


Curriculum Progression Map - Science



		AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
N	Unit	Settling in period in Nursery	Seasonal changes Night and Day	Seasonal Changes Changing states of matter.	Seasonal Changes Materials	Caring for the Environment Life cycles of plants and animals	Seasonal Changes Forces
	Knowledge		Learn about the changes that happen during Autumn. Talk about the differences between day and night.	Learn about the changes that happen during Winter. Changing states of matter - snow and ice. Explore melting and freezing.	Explore collections of materials with similar or different properties. Talk about the differences they notice – linked to The Three Little Pigs and Three Billy Goats Gruff. Learn about the changes that happen during Spring.	Plant seeds and care for living plants. Learn what a plant needs to grow. Learn to respect and care for the environment.	Learn about the changes that happen during Summer. Forces – Floating and sinking with boats and items in the Water tray. Explore magnets and sorting objects that are magnetic / nonmagnetic.

Curriculum Progression Map - Science



	<p>Working Scientifically</p> 	<p>Working Scientifically objectives for the EYFS</p> <ul style="list-style-type: none"> • I ask questions to find out more • I learn and use new science words • I can talk about things like plants, animals, seasons and changing materials. • I can create simple representations of people and objects. • I use materials and tools safely and confidently • I can use all my senses and look closely • I notice similarities, differences, and changes. • I explore the natural world and solve real problems. 	<p>To talk about what they see hear, feel using a wide range of vocabulary.</p> <p>To notice changes in the natural environment.</p> <p>To create drawings to represent ideas – build on /return to previous learning.</p>	<p>To talk about what they see hear, feel using a wide range of vocabulary.</p> <p>To notice changes in the natural environment.</p> <p>To offer explanations as to why things may happen, referring to vocabulary taught through stories, rhymes and non-fiction text.</p>	<p>To talk about what they see hear, feel using a wide range of vocabulary.</p> <p>To notice changes in the natural environment.</p> <p>To be able to sort and select materials exploring a range of different textures.</p> <p>To look for similarities and differences in properties.</p> <p>To use our hands and sense to explore different materials</p>	<p>To talk about what they see hear, feel using a wide range of vocabulary.</p> <p>To notice changes in the natural environment.</p> <p>To begin to use problem solving skills – making predictions on what might happen next.</p> <p>Begin to understand that our actions have an effect on the world.</p> <p>To begin to notice patterns in events – first, then, after that,.</p>	<p>To talk about what they see hear, feel using a wide range of vocabulary.</p> <p>To notice changes in the natural environment.</p> <p>TO make observation and comparisons between objects such as size, weight, length and capacity.</p> <p>TO choose resources and plan/carry out own experiments with forces, exploring cause and effect.</p> <p>Thinking critically - solving problems.</p>
		<p>Autumn 1</p>	<p>Autumn 2</p>	<p>Spring 1</p>	<p>Spring 2</p>	<p>Summer 1</p>	<p>Summer 2</p>


Curriculum Progression Map - Science



	Unit	All about Me	Seasons/ Celebrations	Animals	Under the Sea	Traditional Tales	Keeping Healthy
Rec	Knowledge	<p>To label parts of the body. To explore the world around them, making observations and drawing pictures of themselves and others. To Know similarities and differences between the natural world around them</p> <p>To work and play cooperatively and take turns with others.</p>	<p>To understand that there are four seasons and be able to name them. To use some scientific words to describe the environment and link it to the season they are in. To draw their own ideas about the environment and things that they like to do in each season. To describe the changes between each season and describe why some things belong in certain seasons.</p> <p>To identify parts of a spider and a reindeer</p> <p>To explain thinking using simple words.</p> <p>To use observation skills to spot things and explain what they can see. To categories bugs using observable features. To make spiders web using suitable materials.</p> <p>- Children can make and compare snow using simple language.</p>	<p>To identify why habitats are important to animals. To identify some animals from specific habitats. To understand hibernation and its purposes.</p> <p>To discuss why some animals are suited for different habitats</p>	<p>To identify animal habitats. To group fish based on observations. To make observations of the natural world. To Understand some important processes and changes in the natural world, including the seasons and changing states of matter.</p> <p>To understand why things, float or sink</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on experiences</p> <p>To make observations of plants and animals.</p>	<p>To observe what happens when something dissolves. To explain what happens during the process of dissolving. To understand which materials are strong. To understand the basic properties of materials.</p>	<p>To identify ways to keep healthy. To understand why we need to stay clean</p> <p>To know how some germs can make them ill. To understand what a dentist's role is.</p> <p>To understand why it is important to have a clean environment. To understand that they need to eat different foods.</p> <p>To understand why it is important to exercise.</p> <p>To understand the importance of sleep and can identify different emotions.</p>
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Curriculum Progression Map - Science



