











## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

**SEND:** Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

<b><u>NURSERY</u></b>	Seasonal changes 	Everyday Materials 	Animals including humans 	Living things: habitats 	Plants 
Lesson Foci	<ul style="list-style-type: none"> <li>Signs of Autumn</li> <li>Signs of Winter</li> <li>Signs of Summer</li> </ul>	<ul style="list-style-type: none"> <li>Combining Materials (making pancakes)</li> <li>Floating and Sinking</li> </ul>	<ul style="list-style-type: none"> <li>How I grow (human lifecycle 3 stages; baby, child, adult)</li> <li>Lifecycle of a ladybird</li> </ul>	<ul style="list-style-type: none"> <li>Classifying animals (land / sea)</li> <li>Listening Walk (natural / human)</li> </ul>	<ul style="list-style-type: none"> <li>Planting beans</li> <li>Vegetables (above and below the ground)</li> </ul>
EYFS Framework	<p><i>Development Matters: UTW (3-4 years)</i></p> <ul style="list-style-type: none"> <li>Talk about what they see, using a wide vocabulary.</li> <li>Use all their senses in hands-on exploration of natural materials.</li> </ul>	<p><i>Development Matters: UTW (3-4 years)</i></p> <ul style="list-style-type: none"> <li>Explore collections of materials with similar and different properties.</li> <li>Talk about the differences between materials and changes they notice.</li> <li>Explore and talk about different forces they can feel.</li> </ul>	<p><i>Development Matters: UTW (3-4 years)</i></p> <ul style="list-style-type: none"> <li>Understand the key features of the life cycle of an animal/insect.</li> <li>Begin to make sense of their own life-story.</li> <li>Talk about what they see, using a wide vocabulary.</li> </ul>	<p><i>Development Matters: UTW (3-4 years)</i></p> <ul style="list-style-type: none"> <li>Know that there are different countries in the world and talk about the differences they have experienced or seen in photos.</li> <li>Talk about what they see, using a wide vocabulary.</li> </ul>	<p><i>Development Matters: UTW (3-4 years)</i></p> <ul style="list-style-type: none"> <li>Understand the key features of the life cycle of a plant.</li> <li>Plant seeds and care for growing plants.</li> <li>Begin to understand the need to respect and care for the natural environment and all living things.</li> </ul>
Subject Content	Seasonal changes are explored during outdoor learning related to each time of year. Enhancements are established in the classroom's Discovery area for children to access independently.	Children will complete a small experiment to see what happens when materials (dry and wet) are combined to create pancakes. Pupils will predict and observe which objects float and which sink.	Comparison between babies and children now. What can babies not do that we can do now.  Sequencing a ladybird's lifecycle from egg to adult ladybird.	Sorting animals between land or sea habitats (including forest, desert, ocean).  Listening and sorting sounds between natural or human-made.	Planting beans and tending them until they shoot and grow into plants.  Observing and sorting vegetables that grow above the ground (cucumber, pepper) and below ground (carrot, potato etc)
Skills	Observation, Comparison, Exploration.	Observation, Prediction, Experimentation.	Observation, Sequencing, Comparison.	Observation, Listening, Comparison, Sorting, Grouping	Observation, Sequencing, Experimentation, Sorting, Grouping
Key Knowledge	Different times of year have different seasons and related weathers/natural processes.	Different materials can be combined to create new ones. Some materials float and some sink.	All living creatures follow a lifecycle and how these are ordered.	Different places are home to different animals (land / sea) and why. Some sounds are human-made and some are natural in our environment.	Plants grow from seeds. Humans care for seeds for them to grow. Different vegetables grow from seeds/bulbs and grow either above or below the ground.
SEND Knowledge	Name/identify at least two of the four seasons.	Name/identify two objects (materials) that float or sink.	Order two parts of a lifecycle; young (baby/egg) and old (adult)	Sort into two categories; land/sea, human/nature	Order two parts of a lifecycle; young (seed/bulb) and old (flower/plant)
New Vocabulary	Season; Autumn, Winter, Spring, Summer, change.	Mix, dry, wet, ingredients, float, sink, test, guess	Grow, change, life cycle, sequence	Sort, group, land, sea, forest, desert, ocean, sound, natural, people	Bean, seed, plant, shoot, leaf, stem, roots, vegetable, ground, vine
Additional Information for Teachers	<i>These lessons will need to be completed near the end of each Season's term to ensure full immersion in the natural process.</i>	<i>Pancakes: A risk assessment is available on the Staff system.  Floating/Sinking is an exploratory session. Allow children time to work independently.</i>	<i>How I grow is taught near the start of Autumn Nursery. Ladybird lifecycle is taught near the end of Summer. Real ladybirds can be ordered to be observed.</i>	<i>Classifying animals relates to if the animal lives on land or in the sea. Note that this may be enough for some pupils rather than types of habitat listed above. Human-made sounds means sounds people make such as traffic, building work etc.</i>	<i>Tomatoes grow above ground on vines also – please note this is a <u>fruit</u> and this misconception may need addressing.</i>

