

UKS2 – Lesson Plan 5

How do we use electricity to power our world?

Aim: To explore how electricity is generated and used in everyday life.	Key Words: Electricity, circuit, current, battery, conductor	Preparation: - Batteries, wires, bulbs, and simple switches (for creating circuits) - Examples of electrical devices (e.g., lamp, fan) - Worksheet for labelling parts of a circuit
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Prior Learning: Basic understanding of electrical devices used at home or school.

Warm-up:

Start with a discussion about electrical devices that children use every day (e.g., lights, computers, mobile phones). Ask them how they think these devices work and where the electricity comes from. Show a simple circuit diagram and ask if they've seen anything like it before.

Main Teach:

- What is Electricity?** Explain that electricity is a form of energy that powers many things we use every day. Show children a basic circuit and explain how electricity flows through it to make things work (e.g., lighting a bulb, turning on a motor).
- Building a Simple Circuit:** Demonstrate how to build a simple circuit using a battery, wires, and a bulb. Explain the key components of a circuit: battery (power source), wires (path for the current), and bulb (device). Show how adding a switch allows you to control the circuit.
- Conductors and Insulators:** Discuss how some materials (like metal) allow electricity to flow through them (conductors), while others (like plastic) do not (insulators). Show examples of both and ask children to predict which materials will conduct electricity.

Activity:

Build Your Own Circuit: In pairs or small groups, children build their own simple circuits using batteries, wires, bulbs, and switches. They draw their circuit on chart paper, labelling the different parts. They can experiment with adding additional components like motors or buzzers.

Extension Challenge:

Design a New Electrical Device: Ask children to imagine a new electrical device that could help people in their daily lives. They draw and label their invention, explaining how it uses electricity and what it does.

Plenary:

Review the key components of an electrical circuit and how electricity is used to power everyday objects. Ask children to explain how their circuits work and what they learned about how electricity flows. Discuss the importance of electricity in modern life and how we should use it responsibly.

D.T.	Design and build a simple circuit-based project, such as a light-up card or an alarm system for a small box. Children use what they've learned about circuits to make their project work.
Geography	Research how electricity is generated in different parts of the world (e.g., renewable sources like wind and solar power vs. non-renewable sources like coal and gas). Discuss how we can use renewable energy to help protect the environment.