



# Science

## Whole School

Termly Progression

### Intent:

At Sandwich Infant School, our children are **SCIENTISTS!** Our **intent** is to give every child a broad and balanced Science curriculum which enables them to confidently explore and discover what is around them, so that they have a deeper understanding of the world we live in. We want our children to love science. We want them to have no limits to what their ambitions are and grow up wanting to be astronauts, forensic scientists, toxicologists or microbiologists. We want our children to remember their science lessons in our school, to cherish these memories and embrace the scientific opportunities they are presented with! To achieve this, it involves exciting, practical hands on experiences that encourage curiosity and questioning. Our aim is that these stimulating and challenging experiences help every child secure and extend their scientific knowledge and vocabulary, as well as promoting a love and thirst for learning. At Sandwich Infants, we have a coherently planned and sequenced curriculum which has been carefully designed and developed with the need of every child at the centre of what we do. We want to equip our children with not only the minimum statutory requirements of the science National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life.

### Implementation:

At Sandwich Infant School, Science projects are taught within each year group in accordance with the National Curriculum.

- In KS1 Science is taught each week for 1 hour.
- Every year group will build upon the learning from prior year groups therefore developing depth of understanding and progression of skills and knowledge.
- Teachers promote enjoyment and foster interest of the scientific disciplines; Biology, Chemistry and Physics.
- Children explore, question, predict, plan, carry out investigations and observations as well as conclude their findings.
- Children present their findings and learning using science specific language, observations and diagrams.
- In order to support children in their ability to 'know more and remember more' there are regular opportunities to review the learning taken place in previous projects as well as previous lessons.

### EYFS

The Early Years Foundation Stage Curriculum supports children's understanding of Science through the planning and teaching of 'Understanding the World.' Children find out about objects, materials and living things using all of their senses looking at similarities, differences, patterns and change. Both the environment and skilled practitioners foster curiosity and encourage explorative play, children are motivated to ask questions about why things happen and how things work. Our children are encouraged to use their natural environment around them to explore. Children enjoy spending time outdoors exploring mini-beasts and their habitats, observing the changing seasons, plants and animals. Children regularly participate in cookery and baking sessions which allows them to experience changes in state as ingredients are mixed, heated and cooled.

### Impact:

The impact of this curriculum design will lead to outstanding progress over time, across key stages, relative to a child's individual starting point and their progression of skills and knowledge. Children will therefore be expected to leave Sandwich Infants reaching at least age related expectations for Science. Through various workshops, trips and interactions with experts our Science curriculum will lead pupils to be enthusiastic Science learners and understand that science has changed our lives and that it is vital to the world's future prosperity. We want to empower our children so they understand they have the capability to change the world. This is evidenced in a range of ways, including pupil voice, their work and their overwhelming enjoyment for science.

Knowledge+ Skills	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Reception</b>  <b>Substantive Knowledge</b>	<p><b>What type of weather is there?</b> Know the different types of weather: sunny, cloudy, rainy, windy and snowy.</p> <p><b>What happens in Autumn?</b> Know that leaves fall from the trees in Autumn. Know that the leaves change colour. Know that conkers fall from conkers trees. Know that animals hibernate. Know that temperatures drop and it is colder.</p> <p><b>What happens in Spring?</b> Know that plants and flowers start to grow. Know that baby lambs are born.</p> <p><b>What happens in Summer?</b> Know that it is warm in Summer. Know that we wear lighter clothes in Summer to keep us cool.</p> <p><b>What happens in Winter?</b> Know that there are no leaves on the trees in Winter. Know that it is cold in Winter and that when it freezes, water turns to ice. Know there is often frost on the ground.</p>		<p><b>What types of animal are there?</b> Know that animals can be categorised: pets, farm animals, zoo animals. Know different pets: cat, dog, rabbit, guinea pig, hamster... Know different farm animals: pigs, sheep, chickens, horse, goat.. Know different zoo animals: zebra, giraffe, elephant, panda, lion, monkey...</p> <p><b>What can you see/ hear/ touch/ taste/ smell?</b> Know we use our nose to smell. Know we use our tongue to taste. Know we use our eyes to see. Know we use our hands and feet to touch. Know we use our ears to hear.</p>	<p><b>Why is plastic bad for our environment?</b> Know that items such as bottles, plates, bags etc are made from plastic. Know that plastic is bad for our environment. <b>Where does our rubbish go?</b> Know that our rubbish ends up on a landfill. Know that we need to protect our animals in the sea.</p>	<p><b>Why are trees important?</b> Know that paper is made from trees. Know that it is bad to chop down trees. Know that trees give us oxygen. <b>What are the different parts of a tree?</b> Know what the names of some parts of a tree are. <b>How do leaves look different from each other?</b> To know that leaves have different patterns and are different shapes. <a href="#">(Link to Greta Thunburg)</a></p>	<p><b>What is a wild animal?</b> Know that some animals are wild. <b>Can wild animals be good pets? Why not?</b> Know that these animals do not need looking after. They are not sold as pets. <b>What animals are wild?</b> Know that robins, blue tits, seagulls, blackbirds are all birds and are wild. <b>Do these animals need looking after?</b> <b>Where do wild animals live?</b> Know that zoo animals do not live in the wild, in the UK. <b>What animals are pets?</b> Know that some animals are pets.</p>