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

**SEND:** Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

<b>RECEPTION</b>	Seasonal changes 	Everyday Materials 	Animals including humans 	Living things: habitats 	Plants 
<b>Lesson Foci</b>	<ul style="list-style-type: none"> <li>• Autumn treasures</li> <li>• Whatever the weather</li> <li>• Winter wildlife</li> <li>• Springtime magic</li> <li>• Summer senses</li> </ul>	<ul style="list-style-type: none"> <li>• Sandcastle magic</li> <li>• Exploring sounds; loud and quiet</li> <li>• Testing materials; waterproof or absorbent</li> <li>• Exploring light and shadow</li> <li>• Exploring melting</li> </ul>	<ul style="list-style-type: none"> <li>• How I grow (human lifecycle 5 steps; baby, toddler, child, teenager, adult)</li> <li>• Duck lifecycle</li> <li>• Chicken lifecycle</li> <li>• Caterpillar lifecycle</li> </ul>	<ul style="list-style-type: none"> <li>• Farm animals and their homes</li> <li>• Minibeast habitats (field-work)</li> <li>• Animals and habitats; ocean, desert, forest, polar.</li> </ul>	<ul style="list-style-type: none"> <li>• Lifecycle of a daffodil</li> <li>• Planting vegetable seeds and bulbs</li> <li>• Fruits and vegetables (differences and sorting)</li> </ul>
<b>EYFS Framework</b>	<p><i>Development Matters UTW Rec:</i> Understand the effect of changing seasons on the natural world around them.</p> <p><i>Early Learning Goal: UTW The World:</i> Understand some important processes and changes in the natural world around them, including the seasons.</p>	<p><i>Development Matters UTW Rec:</i> Explore the natural world around them. Describe what they see, hear and feel whilst outside.</p> <p><i>Early Learning Goal: UTW The World:</i> Understand some important processes and changes in the natural world around them, including changing states of matter.</p>	<p><i>Development Matters UTW Rec:</i> Explore the natural world around them. Describe what they see, hear and feel whilst outside.</p> <p><i>Early Learning Goal: UTW The World:</i> Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p><i>Development Matters UTW Rec:</i> Recognise some environments that are different to the one in which they live.</p> <p><i>Early Learning Goal: UTW The World:</i> Know some similarities and differences between the natural world around them and contrasting environments.</p>	<p><i>Development Matters UTW Rec:</i> Explore the natural world around them. Describe what they see, hear and feel whilst outside.</p> <p><i>Early Learning Goal: UTW The World:</i> Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>
<b>Subject Content</b>	<p>During each half term pupils will look closely at each season and its associated weather, wildlife, and natural processes (leaves changing colour, shoots appearing etc)</p>	<p>Pupils will explore scientific concepts by undertaking practical field-work to explore how sound can be changed, light and shadows work, how ice melts. They will also look at a scientific method for making a sandcastle by mixing a sand/water solution as well as test materials to see if they are waterproof or not.</p>	<p>Pupils will extend their learning from YN and add in additional stages to a human lifecycle. Building on this, they will look at the lifecycle of a duck, and finally review the lifecycle of a chicken and a caterpillar, drawing on similarities or differences.</p>	<p>Pupils will look at different categories of animals; farm, wild, minibeast and their corresponding habitats. Pupils will explore minibeasts through field-work and by seeking them out in the forest area. Pupils will be introduced to contrasting environments; polar, desert, ocean, forest.</p>	<p>By revisiting their work on lifecycles, pupils will learn and sequence the cycle of a familiar plant such as a daffodil. During forest school the children will plant seasonal seeds and bulbs and monitor these as they grow and develop. Pupils will work across the curriculum by sorting fruit and vegetables in DT using classification methods.</p>
<b>Skills</b>	Observation, Comparison, Exploration, Field-work	Observation, Prediction, Experimentation.	Sequencing, Comparison, Observation	Sorting, Grouping, Field-work, Investigation	Observation, Sequencing, Monitoring, Sorting, Grouping
<b>Key Knowledge</b>	Observing how the natural world transforms through the year and recognising how these changes affect the weather, plants and animals.	Encouraging curiosity, the children explore the natural world through <u>hands-on investigation</u> , discovering how processes and changes occur around us.	Exploring animals familiar or unfamiliar, identifying similarities and differences and sorting animals into groups. Recognising how all animal life is cyclical – including humans.	Exploring animals big and small, local and further afield, identifying similarities and differences between their habitats.	Exploring plants, children will plant seeds, sort plants (fruit and vegetables) and learn to care for our planet. They will also recognise how plants, like animals, have a lifecycle.
<b>SEND Knowledge</b>	Match the 4 seasons with likely weathers. (e.g. sun to Summer)	Sort between two criteria; loud/quiet, light/dark, melt/freeze.	Order three parts of a lifecycle; baby/child/adult, egg/young/adult.	Match 4 different animals with 4 different habitats. (e.g. cow to farm)	Order three parts of a lifecycle; seed/sapling/plant or flower.







## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

Retrieval / Prior Learning	Pupils in YN will have looked at seasons; opportunity for pupils to name the seasons.	Pupils in YN will have explored floating and sinking, during waterproof unit this would be place to retrieve this knowledge.	Pupils in YN will have looked at differences between themselves now and as babies. They will have sequenced the lifecycle of a ladybird so will be familiar with this concept.	Pupils in YN will have looked at and sorted animals between the habitats of land and sea.	Pupils in YN will have planted beans and watched them grow. They will have also looked at where vegetables grow (above/below the ground).
New Vocabulary <small>(REMEMBER TO RECALL PREVIOUS VOCAB)</small>					
Additional Information for Teachers	<i>These lessons will need to be completed near the end of each Season's term to ensure full immersion in the natural process.</i>	<i>Melting: freeze items ahead of time for them to melt successfully. Exploring light and shadow is taught in Summer when the sun is up the longest.</i>	<i>How I grow is taught near the start of Autumn Reception. Caterpillar lifecycle is taught near the end of Summer. Real caterpillars can be ordered to be observed.</i>	<i>During the Summer 2 term YR pupils will visit the farm.</i>	<i>Daffodils will be planted in Spring 1 to allow time to grow.</i>

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

<u>YEAR 1</u>	Forces and Space: Seasonal Changes 	Materials: Everyday Materials 	Animals: Sensitive Bodies 	Animals: Comparing Animals 	Plants: Introduction to Plants 	Making Connections 
National Curriculum Objectives	<p>To know the name and order of the four seasons; spring, summer, autumn and winter. To know that it is unsafe to look directly at the Sun.</p> <p>To know weather associated with the four seasons and how it changes (in the UK). To understand that day length varies across the four seasons, with fewer daylight hours in the winter and more in the summer.</p>	<p>To know that objects are items or things. To know that a material is what an object is made from. To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>To know that property refers to how a material can be described. To describe the physical properties of a variety of everyday materials. To understand that materials can be grouped based on their physical properties.</p>	<p>To know a variety of common animals (including fish, amphibians, reptiles, birds and mammals).</p> <p>To know the main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns/tusks, shell)</p> <p>To know key parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth).</p> <p>To know the five main senses: sight, smell, hearing, taste and touch.</p> <p>To know that eyes are used for sight, the nose is used for smell, ears are used for hearing, the tongue and mouth are used for taste and the skin is used for touch.</p> <p>To know that a carnivore is an animal that eats other animals and to give some examples.</p> <p>To know that a herbivore is an animal that eats only plants and to give some examples.</p> <p>To know that an omnivore is an animal that eats both animals and plants, and to give some examples.</p>	<p>To know a variety of common animals (including fish, amphibians, reptiles, birds and mammals).</p> <p>To know the main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns/tusks, shell)</p> <p>To know key parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth). To know the five main senses: sight, smell, hearing, taste and touch. To know that eyes are used for sight, the nose is used for smell, ears are used for hearing, the tongue and mouth are used for taste and the skin is used for touch.</p> <p>To know that a carnivore is an animal that eats other animals and to give some examples. To know that a herbivore is an animal that eats only plants and to give some examples. To know that an omnivore is an animal that eats both animals and plants, and to give some examples.</p>	<p>To know a variety of common plants, and how they differ.</p> <p>To know that deciduous trees lose their leaves seasonally, but evergreen trees do not. To know the basic structure (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem) of a variety of common plants, including flowering plants and trees.</p> <p>To begin to understand how plants grow and change over time.</p>	<p>Pupils who are <b>secure</b> will be able to:</p> <p>Identify the typical weather associated with each season.</p> <p>Describe animal features.</p> <p>Recognise similarities and differences between animals in the same animal group.</p> <p>Build an animal home with natural materials.</p> <p>Explain the difference between carnivores, herbivores and omnivores.</p> <p>When working scientifically, pupils who are <b>secure</b> will be able to:</p> <p>Carry out online research to find answers to questions.</p> <p>Measure length in centimetres.</p> <p>Suggest how to carry out a waterproof test.</p> <p>Begin to recognise if a test is fair.</p> <p>Use data to answer questions.</p> <p>Recognise patterns in data.</p> <p>Group birds according to their diet.</p>
