

Year 1 – Plants

National Curriculum Objectives	Sticky Knowledge	Vocabulary	
<ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants. Identify and name the roots, trunk, branches and leaves of trees. 	<ul style="list-style-type: none"> Plants grow from seeds/bulbs Plants need light and water to grow and survive Plants are important We can eat lots of plants 	Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen	
		Key Scientists	Linked Texts
		Beatrix Potter (Author & Botanist)	<p><i>Tree: Seasons Come, Seasons Go</i> (Patricia Hegarty and Britta Teckentrup)</p> <p><i>A Little Guide to Wild Flowers</i> (Charlotte Voake)</p> <p><i>The Things That I LOVE about TREES</i> (Chris Butterworth)</p> <p><i>Harry's Hazelnut</i> (Ruth Parsons)</p>
<p align="center">Prior Learning</p>	<p align="center">Key Question(s):</p>	<p align="center">Future Learning</p>	
<p>In EYFS Children should:</p> <ul style="list-style-type: none"> Make observations of plants Know some names of plants, trees and flowers May be able to name and describe different plants, trees and flowers Show some care for their world around them 	<ul style="list-style-type: none"> How do Plants grow? What do Plants need to grow? Do all plants need water? Are all plants green? Why do seeds look different? Can plants grow as big in the shade? 	<p>In Year 2 Children will:</p> <ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and warmth to grow and stay healthy. 	

- What is the biggest/smallest/smelliest (etc) tree/flower/plant on the planet.

Teaching Ideas

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question: Assessment Opportunity</u>
<p>Which type of compost grows the tallest sunflower?</p> <p>Which tree has the biggest leaves?</p>	<p>How can we sort the leaves that we collected on our walk?</p>	<p>How does a daffodil bulb change over the year?</p> <p>How does my sunflower change each week?</p> <p>How does the oak tree change over the year?</p>	<p>Do trees with bigger leaves lose their leaves first in autumn?</p> <p>Is there a pattern in where we find moss growing in the school grounds?</p>	<p>What are the most common British plants and where can we find them?</p> <p>How did Beatrix Potter help our understanding of mushrooms and toadstools?</p>	<p>How many types of plant are there?</p>

Year 1 – Animals, including Humans

National Curriculum Objectives	Sticky Knowledge	Vocabulary	
<ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores 	<ul style="list-style-type: none"> There are many different animals with different characteristics. Animals have senses to help individuals survive. When animals sense things they are able to respond. Animals need food to survive. Animals need a variety of food to help them grow, repair their bodies, be active and stay healthy. 	Amphibians, birds, fish, mammals, reptiles, carnivores, herbivore, omnivore, sight, hearing, touch, taste, smell, head, neck, ear, mouth, shoulder, hand, fingers, leg, foot, thumb, eye, nose, knee, toes, teeth, elbow	
		Key Scientists	Linked Texts
		Chris Packham (Animal Conservationist)	<i>One Year with Kipper</i> (Mick Inkpen) <i>Snail Trail</i> (Ruth Brown) <i>Superworm</i> (Julia Donaldson & Axel Scheffler)
Prior Learning	Key Question(s):	Future Learning	
In Early Years children should: <ul style="list-style-type: none"> be able to identify different parts of their body. Have some understanding of healthy food and the need for variety in their diets. Be able to show care and concern for living things. 	<ul style="list-style-type: none"> What do animals eat? Do all animals eat the same food? Which of our senses is the most accurate at identifying food? Do all animals hunt? Why are animals different colours and patterns? 	In Year 2 children will: <ul style="list-style-type: none"> Know that animals, including humans, have offspring which grow into adults Know the basic stages in a life cycle for animals, including humans. Find out and describe the basic needs of animals, including humans, for survival (water, food and air). 	