		<p>Know that we need bees so flowers and food can grow.</p> <p><b>What is in our local wildlife?</b>          Know about local wildlife and how to care for them.          Know that bees, dragonflies, ladybirds and ants can be found in our Summer garden.</p> <p><b>Why are bees important?</b>          Know that bees fly from flower to flower and make more grow.</p>			
<b>Disciplinary Knowledge (Skills)</b>	<p>Understand the effects of changing seasons on the natural world around them.</p> <p>Able to comment on the weather.</p>	<p>Able to join in with the RSPB Big Garden Birdwatch to learn about the local wildlife.</p> <p>Describes what they see, hear and feel whilst outside.</p> <p>Explores the natural world around them.</p>	Explores the natural world around them.	<p>Explore the natural world around them.</p> <p>Describes what they see, hear and feel whilst outside.</p>	Explores the natural world around them.
Vocabulary	rainy, windy, sunny, snowy, cloudy.	Names of common birds and wildlife, the 5 senses, explore, find out about, observe.	plastic, environment, rubbish	tree, oxygen, leaves, flowers, branches, trunk	wild, pet

## Year 1 Science

	<u>Term 1</u>	<u>Term 2</u>	<u>Term 3</u>	<u>Term 4</u>	<u>Term 5</u>	<u>Term 6</u>
<p><b>Year 1</b></p> <p><b>Substantive Knowledge</b></p>	<p><b><u>Seasonal Change</u></b></p> <p><b>What are the 4 seasons?</b> To know that there are 4 seasons. To know the 12 months of the year. To know that Spring is from March to May. To know that summer is from June to August. To know that Autumn is from September to November. To know that Winter is from December to February. To know that Harvest time is in Autumn.</p> <p><b>What changes happen in each of the seasons?</b> To know that in Autumn temperatures drop and it gets darker earlier because there is less sunlight. To know that skies can be overcast. To know that birds migrate to warmer climates in Autumn. To know that in Autumn leaves change colour and start to fall from trees. To know that in Autumn animals begin storing up food for the Winter.</p>	<p><b><u>Everyday Materials</u></b></p> <p><b>What are everyday materials?</b> To know the names of a variety of everyday materials (wood, plastic, glass, rock). <b>What is the difference between an object and what it is made from?</b> To know the difference between an object and the material from which it is made. To know what the word material means. (All objects have a name like 'a door'. Material is the 'stuff' an object is made from)</p> <p><b>How can materials be grouped or classified?</b> To know that you can put materials in to different groups by answering questions about the material. E.g. Hard or soft? Stretchy or stiff? Shiny or dull? Rough or smooth? Bendy or not bendy? Waterproof or not waterproof? Absorbent or</p>	<p><b><u>Animals including humans</u></b></p> <p><b>What are the basic body parts?</b> To know the basic parts of the human body i.e. arm, leg, waist, ankle, knee, back, head, feet, toes, wrist, shoulder, elbow, thumb, teeth. <b>What are our 5 senses?</b> To know the names of the 5 senses. (Touch, smell, sight, hearing, taste). <b>What are the sense organs?</b> To know and name the parts of the body associated with each of the 5 senses. (We smell using our nose. We taste using our tongue. We touch using parts of our body, like our hands. We see using our eyes. We hear using our ears). To know what our senses do. <b>What is a carnivore?</b> To know that a Carnivore is an animal that eats meat. (lions, eagles, crocodiles) <b>What is a herbivore?</b> To know that a herbivore is an animal that only eats plants. (cows, giraffes, elephants) <b>What is an omnivore?</b> To know that an omnivore is an animal that eats plants and meat. (humans, squirrels, robins) <b>Do all animals have a backbone?</b> To know what a backbone is. (Backbone is the column of small linked bones down the middle of your back). To know that an animal which has a backbone is called a vertebrate. (insects, arachnids, molluscs). To know that an animal without a backbone is called an invertebrate. <b>What are the names of common animals?</b></p>		<p><b><u>Plants</u></b></p> <p><b>What are the main parts of a plant and what is the function of these parts?</b> To know what a plant is. (It is a living thing that usually grows from the ground). To know and identify the main parts of a plant. (flower, roots, stem, leaves). To begin to know the function of the main parts of a plant. To know what the roots are and describe these. (See vocab for more info) <b>How do plants change at different times of the year?</b> To know that on some plants fruit or vegetables start to grow. (Links made with seasonal Change unit) To know in autumn, the leaves on deciduous trees usually change colour and fall off. To know that in winter, deciduous trees usually have no leaves on their branches. To know that an evergreen tree keeps its green leaves all year.</p> <p><b>What are the names of common trees and flowers?</b> To know the names of some common garden plants. (Rose, poppy, lavender, sunflower, pansy) To know the names of some common wild plants. (Nettle, daisy, clover, buttercup, ivy, dandelion) <b>How must we treat plants/trees?</b> To know that we mustn't pick too many flowers.</p>	