Subject Content	Reflecting on their own experiences, children learn about the four seasons and the weather associated	Identifying and naming objects and the materials from which they are made. Pupils compare and group	Identifying and naming body parts and conducting practical activities with the	Comparing and grouping animals based on similarities and differences	Venturing outside, children identify and name a variety of common wild and garden plants,	Using picture books as inspiration, children broaden their understanding of plants

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

	with each. Pupils explore how seasonal changes affect trees, daylight hours and clothing choices. They plan and carry out their own weather reports, considering the knowledge required for this job.	materials based on how they look and feel and carry out tests to sort materials based on unobservable properties.	senses to spot patterns and answer questions.	in their characteristics, physical features and diets.	including deciduous and evergreen trees. They use magnifying glasses to observe and name plant parts and sort leaves into groups based on appearance. Pupils investigate if beans need water for growth and identify edible plant parts.	and animals. They gather and record data to find out if taller trees have larger trunks and recap the features of different animal groups. They build waterproof animal homes with natural materials and sort birds according to their diet.
<b>Subject Skills</b>	<p>To raise questions about observations.</p> <p>To predict an outcome using their own experiences.</p> <p>To observe and gather data and to make comparisons between seasons.</p>	<p>Responding to suggestions of how to answer questions. Beginning to recognise how to make a test fair.</p> <p>Recording results using simple observations.</p>	<p><b>Observing</b> Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Measuring</b> Using non-standard units to measure and compare.</p> <p><b>Recording (diagrams)</b> Drawing and labelling simple diagrams.</p> <p><b>Recording (tables)</b> Using a prepared table to record results including numbers and simple observations.</p> <p><b>Grouping and classifying</b> Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b> Using their results to answer simple questions.</p>	<p><b>Posing questions</b> Recognising there are different types of enquiry (ways to answer a question).</p> <p>Responding to suggestions on how to answer questions.</p> <p><b>Planning</b> Deciding if observations are suitable.</p> <p><b>Observing</b> Using their senses to describe what they notice.</p> <p><b>Measuring (quantitative data)</b> Reading simple numbered scales.</p> <p><b>Researching</b> Gathering specific information from one simplified, specified source.</p> <p><b>Recording</b> Drawing and labelling simple diagrams.</p> <p><b>Grouping and classifying</b> Grouping based on visible characteristics.</p> <p><b>Graphing</b> Representing data using pictograms and block charts.</p> <p><b>Analysing and drawing conclusions</b></p>	<p><b>Posing questions</b> Exploring the world around them and raising their own simple questions.</p> <p>Recognising there are different types of enquiry (ways to answer a question).</p> <p>Responding to suggestions on how to answer questions.</p> <p><b>Planning</b> Ordering a simple method.</p> <p><b>Predicting</b> Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing</b> Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Measuring (quantitative data)</b> Using non-standard units to measure and compare.</p> <p><b>Researching</b> Gathering specific information from one simplified, specified source.</p> <p><b>Recording (diagrams)</b> Drawing and labelling simple diagrams.</p> <p><b>Recording (tables)</b></p>	<p><b>Posing questions</b> Exploring the world around them and raising their own simple questions.</p> <p>Recognising there are different types of enquiry (ways to answer a question).</p> <p>Responding to suggestions on how to answer questions.</p> <p><b>Planning</b> Beginning to recognise whether a planned test is fair.</p> <p>With support, deciding if suggested observations are suitable.</p> <p><b>Predicting</b> Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing (qualitative data)</b> Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Measuring (quantitative data)</b> Beginning to use standard units and read simple scales to measure and compare.</p>

