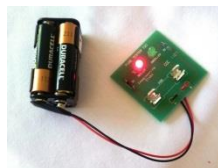


Design and make a Fuse Tester

It is recommended that the sessions include a review of electrical safety and the purpose of a fuse



Pupil Name	
Key Stage 2 Learning Points (from the National Curriculum 2014) Specific to this project.	
Sc4/4.2b	construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers (concentrate on identifying symbols for fuses.) construct circuits, incorporating a battery or power supply and a range of switches, to make electrical devices work
Sc6/4.2b	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
Sc6/4.2c	use recognised symbols when representing a simple circuit in a diagram. understand key scientific vocabulary associated with electricity
Sc4/4.2e	recognise some common conductors and insulators, and associate metals with being good conductors.
Sc5/1.2	take measurements, using a range of scientific equipment, with increasing accuracy and precision
Sc5/1.3	record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs
Sc5/1.4	use test results to make predictions to set up further comparative and fair tests
Sc5/1.5	report and present findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations
Sc5/1.6	identify scientific evidence that has been used to support or refute ideas or arguments.
Ma5/4.1b	complete, read and interpret information in tables
Ge2/1.4c	measure, record and present the human and physical features in the local area using sketch maps, plans and graphs
DT2/1.1a	use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
DT2/1.1b	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
DT2/1.2a	select from and use a wider range of tools and equipment to perform practical tasks accurately
DT2/1.2b	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
DT2/1.3b	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
DT2/1.4c	understand and use electrical systems in their products
DT2/1.1a	use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
DT2/1.1b	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams
DT2/1.2a	select from and use a wider range of tools and equipment to perform practical tasks accurately
DT2/1.3b	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work



Evidence for meeting these strands to come from:
Teacher observations and questioning pupils during project.
Pupil design sheet.
Pupils Self-Assessment on evaluation sheet.
Peer Assessment on evaluation sheet.
Photographs taken during making / testing process.
It is recommended that this unit focusses on practical applications of the device. When/ where would a moisture tester be most useful? Link this to work on recording weather (see geography/ maths strands.)

Key Stage 2 Learning Points (from the National Curriculum 2014) Generic to all Imagineering Projects

Science: Health and Safety - Pupils should be taught to:

- recognize that there are hazards in materials and physical processes, and assess risks and take action to reduce risks to themselves and others

Design and Technology: Knowledge, skills and understanding

Working with tools, equipment, materials and components to make quality products:

Pupils should be taught to:

- select tools, techniques and materials for making their product from a range suggested by the teacher
- suggest alternative ways of making their product, if first attempts fail
- explore the sensory qualities of materials and how to use materials and processes
- measure, cut and shape a range of materials

Evaluating processes and products:

Pupils should be taught to:


- reflect on the progress of their work as they design and make, identifying ways they could improve their products
- carry out appropriate tests before making any improvements

Design and Technology: Breadth of study

During the key stage, pupils should be taught the knowledge, skills and understanding through:

- focused practical tasks that develop a range of techniques, skills, processes and knowledge
- design and make assignments using a range of materials, including electrical and mechanical components



Pupil Project Record		Date
Name	Title of Project	
<p>Before you begin your project... Draw a picture of what you think it will look like.</p> <p>Who are you making it for?</p> <p>What safety rules will you need to follow? Why?</p>		
<p>When you have finished your project... Draw a diagram of your moisture tester. Label the parts. (You could include a photo.) Draw and label a circuit diagram.</p>		
<p>What do you think of your finished project? What happened during testing? Draw a table of your results.</p>		
<p>What would you change/improve if you did it again?</p>		
<p>What skills did you use?</p>		
<p>What does your partner think?</p> <p>Give it a star rating out of 5 stars </p>		