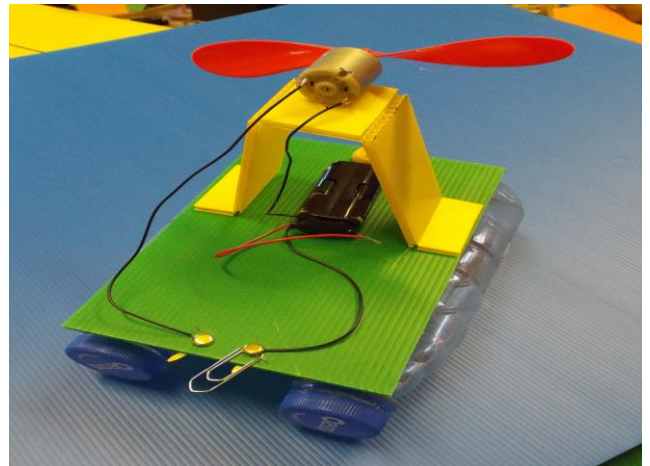
Use a range of tools and equipment to perform practical tasks accurately such as wire cutters and scissors. Use a wide range of materials and components, according to their characteristics (functional properties and aesthetic qualities) e.g. wires to connect the circuit, a battery to provide power, a motor to provide power for the vehicle, materials that allow the vehicle to float and lightweight

• Evaluate

Investigate and analyse a range of existing products. Evaluate their ideas and products against a design criteria and consider the views of others to improve their work. Understand how key events and individuals influence design

Vocabulary

Circuit	A closed loop consisting of electrical components.
Electricity	Presence and flow of electric charge.
evaluate	To critically look at product
battery	Provides power to the circuit
motor	A component in a circuit that provides propulsion
streamlined	Shaping that allows for minimal water resistance



Key Skills

- To build a circuit involving a motor and gear to power a boat/buggy.
- To consider the need for streamlined, lightweight materials for speed.
- To evaluate their finished product.