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

				Using their results to answer simple questions.	Using a prepared table to record results including ,numbers, simple observations.  <b>Grouping and classifying</b> Grouping based on visible characteristics. <b>Analysing and drawing conclusions</b> Using their results to answer simple questions. Beginning to recognise when results or observations do not match their predictions.	Beginning to use simple measuring equipment to make approximate measurements. <b>Researching</b> Gathering specific information from one simplified, specified source. <b>Recording (tables)</b> Using a prepared table to record results including: numbers; simple observations. <b>Grouping and classifying</b> Grouping based on visible characteristics. <b>Analysing and drawing conclusions</b> Using their results to answer simple questions. Beginning to recognise when results or observations do not match their predictions.
Key Knowledge	To know the name and order of the four seasons; spring, summer, autumn and winter. To know that it is unsafe to look directly at the Sun. To know weather associated with the four seasons and how it changes (in the UK). To understand that day length varies across the four seasons, with fewer daylight hours in the winter and more in the summer.	That objects are items or things. That a material is what an object is made from. A variety of everyday materials, including wood, plastic, glass, metal, water and rock. That property refers to how a material can be described. Materials can be grouped based on their physical properties.	The key parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth). The skin is used for touch, the tongue is used for taste, the nose is used for smell, the eyes are used for sight and the ears are used for hearing. The five main senses: sight, smell, hearing, taste and touch.	A variety of common animals (including fish, amphibians, reptiles, birds and mammals). The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns, tusks and shell). A carnivore is an animal that eats other animals and to give some examples. A herbivore is an animal that eats only plants and to give some examples. An omnivore is an animal that eats both animals and	Identify and name a variety of common plants and how they differ. That deciduous trees lose their leaves seasonally but evergreen trees do not. The basic structure, including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches and stem, of a variety of common plants, including flowering plants and trees.  To begin to understand how plants grow and change over time. <b>Science in action</b>	This unit revises the following key knowledge from the previous Year 1 units: <b>Plants</b> To know: The basic structure, including leaves, flowers (blossom), fruit, roots, bulb, seed, trunk, branches and stem, of a variety of common plants, including flowering plants and trees.  How plants grow and change over time. <b>Animals, including humans</b>