	<p>To know that Winter is the coldest time of the year.</p> <p>To know that there are less and less hours of daylight.</p> <p>To know that we sometimes see snow, frost in the morning, sleet blizzards and hail.</p> <p>To know that water freezes to ice.</p> <p>To know that many plants stop growing.</p> <p>To know that some trees lose all their leaves.</p> <p>To know some animals including hedgehogs and tortoises hibernate.</p> <p>To know that in Spring, the temperatures rise and the ground starts to warm up.</p> <p>To know that in Spring, flowers begin to grow.</p> <p>to know that Spring is associated with rebirth and growth.</p> <p>To know that some baby animals are born (e.g. lambs, chicks).</p> <p>To know that in Summer, it is the hottest time of the year.</p> <p>To know that in Summer, there is usually sunshine, generally dry weather but there may be thunderstorms too!</p> <p>To know that in Summer, flowers and trees are in bloom</p>	<p>not absorbent?</p> <p>Transparent or opaque?</p> <p>To know how to compare and group together a variety of everyday materials</p> <p><b>What are different properties of materials?</b></p> <p>To know how to describe the simple physical properties of a variety of everyday materials.</p>	<p>To know and identify a variety of common animals. (Pets, wild and farm animals)</p> <p><b>What are the 5 animal groups?</b></p> <p><b>What is the same about animals in each group?</b></p> <p>To know that there are 5 groups of vertebrates. (Mammal, fish, bird, amphibian, reptile).</p> <p>To know some characteristics of each group. (See below)</p> <p><u>Mammal</u></p> <ul style="list-style-type: none"> <li>• warm-blooded</li> <li>• give birth to live young</li> <li>• usually have hair or fur • cannot breathe underwater</li> </ul> <p><u>Fish</u></p> <ul style="list-style-type: none"> <li>• cold blooded</li> <li>• have fins and scales</li> <li>• breathe underwater using gills</li> <li>• lay eggs in water</li> <li>• cold-blooded</li> </ul> <p><u>Bird</u></p> <ul style="list-style-type: none"> <li>• warm-blooded</li> <li>• have wings and beaks</li> <li>• have feathers</li> <li>• lay eggs</li> </ul> <p><u>Reptile</u></p> <ul style="list-style-type: none"> <li>• cold-blooded</li> <li>• lay eggs</li> <li>• have scales</li> <li>• cannot breathe underwater</li> </ul> <p><u>Amphibian</u></p> <ul style="list-style-type: none"> <li>• cold-blooded</li> <li>• lay eggs</li> <li>• live on land and water</li> <li>• can breathe underwater through gills</li> </ul>	<p><b>What are the similarities and differences of trees?</b></p> <p>To know how the trunks of trees are similar and different to each.</p> <p>To know that you can identify a tree by observing the leaves.</p> <p><b>What are the parts of plants or trees?</b></p> <p>To know the basic structure of a variety of common plants including roots, stem/trunk, leaves and flowers</p> <p>To know the functions of some of the parts.</p>
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	To know that there are different types of weather- rain, sun, storms, overcast.			
<b>Disciplinary Knowledge (Skills)</b>	<p>To be able to put the 12 months in order of the year.</p> <p>To be able to discuss what different types of weather are like.</p> <p>To use their senses to describe the different types of weather.</p> <p>To be able to classify clothing for different types of weather/climate.</p> <p>To be able to describe different types of weather.</p> <p>To be able to observe and measure the weather.</p> <p>To be able to investigate rainfall over a period of time.</p> <p>To be able to observe and measure rainfall over time.</p> <p>To carry out a simple test to measure and record rainfall.</p> <p>To be able answer questions about what we have found out.</p> <p>To record in a simple chart or table.</p> <p>To be able to keep a simple class weather chart.</p> <p><b>*NB</b> Seasonal change will also be ongoing throughout the year with observations/discussions.</p>	<p>To identify a variety of everyday objects.</p> <p>To classify everyday materials.</p> <p>To identify and describe the simple physical properties of a variety of everyday materials using their senses.</p> <p>To ask simple questions and recognise that they can be answered in different ways.</p> <p>To be able to observe carefully, using simple equipment.</p> <p>To perform simple tests.</p> <p>To use their observations and ideas to suggest answers to questions.</p> <p>To gather and record data to help in answering questions.</p> <p>To know the different ways that we can find out about things in science.</p> <ol style="list-style-type: none"> <li>1. Survey</li> <li>2. Do a test</li> <li>3. Classifying</li> </ol>	<p>To identify, draw and label the basic parts of the human body.</p> <p>To be able to observe closely using simple equipment i.e. a microscope.</p> <p>To carry out simple tests using our senses. i.e. feeling objects in a feely bag, smelling different crisp flavours, guessing the flavour of fruit pastilles by tasting.</p> <p>To research to find out how good the senses of other animals are e.g. how well badgers can smell, bats can hear or owls can see.</p> <p>To be able to record data in a table.</p> <p>To be able to describe and compare the structure of a variety of common animals. *(Possibility of bringing in a real pet)</p> <p>To be able to sort and group animals with some help.</p> <p>To be able to record data in simple ways (Venn diagram).</p>	<p>To be able to observe closely.</p> <p>To be able to ask simple questions and recognise that they can be answered in different ways. What plants can we see? How can we identify a plant? Which plant is the thinnest? Tallest? Etc.</p> <p>To gather questions as a class about what they want to know about plants in the local habitats.</p> <p>To recognise that there are a range of ways we can find out things in science.</p> <ol style="list-style-type: none"> <li>1. Survey – count the number of things</li> <li>2. Do a test - find out what happens to something when we change something about it</li> <li>3. Classifying – put things into groups</li> <li>4. Investigation over time – watch or measure something over time</li> <li>5. Secondary source – use a book or internet</li> </ol> <p>*NB (These are displayed on posters in the KS1 classrooms and referred to in lessons as appropriate).</p> <p>To be able to choose the most appropriate method for a particular question.</p> <p>To be able to identify and describe flowers.</p> <p>To be able to use parts of the plant to identify and classify it.</p> <p>To measure the distance around a tree.</p> <p>To estimate how tall a tree is.</p> <p>To be able to describe and identify trees by looking observing their leaves.</p> <p>To be able to ask simple questions and recognise the ways in which they can be answered. E.g. do</p>