	<p>Working Scientifically</p>       	<p>To observe features of the body. Observe parts of the body Explain ideas clearly Record learning in a table.</p>	<p>To Ask how and why questions To Show curiosity and question why things happen (Prediction) Observe and describe what they see using everyday language (Observation) To observe the features of a spider and its web. To think about why things, happen. To choose appropriate materials To predict what might happen and record findings.</p>	<p>To notice similarities and differences within the seasons. To make sensible predictions about where animals may live. To explain in simple terms how animals adapt to their habitat. To ask questions to help research facts about an animal.</p>	<p>Ask how and why questions (Asking questions) Make basic predictions (Prediction) Observe closely (Observation) Draw animals with detail (Recording)</p>	<p>Make careful observations. Identify different liquids. Ask and answer simple questions linked to my test. Carry out a simple test. Plan simple tests. Carry out simple tests</p>	<p>To record ways to keep healthy. To notice how germs can be spread. To predict what will happen to my body if I exercise. to describe and draw different emotions.</p>
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Children will have opportunities to complete 5 different types of scientific enquiry.










Curriculum Progression Map - Science



1	Unit	Animals including Humans	Seasonal Changes	Animals including Humans	Plants	Everyday Materials	Everyday Materials
	Knowledge	<p>*to 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>* to observe changes across four seasons. I can observe and describe weather associated with the seasons and how day length varies. (ongoing throughout the school year)</p>	<p>* to identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>*to identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>*to describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p>	<p>* To identify and describe the basic structure of a variety of common flowering plants including trees.</p> <p>*To identify and name a variety of common wild and garden plants including deciduous and evergreen trees</p>	<p>*to distinguish between an object and the material from which it is made.</p> <p>*to identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.</p> <p>*to describe the simple properties of a variety of everyday materials.</p> <p>*to compare and group together a variety of everyday materials on the basis of their simple properties.</p>	
1							

Curriculum Progression Map - Science



		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Working Scientifically	 	<ul style="list-style-type: none"> * Ask questions *Venn diagrams *Make comparisons and give reasons. 	<ul style="list-style-type: none"> * Observe similarities and differences. *Predict colours in a leaf. *Can explain what winter feels like. *Labelled diagrams *Evaluate test and suggest improvements *Ask simple questions 	<ul style="list-style-type: none"> *Observe features of human body *Carry out tests to compare and classify *Make predictions using senses. 	<ul style="list-style-type: none"> *Make careful observations. *I can explain how a seed grows. *Draw and label a plant *Label parts of a plant *Ask yes and no questions to classify. *Make simple predictions 	<ul style="list-style-type: none"> *Use observations to classify *Record in a table *Ask and answer questions 	<ul style="list-style-type: none"> *Simple test *Make predictions on best materials. *Evaluate test
	 	 					

Curriculum Progression Map - Science



2

Unit	Living Things & their habitats	Properties of Materials	Animals including Humans	Animals including Humans	Plants	Plastic Pollution
Knowledge	<p>* Explore and compare the differences between things that are living, dead and things that have never been alive.</p> <p>*Identify most living things live in habitats to which they are suited and describe how different habitats provide for basic needs of different kinds of animals and plants and how they depend on each other. *Identify and name a variety of plants and animals in their habitat, including microhabitats. *Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain and identify and name different sources of food.</p>	<p>*To identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper, cardboard for particular uses.</p> <p>*to find out how the shape of solid objects made from materials can be changed by squashing, bending, twisting and stretching.</p>	<p>*to notice that animals including humans have offspring which grow into adults.</p> <p>*to find out about and describe the basic needs of animals including humans for survival.</p> <p>*to describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene</p>		<p>*To observe and describe how seeds and bulbs grow into mature plants.</p> <p>*Find and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	

Children will have opportunities to complete 5 different types of scientific enquiry.



