

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	<p>By the end of the EYFS will have:</p> <p>Talked about some of the things they have observed such as plants, animals, natural and found objects            Developing an understanding of growth, decay and changes over time.            Used of outdoor areas to give opportunities for investigations of the natural world, for example, provide chimes, streamers, windmills and bubbles to investigate the effects of wind.            Explored many practical activities, e.g. learning about the characteristics of liquids and solids by involving children in melting chocolate or cooking eggs.            Give opportunities to record findings by, e.g. drawing, writing, making a model or photographing.            Shared stories that help children to make sense of different environments.            Explored stimuli and resources for children to create simple maps and plans, paintings, drawings and models of observations of known and imaginary landscapes.            Had opportunities to design practical, attractive environments, for example, taking care of the flowerbeds or organising equipment outdoors.            Been introduced to vocabulary to enable children to them to talk about their observations and experiences, e.g. 'smooth' 'shiny' 'rough' 'prickly' 'flat' 'patterned' 'jagged', 'bumpy' 'soft' and 'hard'</p> <p>Had opportunities to explore the properties of media as they are transformed through becoming wet, dry, flaky or fixed. They can talk about what is happening, helping them to think about cause and effect. (EAD)</p> <p>Experimented with ways of finding out what they can do with different media and what happens when they put different things together such as sand, paint and sawdust. (EAD)</p>					

<p><b>Year 1 – Topic and outcome</b></p>	<p><b>Parts of Animals</b> Create a song which compares the function of various animals' body parts</p>	<p><b>Changing Seasons (revisit throughout year)</b> Describe weather and changes in plants and animals associated with different seasons</p>	<p><b>Types of Animals</b> Plan a zoo containing a variety of different animals</p>	<p><b>Identify Materials</b> Choose appropriate packaging to protect a chocolate egg</p>	<p><b>Plants</b> Make a plant identification kit for plants in the local area</p>	<p><b>Compare Materials</b> Compare and group materials according to their properties</p>
<p><b>Working Scientifically</b></p>	<p><b>Identifying/classifying</b> - classify animals into groups using observable features</p>	<p><b>Observations over time</b> – make observations and measurements of day length, temperature, rain/snow fall, wind strength and cloud cover</p>	<p><b>Identifying/classifying</b> – name animals in local environment and classify into groups using observable features <b>Research</b> – animal classes (mammal, bird, reptile, amphibian, fish)</p>	<p><b>Observations over time</b> – mixing liquids <b>Identifying/classifying</b> – identify and name different materials, find a material suitable for packaging (Easter egg)</p>	<p><b>Identifying/classifying</b> – name and group plants by making close observations</p>	<p><b>Identifying/classifying</b> – name and group everyday materials <b>Comparative/fair test Children choose</b> – slime investigations</p>

<p>Year 2 – Topic and outcome</p>	<p><b>Uses of Materials</b> Design a nappy using appropriate materials</p>	<p><b>Living Things</b> Design an information board for an exhibit comparing living, not living and never living things.</p>	<p><b>Changing Shape</b> Create a piece of artwork that applies the skills and knowledge developed in the unit</p>	<p><b>Habitats</b> Make an advertisement for a home or habitat for an animal or plant in the role of an 'estate agent'</p>	<p><b>Growing Plants</b> (Involves seed germination and plant growth – planning implications) Create an information sheet for aliens about how plants grow</p>	<p><b>Feeding and Exercise</b> Make a diet and exercise plan, considering food safety and hygiene guidelines</p>
<p>Working Scientifically</p>	<p><b>Identifying/classifying</b> – sorting materials – papers that rip easily, absorbent materials <b>Research</b> – fascinating facts about a material <b>Comparative/fair test</b> – absorbency of materials</p>	<p><b>Identifying/classifying</b> – living/non living <b>Research</b> – life stages of an animal or plant</p>	<p><b>Identifying/classifying</b> – sort materials according to whether their shape can or cannot be changed, rank bendy materials, can/cannot be squashed <b>Comparative/fair test</b> – comparing stretchiness of small and large balls of putty; warm and cold modelling clay <b>Pattern seeking</b> – correlation between twisted threads and strength</p>	<p><b>Research</b> – plants and animals in a particular habitat <b>Identifying/classifying/Pattern seeking</b> – mini beast safari in local environments (field/pond) <b>Pattern seeking</b> – comparing numbers of worms in different locations</p>	<p><b>Identifying/classifying</b> – sort seeds into groups according to observable properties <b>Observations over time</b> – seed germination and plant growth <b>Pattern seeking</b> – do the biggest plants have the biggest seeds? <b>Children choose</b> – investigate conditions that might affect plant growth, questions about where seeds come from</p>	<p><b>Identifying/classifying</b> – sort ingredients for a simple dish into plant, animal and dairy; sort animals into herbivore, carnivore, omnivore <b>Comparative/fair test</b> – what type of bird food do birds prefer?</p>