	<p>At the start of each season the children will decorate a tree in their science books to accompany the discussions/observations of how a tree changes throughout the seasons.</p> <p>Photograph the same tree in the school garden and observe the changes over time.</p>	<p>4. Investigation over time</p> <p>5. Secondary source (Posters displayed in KS1 classrooms)</p>		<p>the weeds with the longest leaves have the longest roots?</p>
<p>Vocabulary</p>	<p>Seasons; spring, summer, autumn, winter  Year, months, days  Hot, warm, mild, cold  Sunny  Cloudy  Rain, sleet, snow, hail, thunder, lightning, rainbow  Wet, damp, dry  Windy, breezy, gust  Temperature  Degrees Celsius  Thermometer  Weather vane  Anemometer</p>	<p><b>Properties</b> - A way to describe something  <b>Material</b> - The 'stuff' an object is made out of  <b>Liquid</b> - Liquids can flow or be poured easily  <b>Surface</b> - An outside part or layer of something  <b>Object</b> - A thing that can be seen and touched  Types of materials: wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil  Properties of materials: hard/soft, stretchy/not stretchy, shiny/dull,  Hard - Not easily broken  Soft - Easy to cut, fold or change shape</p>	<p>Birds, fish, amphibians, reptiles, mammals  Vertebrates and invertebrates  Feathers, scales, gills, fins, hair, land, water, backbone, skeleton  Carnivores, herbivores, omnivores  Meat, plants  Common parts/structures of animals  Names of animals that can be found in the school grounds  Names of animals that the children keep as pets</p>	<p>Function of parts of the plants.  <b>Flowers</b> - look pretty and come in lots of different colours. They can also smell lovely. This helps to attract animals and insects that help the plant to make seeds for new plants.  The <b>leaf</b> is very important. It absorbs the sunlight which it uses to make food for the plant. The <b>stem</b> helps support the plant and keeps it upright. Water and food are taken up from the roots and transported through the stem.  The <b>roots</b> of a plant anchor the plant in the ground and without roots a plant would fall over. Roots also take in nutrients and water from the soil.  Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine, holly, etc  Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.</p>



		<p>Stretchy - Can be made longer or wider without breaking</p> <p>Stiff - Doesn't change shape easily</p> <p>Shiny - Reflects light easily</p> <p>Dull - Not very bright or shiny</p> <p>Rough - Has an uneven surface</p> <p>Smooth - An even surface with n lumps or bumps</p> <p>Bendy - Can be bent easily</p> <p>Not bendy - Can't be bent easily</p> <p>Waterproof - Keeps out water</p> <p>Not waterproof - Lets water in</p> <p>Absorbent - Soaks up liquid easily</p> <p>Not absorbent - Doesn't soak up water easily</p> <p>Transparent - Able to see through it easily</p> <p>Opaque - Not able to see through</p> <p>Verbs associated with materials: crumble, squash, bend, stretch, twist</p> <p>Senses: touch, see, hear, smell and taste</p>		<p>Garden plants – crocus, daffodil, bluebells, etc</p> <p>Parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs</p> <p>Habitat</p> <p>Flower - Part of a plant that attracts insects and birds</p> <p>Leaf - Part of a plant which absorbs sunlight which is used by the plant to make food</p> <p>Root - Part of a plant which takes in water and nutrients from the soil</p> <p>Stem - Part of a plant which helps support it and keep it upright</p> <p>Seed - The part of a flowering plant that can grow into a new plant</p> <p>Absorb - To take in or swallow up</p> <p>Deciduous - A tree that sheds its leaves during autumn</p> <p>Evergreen - A tree that keeps its leaves all year round.</p>
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# Year 2 Science

