



Class: Year 3	Topic Title: Plants	Key Vocabulary
<p>NC Objectives:</p> <ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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 investigate the way in which water is transported within plants explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	<ul style="list-style-type: none"> Know the following functions of parts of flowering plants: <ul style="list-style-type: none"> roots: absorb (take in) water and nutrients from the soil and anchor the plant in place trunk/stem: used to support the plant and to transport water and nutrients from one part of the plant to another leaves: take in light from the sun to produce food through photosynthesis flowers: to attract insects for pollination Plan an investigation to explore the requirements of plants for life and growth (deprive mature plants of air, light, water or nutrients). Carryout an investigation to measure how much water plants need for growth (using sunflower seeds). Investigate how water is transported within plants using celery and food colouring. Research the life cycle of flowering plants. <ul style="list-style-type: none"> Know that plants can be pollinated by insects, animals and the wind. Know that fertilisation takes place when pollen and an ovule combine, and this is necessary for seed formation. Know that seeds can be dispersed by the wind (sycamore seeds), animals (sticky bobs stick to fur, eating seeds in fruits, acorns buried by squirrels) and water (coconuts). 	<p>Nutrients, absorb, Anchor, transport, Photosynthesis, pollination</p> <p>botanist</p> <p>pollen, insect/wind, seed formation, fertilisation, ovule</p> <p>seed dispersal – wind dispersal, animal dispersal, water dispersal,</p>
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> 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, where appropriate, taking 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. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Previous Learning Experiences:</p> <p>Year 2:</p> <ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants <p>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	
<p>Possible Community Links/trips</p>	<p>Future Learning Experiences:</p>	



<ul style="list-style-type: none"> • Links with the Tawd Valley park • Links with the Beacon Country Park 	Year 5: <ul style="list-style-type: none"> • describe the life process of reproduction in some plants and animals
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Class: Year 3	Topic Title: Animals including Humans	Key Vocabulary
NC Objectives: <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 	<ul style="list-style-type: none"> • Know that plants can make their own food through photosynthesis but animals (including humans) get their nutrition from eating other animals and plants. • Know items that fit into the different food groups on the Eatwell plate and the nutrients they provide. Their functions can be shared but it is not necessary for this to be recalled: carbohydrates (energy source), protein (growth and repair), vitamins and minerals (healthy organs and body), fibre (food digestion), dairy (source of calcium for strong bones) and unsaturated fats (energy source). • Know that foods high in saturated fat are bad for health. • Explore food labels and use the information to compare foods by their saturated fat content. • Identify and name bones of a human skeleton (bones song). • Know that bones support the body. • Know that the skull protects the brain and the ribs protect the heart and lungs. • Know that joints (e.g. hips, knees, shoulders) allow movement. • Know that muscles are necessary for movement. • Explore with model how joints, ligaments and muscles generate movement (elbow/hand). • Plan an investigation into human skeletons. • Compare and contrast animal and human skeletons and identify bones that they have in common (e.g. skull, spine, ribs). How are they similar? How are they different? What are their functions? 	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water skeleton, bones, muscles, support, protect, skull, ribs, spine, muscles, joints, ligaments
Working Scientifically Objectives: <ul style="list-style-type: none"> • 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, where appropriate, taking 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 	Previous Learning Experiences:	



<ul style="list-style-type: none"> identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Year 2:</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
Possible Community Links/trips	Future Learning Experiences:
Warburton's (nutrition) Liverpool world museum (skeletons)	<p>Year 4:</p> <ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple functions construct and interpret a variety of food chains, identifying producers, predators and prey

Class: Year 3	Topic Title: Rocks	Key Vocabulary
<p>NC Objectives:</p> <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 recognise that soils are made from rocks and organic matter 	<ul style="list-style-type: none"> compare and decide on own ways to sort and group rocks based on their appearance and properties (smooth, rough, shiny, dull, hard, soft) Carryout and report on an investigation to test the properties of different rocks. Know how sedimentary (limestone/sandstone), igneous (granite/basalt) and metamorphic (marble/slate) rocks form. Research how fossils are formed in sedimentary rock. Create a model of how fossils form. Know that organic matter is material from decaying plants and animals. Know that soil is made from broken down rocks and organic matter. Explore soil samples taken from different places (sandy, clay, loam soils). 	<p>hard, soft, smooth, rough, dull, hard, texture</p>
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> 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, where appropriate, taking 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 		<p>marble, slate, granite, basalt sandstone, limestone, sedimentary, metamorphic, igneous, grain, crystals, layers,</p> <p>absorb water, soil, fossil, soil, peat, sandy/chalk/clay soil</p>



<ul style="list-style-type: none"> • 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. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>		
	Previous Learning Experiences:	
	Year 2: <ul style="list-style-type: none"> • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 	
Possible Community Links	Future Learning Experiences:	
Liverpool World Museum (fossils)	Year 6: <ul style="list-style-type: none"> • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. 	

Class: Year 3	Topic Title: Light	Key Vocabulary
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<p>NC Objectives:</p> <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 an opaque object • find patterns in the way that the size of shadows change 	<ul style="list-style-type: none"> • Use the blackout tent to explore how light is needed in order to see things and dark is the absence of light. • Know that the Sun is a light source. • Know that we see an object because light is reflected off the object and into our eyes. • Make a periscope to explore how light is reflected from surfaces so that we can see an object. • Identify and group transparent, translucent and opaque objects. • Carryout an investigation the shadows formed by transparent, translucent and opaque objects. • Explore moving a light source (closer/further away/from a different angle) and the way that the size of the shadow changes. • Know that light from the sun can be dangerous. • Know that they should never look directly at the Sun. • Explore suitable materials for making sunglasses. 	<p>Light, Light source, Dark, Absence of light, Transparent, Translucent, Opaque, Shiny, Matt, Surface, Shadow, Reflect, Mirror, Sunlight, Dangerous</p>
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> • 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, where appropriate, taking 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. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Previous Learning Experiences:</p> <p>Year 1: identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>Future Learning Experiences:</p> <p>Year 6:</p> <ul style="list-style-type: none"> • Recognise that light appears to travel in straight lines • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes 	
<p>Possible Community Links/trips</p>		
<p>Manchester Science Museum</p>		



- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Class: Year 3	Topic Title: Forces and Magnets	Key Vocabulary
<p>NC Objectives:</p> <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 	<ul style="list-style-type: none"> • Identify different examples of pushing and pulling forces around the classroom. • Carryout an investigation exploring the movement of cars on different surfaces. • Compare and review how a balloon rocket moves along different surfaces. • Explore how some forces need contact between two objects by planning an investigation into shoe grip. • Test and group materials on the basis of whether they are attracted to magnets. • Know that some but not all metals are magnetic: iron, steel and nickel are magnetic, but brass, copper and aluminium are not. • Know that magnets have two poles: north and south. • Observe how magnets attract and repel each other. • Explore how magnetic materials can act at a distance by planning an investigation with magnets. 	<p>Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole</p>
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests (friction and magnets) • making systematic and careful observations and, where appropriate, taking 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 	<p>Previous Learning Experiences:</p> <p>Year 2:</p> <ul style="list-style-type: none"> • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching <p>Future Learning Experiences:</p>	



<ul style="list-style-type: none">identifying differences, similarities or changes related to simple scientific ideas and processesusing straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Year 5:</p> <ul style="list-style-type: none">explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling objectidentify the effects of air resistance, water resistance and friction, that act between moving surfacesrecognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
Possible Community Links/Trips	
Manchester Science Museum	