

Electricity- Year 6- Kapow unit- Energy: Circuits, batteries and switches

Previous learning

Identify common appliances that run on electricity
 Construct a simple series 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.

Key Vocabulary for Year 6

Cells	Insulators
Wires	Amps
Bulbs	Volts
Switches	cell
Buzzers	
Battery	
Circuit	
Series	
Conductors	

Previous vocabulary

Cells, wires, bulbs, switches, buzzers, battery, circuit, series, conductor, insulator, renewable, non-renewable

Useful links

- <https://www.stem.org.uk/resources/community/collecion/12390/year-6-electricity>
- <https://www.weareteachers.com/electricity-experiments/>
- <https://www.hamilton-trust.org.uk/science/year-6-science/electric-celebrations/>

Key scientists you could look at...

Thomas Edison

Scientific skills

Working scientifically	Questioning and enquiry	Observing and measuring	Investigating	Recording	Grouping and classifying
To use practical scientific methods, processes and skills	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Take measurements using a range of scientific equipment with increasing accuracy and precision. Take repeat readings where appropriate. Identify patterns that might be found in the natural environment. Make own decisions about what observations, measurements to use and whether or not to repeat them. Choose most appropriate equipment. Interpret data and find patterns. Select equipment independently. Use accurate and precise measures	Use test results to make predictions to set up further comparative and fair tests. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Suggest improvements to methods and give reasons. Decide when it is appropriate to do a fair test.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Report and present findings from enquiries. Decide how to record data from a choice of familiar approaches. Choose how best to present data	Use and develop keys and other information records to identify, classify and describe living things and materials.

Experiment and activity ideas

Investigate voltage of battery in relation to lamp brightness	Concept cartoons	Build your own mini vacuum	Using fruit to power an LED	Construct diagrams to demonstrate understanding of electricity
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Knowledge- objectives

Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

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

Use recognised symbols when representing a simple circuit in a diagram.

Resources in school

Wires, crocodile clips, bulbs, batteries, switches, bulb holders, buzzers, range of different materials, amp metre, volt metre