Knowledge+ Skills	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Year 2 Substantive Knowledge</b>	<p><b><u>Animals including humans</u></b></p> <p><b>What do offspring grow into?</b> To know that animals have offspring that grow into adults. To know what the word 'offspring' means. To know and apply the scientific language to talk about what they have found out. To know what they have learnt following a visit and be able to share what they have learnt.</p> <p><b>What are the stages of a life cycle?</b> To know the stages of a life cycle of an animal and put these in order using the knowledge they have gained. E.g. a chicken, frog, dragonfly, butterfly life cycles. To know the stages of human development and talk about how we change as we grow older.</p>	<p><b><u>Materials and their properties</u></b></p> <p><b>What are different types of materials?</b> To know what objects are made from and name common materials. To know that for example a bottle is made from plastic, a jar is made from glass, etc.</p> <p><b>What is a solid?</b> To know what the term solid means. To know that a solid has a definite shape that remains the same unless a force is acting upon it.</p> <p><b>How can materials be changed?</b> To know that the shape of solid objects made from some materials can be changed by squashing, bending, twisting, etc. To describe changes that happened and how they have changed.</p>	<p><b><u>Living things and their habitats</u></b></p> <p><b>What is a living thing?</b> To know what is a living thing, non-living thing and something that has never been alive.</p> <p><b>How do we know that a plant is a living thing?</b> To know that plants are living things?</p> <p><b>What different habitats are there and what are they like?</b> To name different habitats in our school and local area. To know what different habitats are like and describe them. i.e. damp/dry/light/dark To know that most living things are suited to their habitat. To know that a habitat provides for the basic needs of animals and plants. To know why might happen if an animal was placed in the wrong habitat.</p> <p><b>How do habitats change?</b> To know how habitats can change during the year. To respond to questions such as why would an animal live in that habitat?</p> <p><b>How do animals adapt to their habitats in order to survive?</b> To know that some animals adapt/change to suit their habitat i.e. some animals are camouflaged to blend in their habitat.</p>	<p><b><u>Plants</u></b></p> <p><b>*Collect seeds in the Autumn to be used in Spring/Summer.</b></p> <p><b>What do seeds and bulbs grow into?</b> To know what a bulb is and how it is different to a seed. To know some plants that grow from a bulb. To know some plants that grow from a seed. To know how seeds and bulbs grow into mature plants.</p> <p><b>Where can plants grow?</b> To know that seeds/bulbs can grow in different things i.e. water (hydroponically), soil, cotton wool, stones, etc.</p> <p><b>How can seeds be different?</b> To know that there are different types of seeds. To know how seeds can be sorted.</p> <p><b>What do plants need to survive?</b></p> <p><b>Do seeds need water to grow?</b></p> <p><b>Do plants need light to grow?</b></p> <p><b>What temperature do seeds need to grow?</b> To know that plants need water, light and a suitable temperature to grow and stay healthy. To know and apply the scientific vocabulary to talk about what they have found out. To know what seeds and bulbs need to grow healthily. To know when bulbs should be planted. (Autumn Oct-Dec and before first frost)</p>		