Year 3 – Topic and outcome	<b>Parts of Plants</b> Create a song for younger children to help them remember the parts of plants and their functions	<b>Rocks and Soils</b> Create scrapbook/poster about rocks and soils	<b>Light and Shadow</b> Use knowledge of how shadows are formed and can change to present a shadow puppet play to F2 children	<b>Magnets and Forces</b> Make a tool that can move something on the floor far away from you	<b>What Plants Need</b> Produce a helpful hints and tips card for gardeners to describe what helps plants grow better	<b>Movement and Feeding</b> Correctly answer the 'Food for Thought' quiz
Working Scientifically	<p><b>Children choose</b> – create questions about parts of plants and how to answer them</p> <p><b>Identifying/classifying</b> - similarities and differences of structure of different plants</p> <p><b>Observations over time</b> – coloured water to show plant transport system, roots developing on a bulb</p>	<p><b>Identifying/classifying</b> – observe features of and compare different rocks, different soils in school grounds</p> <p><b>Comparative/fair test</b> – hardness of rocks</p> <p><b>Research</b> – different types of rock, how fossils are formed, Mary Anning</p> <p><b>Children choose</b> – creating questions about rocks and soils and how they could be answered</p>	<p><b>Children choose</b> – creating questions at start of unit to answer</p> <p><b>Pattern seeking</b> – link between shape of object and shadow; transparency of material and intensity of shadow; distance between light source and object and size of shadow</p> <p><b>Identifying/classifying</b> – transparent, translucent and opaque materials</p>	<p><b>Identifying/classifying</b> – toys that move by push or pull; magnetic/nonmagnetic materials; materials that magnetic forces travel through</p> <p><b>Comparative/fair test</b> – how objects move on different surfaces; which magnet is the strongest</p> <p><b>Pattern seeking</b> – how magnets behave when different magnetic poles are brought together</p>	<p><b>Pattern seeking</b> – links between location and whether plants grow well</p> <p><b>Observations over time</b> – how a wilted plant recovers after being watered</p> <p><b>Comparative/fair test</b> – how amount of water/type of soil affects how well a plant grows</p> <p><b>Children choose</b> – how to improve a comparative test investigating the effect of space and plant growth, comparative test of effect of fertilizer on plant growth</p>	<p><b>Research</b> – foods in different food groups; diet of an animal; one of the bones in the human body</p> <p><b>Pattern seeking</b> - whether the child with the biggest hand can grab the most sweets</p> <p><b>Children choose</b> - a question they could test that links the size of a body part (or parts) to the ability to do something</p>