Curriculum Progression Map - Science



2

Working Scientifically



- *ask questions
- *draw basic conclusions
- *record observations
- *use tables and pictograms
- *interpret results
- *communicate findings

- *identify & classify materials
- *labelled diagrams
- *draw basic conclusions
- *carry out simple comparative tests
- *predicting best materials
- *evaluate findings of tests

- *identify animals and offspring
- *communicate findings
- *ask simple questions
- *plan and carry out tests
- *sort food into groups & record
- *make simple predictions
- *evaluate test
- *answer questions using scientific knowledge

- *label parts of a plant
- *make observations on how plants grow
- *use a venn diagram to sort and classify
- *identify plants using observations
- *make basic predictions
- *carry out simple tests
- *communicate clearly how plants grow
- *ask questions to investigate
- *evaluate test
- *record results/accurate measurements

Curriculum Progression Map - Science



		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
3	Unit	Rocks	Forces including Magnets	Animals including Humans	Animals including Humans	Plants	Light
	Knowledge	<p>*To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>*To describe in simple terms how fossils are formed when things that have lived are trapped within rock. *To recognise that soils are made from rock and organic matter.</p>	<p>*compare how things move on different surfaces.</p> <p>*notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>*observe how magnets attract or repel each other and attract some materials and not others.</p> <p>*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.</p> <p>* describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>*To identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>*To 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.</p>	<p>* identify and describe the functions of different parts of a flowering plant.</p> <p>*explore the requirements of plant life and growth.</p> <p>*investigate the way in which water is transported within plants.</p> <p>* explore the part that flowers play in the lifecycle of flowering plants including pollination, seed formation and seed dispersal.</p>	<p>*To recognise we need light in order to see things and that dark is the absence of light. Light is reflected from surfaces.</p> <p>* Recognise that light from the sun can be dangerous and that there are ways to protect your eyes.</p> <p>*Recognise that shadows are formed when light from a light source is blocked by an opaque object.</p> <p>*Find patterns in the way that the shadows change</p>	

Curriculum Progression Map - Science



3

Children will have opportunities to complete 5 different types of scientific enquiry.

Working Scientifically



**Make careful observations and identify similarities and differences.*

**Record classifications in a table, Venn or Carroll diagram.*

** record results in a table*

** Interpret the process of fossilisation using models and pictures.
Ask questions to deepen my learning about rock formation.

**set up tests to answer questions.*

** observe different forces*

**Evaluate my choices and suggest further improvements.*

** predict whether materials are magnetic or not.*

** plan a fair test*

** record my findings using scientific drawings*

** use models to explain findings.*

**Locate and label the bones in the body*

** answer questions about the uses of our bones.*

**Record using labelled drawings and scientific language.*

** evaluate their design and suggest improvements.*

** make careful observations to sort animals into groups.*

** make predictions from questions raised.*

** use scientific language to discuss ideas.*

**record results in a table.*

** record my results in a bar chart.*

**evaluate my learning using scientific language.*

** record findings using labelled scientific diagrams.*

**plan a comparative test.*

** interpret my findings using scientific knowledge.*

** explain in detail what pollination is.*

**evaluate my seed spinner.*

** look carefully at seeds.*

** raise questions when exploring materials and light.*

** make predictions based on scientific questions.*

**set up practical comparative tests using own ideas.*

** record my results in a table.*

interpret results and report on patterns found.