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

**SEND:** Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

				<p>plants and to give some examples. About famous scientists throughout history.</p>	<p>To know: About famous scientists throughout history. About the work of modern-day scientists. There are spiritual, moral, social and cultural links with Science.</p>	<p>To know: A variety of common animals (including fish, amphibians, reptiles, birds and mammals). The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns/tusks and shell). The diets of carnivores, herbivores and omnivores and give examples. <b>Everyday materials</b> To know: A variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Property refers to how a material can be described. The physical properties of a variety of everyday materials. <b>Seasonal changes</b> To know: The name and order of the four seasons: spring, summer, autumn and winter. The weather associated with the four seasons and how it changes (in the UK). <b>Science in action</b> To know about a range of jobs and careers that use scientific knowledge and methods.</p>
SEND Knowledge	<p>To name the 4 seasons To know 1 weather for each season To know daylight is longer in Summer and shorter in Winter.</p>	<p>To name some common materials; wood, metal, plastic, fabric. To match these materials to real objects.</p>	<p>To match the parts of the body with their associated 5 main senses.</p>	<p>To identify an animal for each group; bird, mammal, amphibian, fish, reptile.</p>	<p>To know and label the main parts of a plant; stem, flower, roots, leaves. To sequence a simple plant lifecycle; seed/bulb, shoot, sapling, plant, flower</p>	<p><i>Consolidation of previous units Key Knowledge</i></p>







## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

Retrieval / Prior Learning	Changes in the environment during different seasons	Changes during water to ice and ice to water transitions. The effects of heat and cold on water and ice.	Where animals live and why. Lifecycles	Omnivore, herbivore and carnivore.		
New Vocabulary  (REMEMBER TO RECALL PREVIOUS VOCAB)	conclusion data deciduous tree evergreen tree pictogram predict record season sunrise sunset symbol temperature thermometer weather	absorbent data fabric glass group material metal object opaque plastic property rock tough transparent waterproof wood	TBC	TBC	TBC	TBC
Additional Information for Teachers	TBC	Text link: Cinderella	TBC	Text link: The bad tempered ladybird	Text link: Jasper's beanstalk	TBC

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

<u>YEAR 2</u>	Living Things: Habitats 	Living Things: Micro Habitats 	Materials: Uses of Everyday Materials 	Animals: Lifecycles and Health 	Plants: Plant Growth 	Making Connections 
National Curriculum Objectives	<p>To begin to understand some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition. To know the difference between things that are living, dead, and things that have never been alive, using some of the life processes.</p> <p>To name a variety of habitats, including woodland, ocean, rainforest and seashore. To know that a habitat is the environment where an animal or plant lives/ grows, because it provides what they need to survive. To know that a micro-habitat is a very small habitat (e.g. stones, logs and leaf litter). To know that living things depend upon each other (e.g. for food, shelter.) To understand that a food chain can be used to show how animals obtain food from eating either plants and/or other animals. To know a variety of plants and animals and describe some differences.</p>	<p>To begin to understand some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition. To know the difference between things that are living, dead, and things that have never been alive, using some of the life processes.</p> <p>To name a variety of habitats, including woodland, ocean, rainforest and seashore. To know that a habitat is the environment where an animal or plant lives/ grows, because it provides what they need to survive. To know that a micro-habitat is a very small habitat (e.g. stones, logs and leaf litter). To know that living things depend upon each other (e.g. for food, shelter.) To understand that a food chain can be used to show how animals obtain food from eating either plants and/or other animals. To know a variety of plants and animals and describe some differences.</p>	<p>To know why objects are made from particular materials and to give examples of their suitability. To know that one material can be used for a range of purposes (and to give examples.) To know that different materials can be used for the same purpose (and to give examples.) To know why certain materials are unsuitable for particular objects.</p> <p>To know that a force must be applied to change the shape of a solid object. To know that solid objects can be squashed, bent, twisted or stretched. To know that different solid objects may take a different amount of force to change shape</p>	<p>To understand how living things change, and that animals have offspring that grow into adults.</p> <p>To know which offspring comes from which parent animal.</p> <p>To know the stages in some animal life cycles.</p> <p>To know that animals, including humans, need water, food and air to survive.</p> <p>To understand the importance of exercise, a balanced diet and hygiene for humans.</p>	<p>To know that seeds and bulbs grow into seedlings by producing roots and shoots.</p> <p>To know that seedlings grow into mature plants by developing parts, that may include stems/trunks, leaves, flowers and fruits.</p> <p>To know that seeds need water to germinate.</p> <p>To know that plants need water, light and a suitable temperature for growth and health.</p>	<p>Pupils who are <b>secure</b> will be able to:</p> <p>Explain the terms reduce, reuse and recycle.</p> <p>Describe how paper is made.</p> <p>Select suitable materials for a plant pot.</p> <p>Describe good growth conditions for seeds.</p> <p>Make a plant pot from eco-friendly materials.</p> <p>Identify non-living materials to decorate a plant pot.</p> <p>When working scientifically, pupils who are <b>secure</b> will be able to:</p> <p>Use an online source to find answers to questions.</p> <p>Identify and classify different types of material.</p> <p>Classify natural and human-made materials.</p> <p>Carry out tests to assess the properties of different materials.</p> <p>Use observations to answer questions.</p> <p>Draw conclusions about the suitability of materials.</p>
Subject Content	Considering the life processes that all living things have in common, pupils classify objects into alive, was once	Building on their knowledge of habitats, pupils discover that microhabitats provide	Recognising that materials are suitable for specific purposes and understanding their	Identifying and describing the different stages of animal life cycles, including that of humans, recording	Carrying out comparative tests, pupils discover the conditions required for seed germination. They use	Children identify ways to reduce, reuse and recycle and draw on their knowledge of properties to

