

NC Objectives – Skills, knowledge and vocabulary taught through Line of Enquiry

Science

As Scientists we will investigate how magnetic and simple electrical circuit toys/games function.

Forces & Magnets

- Compare how things move on different surfaces.
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance.
- Observe how magnets attract or repel each other and attract some materials and not others.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Key vocabulary: push, pull, gravity, magnetic, attract, repel, magnetic pole, friction, resistance

Electricity

- Identify common appliances that run on electricity.
- Construct a simple series electrical 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: appliance, circuit, battery, cell, bulb, wire, motor, buzzer, switch, conductor, insulator

Through scientific enquiry, we will be:

Pattern seeking

- Asking relevant questions and using different types of scientific enquiries to answer them
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables

Comparative and fair testing


- Asking relevant questions and using different types of scientific enquiries to answer them
- Setting up practical enquires, comparative and fair tests
- Reporting on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

Researching using secondary sources

- Using straightforward scientific evidence to answer questions or to support their findings

Design & Technology	Art
<p>As Designers and Engineers we will research, design and evaluate their own magnetic and simple electrical circuit toys/games.</p> <p><u>Design, Make, Evaluate And Improve</u></p> <ul style="list-style-type: none"> Investigate existing products, including drawing them to analyse and understand how they are made. Gather info about the needs & wants of particular groups. Plan a sequence of actions to make a product. Develop more than one design. Develop prototypes. Generate designs with annotated sketches Refine work and techniques as work progresses, continually evaluating the product design. Identify strengths and weaknesses of their design ideas. Talk about how closely their finished product meets their design criteria and meets the need of the user <p><u>Construction – Electronics</u></p> <ul style="list-style-type: none"> Create series and parallel circuits. Strengthen frames using diagonal struts. <p><u>Construction - Materials</u></p> <ul style="list-style-type: none"> Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest mm. <p><u>Take inspiration from design throughout history:</u></p> <ul style="list-style-type: none"> Disassemble products to understand how they work. Improve on existing designs, giving reasons for choices. Identify some of the great designers in different areas of study to generate ideas from their designs <p>Key vocabulary: series, parallel, circuit, strengthen, diagonal, strut</p>	<p>As Artists we will draw portraits of significant, diverse scientists.</p> <p><u>Art & Design Skills:</u></p> <ul style="list-style-type: none"> Draw from direct observation applying geometry and tonal shading Paint from direct observation applying greater expression and creativity <p><u>Formal elements of Art</u></p> <ul style="list-style-type: none"> Colour - mix and apply colour (including natural pigment) Colour - use aspects of colour such as tints and shades Form - represent 3D forms Line: - draw and describe organic and geometric forms through different types of line Pattern - construct a variety of patterns through different methods Shape - identify, draw and label shapes within images and objects Texture - analyse and describe texture within artists' work Tone - apply skill and control when using tone Tone - use simple shading rules <p><u>Generating Ideas</u></p> <ul style="list-style-type: none"> Use my sketchbooks to generate ideas, record thoughts and observations as well as artistic experiments Create personal artwork using the artwork of others to as a stimulus <p>Key artists: Cueva De Las Manos, Louis Masai, Jane Perkins, Danai Gkoni, Ka Van Haasteren</p> <p>Key vocabulary: colour, line, pattern, tone, shape, form, tone, shading, shading grip, wire techniques, bending, shaping, geometry, 3D, sketch</p>
	History
	<p>As Historians we will:</p> <p><u>Chronological Awareness</u></p> <ul style="list-style-type: none"> Continue to develop chronologically secure knowledge of history time periods studied.
	Geography
	<p>As Geographers we will:</p> <p><u>Human & Physical Geography</u></p> <ul style="list-style-type: none"> Identify how the human features of a landscape have changed over time

Opportunities for core subject learning across the curriculum

Reading & Writing	Mathematics		
<p>As Readers we will read:</p> <p>Shared fiction text: The Wild Robot (Peter Brown)</p> <div style="text-align: center;">  </div> <p>As Writers we will write:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Fiction: Elf Road Story Type: Portal Story Focus: Character</p> <p>Fiction: King of the Fishes Story Type: Wishing Focus: Action</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Non-Fiction Recount: The New World</p> <p>Non-Fiction Recount: Fantastic Fish for Sale</p> </td> </tr> </table> <p>Cross curricular writing: Year 3 children will write a scientific report as well as a fact files and advertisements.</p>	<p>Fiction: Elf Road Story Type: Portal Story Focus: Character</p> <p>Fiction: King of the Fishes Story Type: Wishing Focus: Action</p>	<p>Non-Fiction Recount: The New World</p> <p>Non-Fiction Recount: Fantastic Fish for Sale</p>	<p>As Mathematicians we will develop our understanding of:</p> <ul style="list-style-type: none"> Number: Multiplication and Division Measurement: Length & Perimeter Number: Fractions Measurement: Mass and Capacity
<p>Fiction: Elf Road Story Type: Portal Story Focus: Character</p> <p>Fiction: King of the Fishes Story Type: Wishing Focus: Action</p>	<p>Non-Fiction Recount: The New World</p> <p>Non-Fiction Recount: Fantastic Fish for Sale</p>		

Discrete subject teaching - Skills, knowledge and vocabulary taught discretely

Physical Education	PSHE
<p>As fit and healthy citizens we will develop our skills through the <i>Get Set 4 PE</i> scheme:</p> <ul style="list-style-type: none"> Ultimate Frisbee Yoga Basketball Dance 	<p>As fit and healthy citizens we will develop our knowledge through the <i>SCARF</i> scheme:</p> <ul style="list-style-type: none"> Keeping Myself Safe Rights and Responsibilities
Computing	French
<p>In computing we will develop skills through the <i>Teach Computing</i> scheme:</p> <ul style="list-style-type: none"> Desktop Publishing Branching Databases 	<p>As Linguists we will develop skills through the <i>Language Angles</i> scheme:</p> <ul style="list-style-type: none"> Fruit Instruments
RE	Music
<p>As Philosophers we will explore the question:</p> <ul style="list-style-type: none"> Why are festivals important to religious communities? <i>e.g. Passover</i> 	<p>As Musicians we will develop our musical skills and knowledge through <i>Beacon Bristol</i> scheme:</p> <ul style="list-style-type: none"> Composition unit - Unit 1 Air