- Know the effects exercise has on their bodies.
- Have some understanding of growth and change.
- Can talk about things they have observed including animals

- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Teaching Ideas

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question – Assessment Opportunity</u>
Is our sense of smell better when we can't see?	How can we organise all the zoo animals? What are the names for all the parts of our bodies?	How does my height change over the year?	Do you get better at smelling as you get older?	Do all animals have the same senses as humans?	What are animals like?

Year 1 – (ENERGY) Seasons and How they Change

National Curriculum Objectives	Sticky Knowledge	Vocabulary	
<ul style="list-style-type: none"> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. 	<ul style="list-style-type: none"> Weather can change There are lots of different types of weather: Rain, Sun, Cloud, Wind, Snow, etc Days are longer and hotter in the summer Days are shorter and colder in the winter There are four seasons: Spring, Summer, Autumn, Winter 	Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature	
		Key Scientists	Linked Texts
		Dr Steve Lyons (Extreme Weather) Holly Green (Meteorologist)	Tree: Seasons Come, Seasons Go (Patricia Hegarty and Britta Teckentrup) One Year with Kipper (Mick Inkpen) After the Storm (Nick Butterworth)
Prior Learning	Key Question(s):	Future Learning	
In Early Years children should: <ul style="list-style-type: none"> Developing an understanding of change. Observe and explain why certain things may occur (e.g leaves falling off trees, weather changes). Look closely at similarities, differences, patterns and change. Comments and questions about the place they live or the natural world. 	<ul style="list-style-type: none"> Why do more frequent days of rain saturate the ground? How long does it take for the ground to dry after it has been raining? Does more rain take longer to dry? Do countries with higher temperatures have less rain? How does rainfall and temperature change over time in our school grounds? 	In Year 3 children will: <ul style="list-style-type: none"> Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the sizes of shadows change. 	

- Which leaf is the strongest/best shade cover/best at directing water?
- What do you notice about different leaves?
- What purpose to leaves serve for a tree?
- Why do you think leaves turn brown in Winter?
- What colours can we find outside? Does this change across the seasons?
- What effect does rain have on the environment?
- What would happen if there was too much rain?
- What would happen if there wasn't enough rain?

Teaching Ideas

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question – Assessment Opportunity</u>
In which season does it rain the most?	How could you organise all the objects in the solar system into groups?	How does the colour of a UV bead change over the day?	Does the wind always blow the same way?	Are there plants that are in flower in every season? What are they?	What is it like in Winter, Spring, Summer and Autumn?

Year 1 – Materials

National Curriculum Objectives	Sticky Knowledge	Vocabulary	
<ul style="list-style-type: none"> • Distinguish between an object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock. • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their simple properties 	<ul style="list-style-type: none"> • There are many different materials that have different describable and measurable properties. • Materials that have similar properties are grouped into metals, rocks, fabrics, wood, plastic and ceramics (including glass). • The properties of a material determine whether they are suitable for a purpose. 	Hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy/not bendy, waterproof/not waterproof, absorbent, opaque,	
		Key Scientists	Linked Texts
		William Addis (Toothbrush Inventor)	<i>The Great Paper Caper</i> (Oliver Jeffers)
		Charles Mackintosh (Waterproof coat)	<i>Who Sank the Boat</i> (Pamela Allen)
		John MacAdam (roads)	<i>The Story of Cinderella</i> (Walt Disney)
Prior Learning	Key Question(s):	Future Learning	
In Early Years children should: <ul style="list-style-type: none"> • be able to ask questions about the place they live. • Talk about why things happen and how things work. • Discuss the things they have observed such as natural and found objects. • Manipulates materials to achieve a planned effect. 	It is recommended that materials be taught three times through KS1. Give a theme for each topic e.g. buildings, exploration, toys, the seaside. Plan to investigate a couple of classes of materials and properties in each topic so children get a depth of experience each topic and cover all the classes of materials over the key stage <u>Buildings</u> <ul style="list-style-type: none"> • Which rocks are the least crumbly? • Which materials absorb the most water? 	In Year 2 children will: <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. • Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	

- Which type of brick would be the easiest to drag to make a pyramid?
- Which material would be the strongest to use as a floor tile?