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

**SEND:** Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

	<p>alive or has never been alive. They name plants and animals in a range of habitats and recognise how living things depend on each other. Pupils create food chains to show the sequence that living things eat each other.</p>	<p>what minibeasts need to survive. They learn that scientists use a range of skills to answer questions and plan and carry out an experiment to find out the conditions woodlice prefer.</p>	<p>properties, exploring how actions such as stretching and bending affect the shape of solid objects and comparing the suitability of materials by carrying out tests and recording data.</p>	<p>and interpreting data to show growth in humans and explaining how to keep healthy.</p>	<p>rulers to measure stem height and record data in a results table. Through practical investigation, pupils learn that plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>invent unusual and creative uses for old objects. They discover some natural materials are derived from plants and look at the processes involved in making paper. Using their observational skills, they conduct simple tests to choose the most suitable material for making homemade plant pots, venturing outdoors to find natural materials to decorate them</p>
<p>Subject Skills</p>	<p>To ask simple questions, recognising that they can be answered in different ways. To classify objects into groups. To gather and record data in a simple table. To carry out research to find answers to questions.</p>	<p>Recognising that there are different types of enquiry. Using results to answer simple questions. Organising questions to create simple classification keys. Using results to answer simple questions.</p>	<p><b>Posing questions</b> Recognising there are different types of enquiry. <b>Measuring</b> Using non-standard units to measure and compare. <b>Recording</b> Recording results using numbers. <b>Graphing</b> Representing data using block graphs. <b>Analysing and drawing conclusions</b> Using results to answer simple questions.</p>	<p><b>Posing questions</b> Recognising there are different types of enquiry. <b>Measuring</b> Using simple measuring equipment. <b>Recording</b> Recording results using numbers. <b>Analysing and drawing conclusions</b> Using results to answer simple questions. <b>Researching</b> Gathering information from a secondary source.</p>	<p><b>Posing questions</b> Exploring the world around them and raising their own simple questions. Recognising there are different types of enquiry (ways to answer a question). Responding to suggestions on how to answer questions. <b>Planning</b> Beginning to recognise whether a test is fair. With support, deciding if suggested observations are suitable. <b>Predicting</b> Suggesting what might happen, often justifying it with personal experience. <b>Observing</b> Using their senses to describe, in simple terms, what they notice or what has changed. <b>Measuring (quantitative data)</b></p>	<p><b>Posing questions</b> Exploring the world around them and raising their own simple questions. Recognising there are different types of enquiry (ways to answer a question). Responding to suggestions on how to answer questions. <b>Planning</b> Beginning to recognise whether a planned test is fair. With support, deciding if suggested observations are suitable. <b>Predicting</b> Suggesting what might happen, often justifying it with personal experience. <b>Observing (qualitative data)</b> Using their senses to describe, in simple terms, what they notice or what has changed. <b>Researching</b></p>