** evaluate my test and suggest improvements.*

**observe what happens when an object is moved closer to a light source.*

Curriculum Progression Map - Science










		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
4	Unit	States of matter	Sound	Animals including Humans	Animals including Humans	Electricity	Living Things & Their Habitats
	Knowledge	<p>*Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>*Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius.</p> <p>*Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>*Identify how sounds are made, associating some of them with something vibrating.</p> <p>*Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>*Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>*Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>*Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>*Identify the different types of teeth in humans and their simple functions.</p> <p>*Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>*Identify common appliances that run on electricity.</p> <p>*Construct simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>*Identify whether or not a lamp will light in a simple circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>*Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>* Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>*To recognise that living things can be grouped in a variety of ways.</p> <p>*To explore and use classification keys to help group.</p> <p>*Identify and name a variety of living things in the environment.</p> <p>*Recognise that environments can change and this can sometimes pose dangers to living things.</p>	

Curriculum Progression Map - Science



4

Children will have opportunities to complete 5 different types of scientific enquiry.

<p>Working Scientifically</p>       	<p><i>*Make careful observations and identify similarities and differences.</i></p> <p><i>* make predictions using straightforward evidence and observations.</i></p> <p><i>* use a thermometer to take accurate measurements.</i></p> <p><i>* interpret what they have observed using own scientific knowledge.</i></p> <p><i>*set up tests to answer questions.</i></p> <p><i>* record using diagrams what they know about the water system.</i></p>	<p><i>* observe vibrations which cause sound.</i></p> <p><i>*Measure distance to nearest cm.</i></p> <p><i>*Set up tests to create the best string phone.</i></p> <p><i>*Record results in a table and spot patterns. Record sound measured in DB in a table.</i></p> <p><i>*Produce line graph.</i></p> <p><i>*Evaluate musical instrument based on sound and knowledge of pitch.</i></p> <p><i>*Observe how sounds are created.</i></p> <p><i>*Set up own tests and record results.</i></p> <p><i>*Set up own tests based on animal ear shapes or this could be asking questions.</i></p>	<p><i>*Observe the similarities and differences in human/animal teeth.</i></p> <p><i>*Interpret and present learning of digestive system through models.</i></p> <p><i>*Set up own test to see the effects of different liquids on tooth decay.</i></p> <p><i>*Make predictions based on sci Knowledge of liquids to decay teeth</i></p> <p><i>*record results in a table and bar graph.</i></p> <p><i>* ask questions to find out what animals eat.</i></p> <p><i>*Evaluate learning</i></p>	<p><i>*record work using labelled drawings</i></p> <p><i>* make predictions using scientific language</i></p> <p><i>* interpret results using scientific knowledge</i></p> <p><i>*identify the properties of different Materials.</i></p> <p><i>* pose scientific questions</i></p> <p><i>*record how electricity can help us</i></p>	<p><i>*Observe characteristics of living things</i></p> <p><i>*Identify similarities and differences in characteristics.</i></p> <p><i>* gather and record data in a table.</i></p> <p><i>* record observations from Scientific enquiry enquiry.</i></p> <p><i>* ask relevant questions to classify Things</i></p> <p><i>* use evidence to answer questions and present findings.</i></p> <p><i>*Record findings about endangered species</i></p>

Curriculum Progression Map - Science



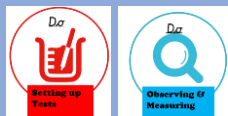
		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
5	Unit	Earth & Space	Forces	Animals including Humans	Properties & Changes of Materials	Properties & Changes of Materials	Living Things & Their Habitats	
	Knowledge	<p>*Describe the movement of the Earth and other planets, relative to the sun in the solar system.</p> <p>*Describe the movement of the moon relative to the Earth. Describe the Sun, Earth and Moon as approximate spherical bodies.</p> <p>*Use Earth rotation to explain day and night due to the apparent movement of the sun across the sky.</p>	<p>*Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>*Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>*Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p>	<p>*Describe the changes as humans develop from birth to old age.</p>	<p>*Compare and group together everyday materials based on their properties, including hardness, solubility, transparency, conductivity and response to magnets.</p> <p>*Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</p> <p>*Use knowledge of solid, liquid and gas to decide how mixtures might be separated including through filtering, sieving and evaporation.</p> <p>*Give reasons based on evidence from comparative tests for the particular uses of everyday materials including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>*Explain that some changes result in the formation of new materials and this kind of change is not usually reversible including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p>*Describe the differences in life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>*Describe the life process of reproduction in some plants and animals.</p>		
		<p>Children will have opportunities to complete 5 different types of scientific enquiry.</p>						

