

Design and make an AM Radio



Pupil Name	
Key Stage 2 Learning Points (from the National Curriculum 2014) Specific to this project.	
Sc4/4.2a	identify common appliances that run on electricity
Sc6/4.2a	associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
Sc4/4.2b	construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 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
Sc4/4.2c	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
Sc6/4.2c	use recognised symbols when representing a simple circuit in a diagram.
Sc4/4.1a	identify how sounds are made, associating some of them with something vibrating
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, 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
DT2/1.3b	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
<p>Evidence for meeting these strands to come from:</p> <p>Teacher observations and questioning pupils during project.</p> <p>Pupil design sheet.</p> <p>Pupils Self-Assessment on evaluation sheet.</p> <p>Peer Assessment on evaluation sheet.</p> <p>Photographs taken during making / testing process.</p> <p>It is recommended that pupils are introduced to the purpose and function of resistors to get a better understanding of how the radio works.</p>	

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....</p> <p>Draw and label a circuit diagram. Label the parts. (You could include a photo)</p>		
<p>What do you think of your finished project? What happened during testing?</p>		
<p>What would you change/improve if you did it again? How could you make it louder? Could you make it more attractive?</p>		
<p>What skills did you use to build your radio?</p>		
<p>What does your partner think?</p>		