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

**SEND:** Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

					<p>Beginning to use standard units to measure and compare.</p> <p>Beginning to use simple measuring equipment to make approximate measurements.</p> <p>Reading simple numbered scales.</p> <p><b>Recording (diagrams)</b> Drawing and labelling simple diagrams.</p> <p><b>Recording (tables)</b> Using a prepared table to record results including: numbers; simple observations.</p> <p><b>Analysing and drawing conclusions</b> Using their results to answer simple questions.</p> <p>Beginning to recognise when results or observations do not match their predictions.</p>	<p>Gathering specific information from one simplified, specified source.</p> <p><b>Recording (tables)</b> Using a prepared table to record results including: numbers; simple observations.</p> <p><b>Grouping and classifying</b> Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b> Using their results to answer simple questions.</p> <p>Beginning to recognise when results or observations do not match their predictions.</p>
Key Knowledge	<p>To begin to understand some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition.</p> <p>To know the difference between things that are living, dead, and things that have never been alive, using some of the life processes.</p> <p>To know that a habitat is the environment where an animal or plant lives/grows because it provides what they need to survive.</p>	<p>A variety of plants and animals and describe some differences.</p> <p>That a habitat is the environment where an animal or plant lives/grows, because it provides what they need to survive.</p> <p>That a microhabitat is a very small habitat (e.g. under stones, logs and leaf litter).</p> <p>That living things depend upon each other (e.g. for food, shelter).</p>	<p>That objects are made from materials that suit their uses.</p> <p>That one material can be used for a range of purposes.</p> <p>That different materials can be used for the same purpose.</p> <p>That a push or pull must be applied to change the shape of a solid object.</p> <p>That solid objects can be stretched, twisted, bent or stretched.</p> <p>That different solid objects may take different</p>	<p>That baby, toddler, child, teenager and adult are human life cycle stages.</p> <p>There are differences in the life cycles of different animals.</p> <p>The basic survival needs of animals are air, water and food.</p> <p>Washing our hands and changing our clothes are ways to keep clean.</p>	<p>To know: Seeds and bulbs grow into seedlings by producing roots and shoots.</p> <p>Seedlings grow into mature plants by developing parts such as roots, stems, leaves and flowers.</p> <p>Seeds need water and warmth to germinate.</p> <p>Plants need water, light and a suitable temperature for growth and health.</p> <p><b>Science in action</b></p> <p>To know: A range of jobs and careers that use scientific knowledge and methods.</p>	<p><b>Plants</b></p> <p>To know: Seeds and bulbs grow into seedlings by producing roots and shoots.</p> <p>Seeds need water and warmth to germinate.</p> <p>Plants need water, light and a suitable temperature for growth and health.</p> <p><b>Living things and their habitats</b></p> <p>To know: Some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition.</p>

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

**SEND:** Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

			amounts of force to change shape.		There are spiritual, moral, social and cultural links with Science	<p>The difference between things that are living, dead and things that have never been alive, using some of the life processes.</p> <p><b>Materials</b> To know: Why objects are made from particular materials and to give examples of their suitability. One material can be used for a range of purposes (and to give examples.) Different materials can be used for the same purpose (and to give examples.) Why certain materials are unsuitable for particular objects. Solid objects can be squashed, bent, twisted or stretched.</p> <p><b>Science in action</b> To know: About famous scientists throughout history. About the work of modern-day scientists</p>
SEND Knowledge	To sort between something that is alive, dead, or never been alive.	To recognise different habitats including microhabitats.	To understand that materials can be changed through action (twisting, bending, stretching, squashing)	To know that all animals and humans need the same things; water, air, food.	To carry out the steps needed for a simple experiment.	To know the basic needs of a plant; water, air, light, warmth.
Retrieval/ Prior Learning	To name the 4 seasons and weather associated with them.	Animal groups,	The material is what an item is made from and know some properties of the material.	<b>TBC</b>	<b>TBC</b>	<b>TBC</b>
New Vocabulary	Dusk dawn	microhabitat		bacteria		

## SUBJECT PROGRESSION OF KNOWLEDGE AND SKILLS - NURSERY TO YEAR 2

SEND: Teaching and learning in Science will be suitably adapted to ensure that all learners, including those with SEND, can access and engage with key knowledge at their appropriate age or stage of development.

(REMEMBER TO RECALL PREVIOUS VOCAB)						
Additional Information for Teachers	TBC	TBC	TBC	TBC	TBC	TBC