		<p>To know if the change can be changed back. (reversed)</p> <p>To know that different solid objects change in different ways.</p> <p><b>How can we find out things in science?</b></p> <p>To know the different ways that we can find out about things in science.</p> <ol style="list-style-type: none"> <li>1. Survey</li> <li>2. Do a test</li> <li>3. Classifying</li> <li>4. Investigation over time</li> <li>5. Secondary source (Posters displayed in KS1 classrooms)</li> </ol> <p>To know and apply the scientific vocabulary to talk about what they have found out.</p>	<p>To know that the number of animals found in a habitat changes during the year. Discuss; time of day, times of the year, weather.</p> <p>To describe how different habitats, provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</p> <p><b>What is a micro habitat?</b></p> <p>To know what a micro habitat is i.e. a spider web, leaves,</p> <p>To name different micro habitats i.e.</p> <p>To be able to identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p><b>How can we find things out in science?</b></p> <p>To know the different ways that we can find out about things in science.</p> <ol style="list-style-type: none"> <li>6. Survey</li> <li>7. Do a test</li> <li>8. Classifying</li> <li>9. Investigation over time</li> <li>10. Secondary source (Posters displayed in KS1 classrooms)</li> </ol> <p>To know and apply the scientific language to talk about what they have found out.</p>	<p>To know how bulbs should be planted.</p> <p><b>Do all seeds germinate in the same way?</b></p> <p>To know that seed growth takes place over time.</p> <p><b>What are the names of common trees?</b></p> <p><b>What trees grow in the school grounds or local area?</b></p> <p>To know the names of common trees. (Link to trees in the local area or school grounds)</p> <p><b>What are the basic parts of the plant?</b></p> <p>To know the basic structure of plants (see vocab for parts to teach) and that part of the plant is above the ground and part below the ground.</p> <p><b>What is the function of each part of the plant?</b></p> <p>To know the basic function of what each part does e.g. the roots anchor the plant to whatever it is growing on. (Build upon this from year 1 – further embedding this knowledge)</p>
<b>Disciplinary Knowledge (Skills)</b>	<p>To be able to record data (tally chart).</p> <p>To be able to record data (table).</p> <p>To be able to record data (flow diagram).</p> <p>To be able to use observations to suggest answers to questions. i.e. how many</p>	<p>To be able to distinguish between an object and the material from which it is made.</p> <p>To be able to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p>	<p>To show curiosity about the world we live in and ask questions about it.</p> <p>To be able to explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>To visit different habitats in school and the local area e.g. Gazen salts, and describe what a habitat is like there, e.g. damp/dry, light/dark, warm/cold, etc.</p>	<p>To be able to observe and describe how seeds grow into mature plants.</p> <p>To be able to find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>To be able to perform a simple test e.g. Do plants need light to grow? What type of temperature do plants need so that they can grow?</p>

	<p>caterpillars? Do any occur on more than one plant?          To be able to perform a simple test.          To be able to observe using simple equipment.          What stages          To order the stages of an animals' life cycle.          To investigate the different stages of an animals' life cycle over time.          To record their observations in a variety of ways i.e. a diary, pictures, photos, videos, etc.          To ask questions to a visitor about the stages of human development. i.e. a new mother and her baby.          To be able to find out about and describe the basic needs of animals, including humans, for survival (water, food and air).          To know what a healthy lifestyle is and talk about it.          To know the importance for humans of eating the right amounts of different types of food.          (Links made in Year 2, Term 5- Food and Nutrition)          To know the importance for humans of exercise.          