Toys & Nice things

- Which fabric would make the softest blanket?
- The baby has spilled her drink, which material would absorb the drink the best?
- We want to make a really slippery slide, which liquid would be best to use?
- Which chocolate will melt the fastest on a warm plate (a model of a warm hand)
- Which wrapping papers are strong enough to wrap and send a present?

Clothing & Materials

- Which material could be used to make a waterproof hat for the teacher when she is on the playground at playtime?
- Which plastic would be flexible enough to make a belt?
- Which material could I wrap my ice egg / snowman in to stop it melting, or would it make it melt quicker?
- What could I wrap a chicken egg in to keep it warm when it is waiting to hatch?

- What could you paint on the runaway gingerbread man that would allow him to swim the river and get away from the fox and not turn to mush?

Teaching Ideas

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question – Assessment Opportunity</u>
<p>Which materials are the most flexible?</p> <p>Which materials are the most absorbent?</p>	We need to choose a material to make an umbrella. Which materials are waterproof?	<p>What happens to materials over time if we bury them in the ground?</p> <p>What happens to shaving foam over time?</p>	Is there a pattern in the types of materials that are used to make objects in a school?	<p>How are bricks made?</p> <p>Which materials can be recycled?</p>	What are the things I use made from?

Year 1 – Forces

<u>National Curriculum Objectives</u>	<u>Sticky Knowledge</u>	<u>Vocabulary</u>		
		<p>Force, push, pull, surface, attract, repel, compass</p>		
		<table border="1"> <tr> <td>Key Scientists</td> <td>Linked Texts</td> </tr> </table>	Key Scientists	Linked Texts
Key Scientists	Linked Texts			

<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. • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching <p>Other factors are suggested as being taught within this section that are NOT part of KS1 forces currently; however, they are useful bridges into later knowledge and appropriate to the age group.</p>	<ul style="list-style-type: none"> • Pushing and pulling can make things move faster or slower. • Pushing and pulling can make things move or stop. • Things can move in different ways. • Larger masses take bigger pushes and pulls to move or stop them. • Pushing and pulling can change the shape of things. • Bigger pushes and pulls have bigger effects 	<p>The Wright Brothers (Airoplanes)</p> <p>Henry Ford (Cars)</p>	<p>Traction Man (Mini Grey)</p> <p>Three Little Pigs (Lesley Sims)</p>
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Prior Learning	Key Question(s):	Future Learning	
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<p>In Early Years children should:</p> <ul style="list-style-type: none"> • know about similarities and differences in relation to places, objects, materials and living things. • talk about the features of their own immediate environment and how environments might vary from one another. • make observations of animals and plants and explain why some things occur, and talk about changes. 	<ul style="list-style-type: none"> • How can we move objects? • How can we change the way an object moves? • How does a material affect how fast a ball rolls down a slope? • How does the length/steepness of a slope affect how far a ball/car/tin will roll off the end? • What is a push or a pull that makes it go further? • How does how hard/long I press a pop up toy for affect how high it jumps? • On what surface do objects roll the best on? Is it the same for sliding? • Which material would be best for a teddy bungee cord? • How does length of an elastic band affect how elastic it is? 	<p>In Year 3 children will:</p> <ul style="list-style-type: none"> • Compare how things move on different surfaces. • Know how a simple pulley works and use making lifting an object simpler • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract and 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 two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. • 	
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- Which sock is the most elastic?
- Which tights are the most elastic (denier)?
- Which recipe play dough needs the greatest push to squash it?
- How does the height an egg is dropped from affect how big the splat pattern is? (you could use wet tissue paper balls)

Teaching Ideas

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question – Assessment Opportunity</u>
Which material would be best for the roof of the little pig's house?	Which materials will float and which will sink?	Would a paper boat float forever?	How does changing the force change the speed of a toy car?	Why do objects float or sink?	How can we change how things move?