

Subject: Science Year: 3

What are the aims and intentions:

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Scientific skills:

- asking relevant questions and using different types of scientific enquiries to answer them.
- setting up simple practical enquiries, comparative and fair tests.
- making systematic and careful observations and take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, 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
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Links to prior learning:

Year 1 & 2 topic development:

- Plants
- Animals including humans

Term:	Topic:	Knowledge	Skills:	Key Questions
Autumn 1	All abroad- Forces and magnets	<ul style="list-style-type: none"> • compare how things move on different surfaces • notice that some forces need contact between 2 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 2 poles • predict whether 2 magnets will attract or repel each other, depending on which poles are facing. 	To identify types of force To investigate the force of friction and strength of magnets To Identify magnetic materials. To construct a bar chart to show results To make a prediction To conclude findings.	<ul style="list-style-type: none"> • Can you identify the forces acting on an object? • Can explain how different surfaces effect how a car moves? • Can you sort magnets and non-magnetic materials? • Can you explain the strength of magnets? • Can you explain magnetic poles? • Can you explain how magnets attract some materials?

Key Vocabulary: Force, push, pull, open, surface, magnet, magnetic, attract, repel, magnetic poles, North, South

Cultural Capital:

Exploring forces within our environment ; Durham learning curriculum boxes: Forces and magnets

Autumn 2	Where Shall We Go?- Light	<ul style="list-style-type: none"> recognise that they need light in order to see things and that dark is the absence of light notice that light is reflected from surfaces recognise that light from the sun can be dangerous and that there are ways to protect their eyes recognise that shadows are formed when the light from a light source is blocked by a solid object find patterns in the way that the size of shadows change. 	<p>To investigate and make predictions To identify some parts of the eye, opaque, translucent and transparent objects To make and record accurate observation To use scientific language</p>	<ul style="list-style-type: none"> Can you explain why we need light? Can you identify which surfaces reflect light? Can you explain how a mirror reflects light? Can you explain why the sun can be dangerous and why we must protect our eyes? Can you identify which materials block light and form shadows? Can you find patterns when investigation how shadows change size?
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Key Vocabulary: Light, see, dark, reflect, surface, natural, star, moon, sun, shadow, blocked, solid, artificial, torch, candle, lamp, sunlight, dangerous, protect eyes

Cultural Capital:

Durham learning curriculum boxes: Light ; November- Science day

Spring 1	Fighting Fit- Animals including humans	<ul style="list-style-type: none"> identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<p>To group and classify To present data to help answer questions To use scientific vocabulary To set up and carry out a fair test To explain with reason</p>	<ul style="list-style-type: none"> Can you talk about what animals and humans need to stay healthy? Can you talk about how and why different animals require a different balance of nutrients? Can you name, describe and discuss the features and advantages and disadvantages of different types of skeleton? Can you name parts of a human skeleton?
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Key Vocabulary : Nutrition, nutrients, carbohydrates, protein, fats, fibre, water, vitamins, minerals, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic, skeleton, vertebrate, invertebrate, contract, relax, muscles, ball joint, socket joint, hinge joint, gliding joint

Cultural Capital:

Durham learning curriculum boxes: Animals including humans, mini beasts, nocturnal animals, human body; January- bird watching week; February-penguin awareness day

Spring 2	Its about to Erupt- Rocks	<ul style="list-style-type: none"> compare and group together different kinds of rocks on the basis of their appearance and simple physical properties describe in simple terms how fossils are formed when things that have lived are trapped within rock 	<p>To group and categorise rocks by their properties. To explain the different between bone and fossil. To record observations accurately To identify the importance of some ones work To use scientific vocabulary</p>	<ul style="list-style-type: none"> Can you compare different rocks based on their appearance? Can you examine different rocks through close and careful observation? Can you explain how a fossil is formed? Can you explain Mary Anning's contribution to palaeontology? Can you explain how soil is formed?
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		<ul style="list-style-type: none"> recognise that soils are made from rocks and organic matter. 		
Key Vocabulary: Rock, appearance, physical, properties, hard, soft, shiny, dull, rough, smooth, absorbent, non-absorbent, fossils, sedimentary, soils, organic matter, buildings, gravestones, grains, crystals				
Cultural Capital: March-science week ; April- Earth day ; Natural history museum: rocks workshop ; Durham learning curriculum boxes: rocks, Mary Anning, Killhope Lead Mining Museum				
Summer 1	Walk Like an Egyptian- Plants	<ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers investigate the way in which water is transported within plants 	<p>To explain the functions of parts of a plant To set up and complete an investigation To observe and conclude To make and explain predictions To identify and describe parts of a plant To use scientific vocabulary</p>	<ul style="list-style-type: none"> Can you name the different parts of a flowering plant and explain their jobs? Can you identify what plants need to grow? Can you explain how water is transported in plants? Can you name the different parts of a flower and their role in pollination and fertilisation?
Key Vocabulary: common, wild plants, garden plants, deciduous, evergreen, leaf, root, leaves, bud, flowers, blossom, petals, root, stem, trunk, branches, leaf, root, fruit, vegetables, bulb, seed, water, light, suitable, temperature, germination, reproduction, grow, healthy, structure, flowering plants, nutrition, support, air, light, water, soil, grow, varying needs, fertiliser, flowers, pollination, seed formation, seed dispersal, life cycle				
Cultural Capital: Growing a plant within school or at home ; Durham learning curriculum box: Plants ; April- Earth day				
Summer 2	Wonderful Weather- Plants	<ul style="list-style-type: none"> explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	<p>To explain the functions of parts of a plant To set up and complete an investigation To observe and conclude To make and explain predictions To identify and describe parts of a plant To use scientific vocabulary</p>	<ul style="list-style-type: none"> Can you name the different parts of a flowering plant and explain their jobs? Can you identify what plants need to grow? Can you name the different parts of a flower and their role in pollination and fertilisation?
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Cultural Capital: Growing a plant within school or at home ; Durham learning curriculum box: Plants ; June- First day of summer ; Visit to Botanic Gardens, Durham ; Plants Day – ScoutED				