To know the importance to humans of hygiene.</p>	<p>To be able to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.          To be able to find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.          To be able to use their observations and ideas to suggest answers to questions.          To be able to gather and record data to help in answering questions.          To be able to perform simple tests i.e. how well do materials bounce?          What are the uses of wood? How flexible are plastics?          Which tights are the stretchiest? Which material is best for letting light through? On which surface will the car travel the furthest? How well can we change the shapes of some solid objects?</p>	<p>To be able to describe how animals obtain their food from plants and other animals, using the idea of a simple food chain.          To identify and name different sources of food.          To be able to ask simple questions and recognise that they can be answered in different ways.          To be able to observe closely.          To be able to gather and record data to help answer a question i.e. How many different living things can we find? What are different habitats like? Why would an animal live in that habitat? (Links with Art – Make a diorama) Which caterpillar will survive?          Where is the most popular place for animals to live?          To be able to record data in a tally chart i.e. to show which animals are found in the habitat.          To be able to record data in a bar chart.          To be able to use observations to suggest answers to questions.          To be able to observe using a microscope/hand lens.          *Recording over time – take the children outside to record the number of minibeasts found during different times of the year. Can they explain why the numbers change?</p>	<p>To be able to recognise that questions can be answered in a range of ways.          To be able to observe closely using simple equipment.          To be able to sort objects using observable features e.g. sort different types of seeds, making close observations.          To find different criteria for sorting the seeds e.g. colour, shape, size, and texture.          To be able to gather and record data to help in answering a question.          To use their observations and ideas to suggest answers to questions.          *Opportunities for planting should be made throughout the year i.e. bulbs in Autumn. This can be planned into your garden time or within the classroom.</p>
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	<p>To sort children's clothes from different ages of children and discuss the changes.</p> <p>To order photos of children and their families and discuss the changes.</p> <p>To draw the different stages of human life.</p> <p>To measure body parts of different ages, using non-standard units.</p> <p>To investigate relationships between the ages of children and the size of body parts. i.e. length of feet, handspan, etc.</p> <p>To present findings in a table.</p> <p>To classify which food make a healthy diet.</p> <p>To discuss the importance of a of exercise.</p> <p>To explore what happens to your body when you exercise.</p> <p>To investigate which exercise make you puff the most.</p> <p>To carry out a survey linked to hygiene e.g. how often do we wash ourselves?</p> <p>To keep a tally for how many times we complete daily tasks e.g. brushing teeth, washing hands, having a bath, washing hair, etc.</p>	<p>To be able to use simple measurements to gather data.</p> <p>To be able to use simple secondary sources to find answers (non-statutory).</p> <p>To be able to talk about what they have found out and how they found it out.</p>		
Vocabulary	<p><b>Offspring</b> - The child of an animal</p> <p><b>Life cycle</b> - A series of changes that an animal or plant passes</p>	<p><b>Types of materials:</b> wood, plastic, glass, metal, water, rock, brick, fabric, sand,</p>	<p>Habitat, micro habitat Pond, meadow, log pile, woodland, river, lake, beach, cliff Organism – plant, animal</p>	<p><b>Flower</b> - Part of a plant that attracts insects and birds.</p> <p><b>Petal</b> - Petals are part of a flowering plant which attract insects such as bees.</p>