Curriculum Progression Map - Science



5

Working Scientifically



**Raise questions and suggest reasons for similarities and differences.*

**Use measurement to represent planets in a model*

**Record my work using scientific diagrams and labels.*

**Use a model to discuss, communicate and justify scientific ideas using scientific vocabulary.*

** Present results in a variety of ways to answer a question.*

**Plan own test and control variables.*

**Observe different forces and measure the force using different equipment.*

**Set up a test to change the speed of a pendulum.*

**Interpret and communicate results from data using scientific vocabulary*

**Plan different types of enquiry to answer a question.*

**Take measurements using a range of scientific equipment.*

**Record results in a table.*

**Make predictions on gestation periods.*

**Record data using scatter graphs*

**Make careful observations as we grow older*

**Record learning using scientific diagrams.*

**Interpret findings to help others.*

**Evaluate my learning*

**Evaluate test.*

**Make predictions about which materials are soluble and insoluble.*

**Use scientific language and illustrations to discuss, communicate and justify ideas.*

**Make careful observations when heating solutions.*

**Plan tests based on how materials react with one another.*

**Record results in a table*

**Use oral and written forms to report conclusions.*

** Present data in a variety of different ways to help answer my questions.*

**Ask relevant questions and find ways to answer them.*

**Make accurate and relevant predictions.*

**Can suggest next steps based on the weakest aspects of the enquiry.*

**Record results using a bar chart and explain the results.*

Curriculum Progression Map - Science



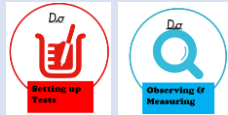
		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
6	Unit	Light	Evolution & Inheritance	Animals including Humans	Animals including Humans	Electricity	Living Things & Their Habitats
	Knowledge	<p>*Recognise that light appears to travel in straight lines.</p> <p>*Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>*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> <p>*Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>	<p>*Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>*Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>*Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>*Identify the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood.</p> <p>*Describe the ways in which nutrients and water are transported within animals including humans.</p> <p>*Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p>	<p>*To 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.</p> <p>*To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>*To use recognised symbols when representing a simple circuit in a diagram</p>	<p>* Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences including micro-organisms, plants and animals.</p> <p>*Give reasons for classifying plants and animals based on specific characteristics.</p>	
<p>Children will have opportunities to complete 5 different types of scientific enquiry.</p>							

Curriculum Progression Map - Science



6

Working Scientifically



**Use scientific models and labelled diagrams.*

**Use diagrams to support explanation.*

**Make careful observations.*

**Draw diagrams with accuracy*

**Make predictions based on Scientific enquiry.*

**Evaluate using scientific language*

**Use ideas from secondary sources to explain ideas.*

**Raise questions about a range of phenomena.*

**Develop predictions which can be found in natural environments.*

**Use scientific reasons to make overall comparisons.*

**Use scientific diagrams to explain abstract concepts.*

**Describe and evaluate my own and other people's scientific ideas*

**Use scientific diagrams*

**Take accurate measurements*

**Use labelled diagrams to explain*

**Use models to explain my thinking*

**Plan investigation and record results.*

**Observe what happens using a model*

**Answer questions by investigating*

**Take accurate measurements*

**Develop predictions*

** Present results in line graph.*

**Use diagrams to support explanation*

**Scientific diagrams.*

**Record in a table*

**Answer own questions. Use classification keys.*

**Raise questions about animals to group.*

**Observe and raise questions.*

**Predict how microorganisms will decay food*

**Evaluate effects of yeast.*