<p><b>Year 4 – Topic and outcome</b></p>	<p><b>Electricity</b> Design and make a functioning switch</p>	<p><b>Dangers to Living Things</b> Evaluate the effect of building on pond life and how these changes could be alleviated</p>	<p><b>Changes of State</b> Describe and explain the water cycle</p>	<p><b>Sound</b> Describe how different sounds are made and heard</p>	<p><b>Grouping Living Things</b> Identify, classify and compare living things in different habitats</p>	<p><b>Human Digestion</b> Describe what happens to the food we eat</p>
<p><b>Working Scientifically</b></p>	<p><b>Pattern seeking</b> – sorting appliances; requirements for a component to work in a circuit; puzzle spiders (working systematically) <b>Identifying/classifying</b> – sort conductors/ insulators <b>Children choose/ Comparative/ fair test</b> – children create an enquiry to investigate a generalisation</p>	<p><b>Research</b> - food chains; factors creating environmental change; reducing environmental change <b>Observation over time</b> – before/after controlled environmental change</p>	<p><b>Identifying/classifying</b> – sort materials into solids, liquids and gases <b>Observations over time</b> – cup of hot water in classroom; water cycle model <b>Comparative/ fair test</b> – temperature and rate of evaporation <b>Children choose</b> - different coloured ice cubes (observing over time, comparative test, pattern seeking)</p>	<p><b>Research</b> – how we hear sounds <b>Comparative/fair test</b> – length/ thickness/ tightness of elastic bands and pitch; length of ‘oboe’ and pitch; distance from sound source and volume of sound <b>Pattern seeking</b> – strength of vibrations and volume of sound</p>	<p><b>Research</b> – newly discovered species <b>Identifying/classifying</b> – creating and using binary classification keys for classroom objects/ living things in school environment</p>	<p><b>Research</b> – human digestion system, human and animal teeth <b>Pattern seeking</b> – relationship between shape of teeth and diet <b>Comparative/fair test</b> – how different liquids change eggshells (teeth) <b>Pattern seeking</b> – thickness of toothpaste and cleaning effectiveness</p>

Year 5 – Topic and outcome	<b>Earth and Space</b> Take part in a debate – Does the Earth move?	<b>Separating Mixtures</b> Devise and explain a protocol to separate a mixture of 3 different materials	<b>Forces</b> Design a boat that is stable and moves through the water with least force	<b>Materials</b> Design an outdoor guinea pig shelter	<b>Types of Change</b> Design a recipe and explain and identify the changes that take place	<b>Life Cycles</b> Document the life cycle of a plant or animal in local environment/ offsite visit
Working Scientifically	Children choose – create questions to be answered throughout the unit Research – facts about a chosen planet Observations over time – shadows changing during the course of the day	Identifying/classifying – Which solids dissolve in water/baby oil? Observations over time – Evaporation to separate solute from solvent Comparative/fair test Children choose – design an investigation about substances dissolving	Comparative/fair test – how does sole of shoe affect how grippy it is Children choose/ Comparative/fair test – paper spinners/ sails/ boat hulls Pattern seeking - link between length of lever and force required (Move this lesson before boat lessons)	Identifying/classifying – electrical conductors/ insulators Children choose/ Identifying/classifying – thermal conductors/ insulators Children choose – investigate a property of a material	Comparative/fair test – dissolving materials Research – melting points Children choose Comparative/fair test – effect of different acids	Observations over time – plant and animal life cycles Children choose Research – an animal life cycle Pattern seeking – size of egg and time taken to hatch

<p>Year 6 – Topic and outcome</p>	<p><b>Classifying Living Things</b> Use knowledge of classification to classify 'strange creatures and weird plants'</p>	<p><b>Evolution and Inheritance</b> Answer the question: How do living things evolve? (Secret science notebook)</p>	<p><b>Electricity</b> Make a quiz with a working scoreboard</p>	<p><b>Light</b> Explain why the shape of a shadow is the same as the object</p>	<p><b>Bodies</b> How to stay healthy – multi-media health roadshow</p>	<p><b>Celebrations</b> Review and revisit KS2 science – create a science newspaper, mime, lesson for younger children, a science song, a quiz, blog</p>
<p>Working Scientifically</p>	<p><b>Identifying/classifying</b> – identify features that can be used to classify living things, create a classification key to identify different leaves, identify different types of buttercups and earthworms <b>Research</b> – a creature that is difficult to classify, different types of buttercup <b>Comparative/fair test</b> – investigating mould growth on bread <b>Observations over time</b> – How can we make an effective composter?</p>	<p><b>Pattern seeking</b> – shape of beak/ effectiveness of beak in gathering food <b>Research</b> – how a living thing is adapted</p>	<p><b>Comparative/fair test</b> – link between number of bulbs in a circuit and bulb brightness/ buzzer loudness <b>Children choose</b> – a comparative/fair test to investigate the effect of different properties of wires and bulb brightness</p>	<p><b>Children choose</b> – investigating reflectiveness of various materials <b>Pattern seeking</b> – links between size and direction of shadow and direction and distance of light source from object</p>	<p><b>Children choose</b> – questions about the function of the heart and how to answer them <b>Pattern seeking</b> – link between heart rate and exercise</p>	