<p>through from the beginning of its life until death  Diet - The food and water that an animal needs  Exercise - A physical activity to keep your body fit  Disease - Illness or sickness which affects people, animals or plants  Hygiene - How clean something is (to stay healthy and stop disease and illness spreading  Medicine - A drug or other substance used to treat disease, injury, pain or other symptoms  Reproduce - When living things make a new living things.  Classification –  Birds, fish, amphibians, reptiles, mammals and invertebrates  Classification - Carnivores, herbivores, omnivores  Stages of growth of many insects – egg, larva, pupa, adult  Names of some invertebrates – ladybirds, butterflies, dragonflies, etc  Names of some amphibians – smooth newt, common frog, toad  Stages of life –baby, toddler, child, teenager, adult</p>	<p>paper, flour, butter, milk, soil  Properties of materials: hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky  Verbs associated with materials: crumble, squash, bend, stretch, twist  Senses: touch, see, hear, smell and taste</p>	<p>Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine, holly, etc  Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.  Garden plants – crocus, daffodil, bluebells, etc  Parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs  Invertebrates – snail, slug, woodlouse, spider, beetle, fly, etc  Pond animals – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt, etc  Habitat - The home of an animal or a plant.  Micro habitat - A small part of the environment that supports a habitat, such as a fallen log in a forest.  Carnivore - An animal that eats meat. Herbivore - An animal that only eats plants.  Omnivore - An animal that eats all kinds of foods, including both meat and plants.  Food chain - The order in which living things depend on each other for food.  Characteristics - A special quality or appearance that makes an individual or a group different from others.  Adaptation - A special skill which helps an animal to survive and do everything it needs to do.  Source - Where something comes from.</p>	<p><b>Leaf</b> - Part of a plant which absorbs sunlight which is used by the plant to make food.  <b>Root</b> - Part of a plant which takes in water and nutrients from the soil.  <b>Stem</b> - Part of a plant which helps support it and keep it upright.  <b>Seed</b> - The part of a flowering plant that can grow into a new plant.  <b>Bulb</b> - Bulbs are underground masses of food storage from which plants grow. <b>Absorb</b> - To take in or swallow up.  <b>Sunlight</b> - Light from the sun is a form of energy which helps plants to grow. <b>Germination</b> - The stage of plant growth where the seeds begins to sprout.  <b>Sprout</b> - When a plant sprouts, it grows new shoots.  <b>Seed dispersal</b> – Seed dispersal is when the seeds move away from the plant. They can be moved by the wind or animals.  Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine, holly, etc  Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.  Garden plants – crocus, daffodil, bluebells, etc  Parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs  Need of plants – water, light, heat, temperature.</p>
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	Life processes – growth, nutrition (feeding), respiration (breathing is part of this) Foods – healthy, grow, strong, energy			
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Sandwich Infant School