

SCIENCE CURRICULUM MAP
SKILLS, KNOWLEDGE AND UNDERSTANDING
PROGRESSION



Plants			
Nursery	Reception	Year 1	Year 2
<p>I understand what plants need to grow. I can plant a seed. I can create a representation of a plant or flower.</p> <p>Development matters- 3- 4 year olds I am beginning to understand the need to respect and care for the natural environment and all living things. I can understand the key features of the life cycle of plant.</p>	<p>I can name the different parts of a flower. I can create an observational drawing or painting of a flower, making sure I include all of the different features that I can see.</p> <p>ELG- I can explore the natural world, making observations and drawing pictures of plants.</p>	<p>I can plant a bean and set up an investigation into what plants need to survive I can identify wildflowers and understand the importance of wildflowers. I can talk about the differences between deciduous and evergreen trees. I can identify common trees from their leaves. I can name parts of a tree: trunk, leaves, fruit, branches, roots I can name parts of a flowering plant: seeds, flower, buds, leaves, stem, roots. I can observe the stages of growth in tomato plants. I can record changes to the bean plant including drawing a diagram and measuring with a ruler.</p>	

Humans			
Nursery	Reception	Year 1	Year 2
<p>I am beginning to notice differences between different people.</p> <p>Development matters- 0-3 year olds</p> <p>Notice differences between people.</p>	<p>I understand how we have grown since we were a baby.</p> <p>I can consider what abilities we have developed since being a baby.</p> <p>I understand what humans need to grow.</p> <p>I understand the life cycle of a human.</p> <p>I understand how to eat a healthy, balanced diet.</p> <p>I understand the importance of different food groups.</p> <p>I can design a plate of healthy food.</p> <p>I understand the difference between fruits and vegetables and recognise the importance of including lots of fruit and vegetables in our diets.</p> <p>ELG- Understand some important processes and changes in the natural world around them.</p>	<p>I understand the body part associated with each sense.</p> <p>I can record the sounds I can hear.</p> <p>I understand the definition of sound and how we hear.</p> <p>I can order sounds from quietest to loudest.</p> <p>I understand causes of deafness and give examples of sign language.</p> <p>I am aware of the zones of the ear and how to look after each zone e.g. cleaning, protecting from loud volumes</p> <p>I can describe sounds and group sounds based on volume and pitch</p> <p>I can make a range of sounds.</p>	<p>I can identify major organs in the human body</p> <p>I understand the function of different parts of the body</p> <p>I can name different types of exercise and the importance of exercise</p> <p>I can name the major food groups and give examples.</p> <p>I can name characteristics of babies, toddlers, children, teenagers, adults and elderly people and can create a human changes timeline.</p> <p>I can define germs and hygiene.</p> <p>I understand the role of doctors and nurses and different jobs: epidemiologist, sports scientist, nutritionist.</p> <p>Extraordinary scientist- Louis Pasteur's life story and contributions to science</p> <p>The importance of understanding microorganisms for pasteurisation and vaccines</p> <p>Studying the best conditions for growing mould.</p>

Living Things and their Habitats

Nursery	Reception	Year 1	Year 2
<p>I understand which animals live on a farm and can identify their offspring. I understand how farm animals grow. I understand what different farm animals need to grow. I understand where polar habitats are located on a world map and identify features of them. I can say how animals have adapted to be able to survive in such extreme conditions. I can identify different animals that live in polar habitats. I can discuss the weather in polar habitats and how the animals are able to live in such cold conditions.</p> <p>Development matters- 3- 4 year olds I am beginning to understand the need to respect and care for the natural environment and all living things. I can understand the key features of the life cycle of an animal.</p>	<p>I can identify different habitats and begin to understand why different animals live in different habitats. I understand what makes a good habitat. I can explore four different habitats and look closely at why certain animals are suited to living there. I can identify animals that live in a woodland and understand why it is a good habitat for these animals. I can go on a minibeast hunt. I can discuss different minibeasts and the kinds of habitats that they like.</p> <p>Development matters- Reception I can recognise that some environments are different to the one in which I live. I can explore the natural world around me. ELG- I know some similarities and differences between the natural world around me and contrasting environments. ELG- I can explore the natural world, making observations and drawing pictures of animals.</p>	<p>I can name features of a living thing. I know what animals need to survive. I know the difference between an invertebrate and vertebrates. I can use classification keys. I can group animals based on characteristics. I know the characteristics of arachnids, insects and crustaceans. I can name features of an exoskeleton. I can name characteristics of amphibians, reptiles, mammals and birds. I understand what is meant by carnivores, omnivores and herbivores</p>	<p>I can identify living and non-living things I understand indicators of living things. I know what organisms need to survive. I can define a habitat. I can describe simple food chains. I can identify features of woodland habitats and microhabitats in woodlands I can identify features of desert habitats and give examples of desert animals and desert plants. I can identify features of rainforest habitats and give examples of rainforest animals and rainforest plants. I can identify features of urban environments and give examples of urban animals. I understand the importance of green spaces in urban environments.</p> <p>Extraordinary scientist- Jane Goodall's life story and her contributions to science. Studying the behaviour of chimpanzees and conservation of chimpanzee habitats.</p>

Everyday Materials/ Changes			
Nursery	Reception	Year 1	Year 2
<p>I can explore collections of similar and different properties. I can use all of my senses to explore natural materials. I can find similarities and differences in materials. I can talk about what I can see. I can talk about changes that happen eg. When melting, cooking, etc. I can explore which objects sink and which float. I can find materials that allow light through and those that do not.</p> <p>I can explore different modes of transport and can think carefully about how to make the vehicle move and what features it needs.</p> <p>Development matters- 3- 4 year olds- I can talk about the differences between materials I notice. I can talk about the differences between changes I notice. I can explore and talk about different forces I can feel. Explore different materials freely, to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. join different materials.</p>	<p>I can identify things that are hot and things that are cold. I can explore melting/ freezing changes in liquids.</p> <p>ELG- I can understand some important processes including changing states of matter. Safely use and explore a variety of materials.</p>	<p>I can identify different materials- wood, wool, plastic, glass, metal and paper. I can describe different properties of materials- hard, soft, rough, smooth, shiny, heavy, transparent. I can predict and test whether materials float or sink based on how heavy they are. I can test whether materials are absorbent or waterproof. I can choose the best material based on properties for different uses. I can decide on the best material to build with based on waterproofness. I can design a strong wall, build a wall and test the strength. I can explore combining/mixing materials to make stronger materials.</p>	<p>I can name common materials and their properties. I can match materials to uses based on their properties. I can test different materials to investigate whether they squash, bend, twist or stretch. I can test the elasticity of different fabrics. I can test a variety of materials to investigate whether they are absorbent. I understand the difference between and can compare natural and manmade materials. I can sort materials based on their properties.</p> <p>I can identify and name examples of solids, liquids and gases. I can observe different examples of melting and describe melting. I can define a mixture and test different mixtures. I can explore insoluble and soluble solids. I can sort mixtures by hand, sieving and magnetism I can choose the appropriate method to separate mixtures. I understand the difference between reversible and irreversible changes.</p>

<p>I can explore materials of varying materials.</p> <p>Development matters- 0-3year olds- Explore materials with different properties.</p> <p>Explore different materials, using all their senses to investigate them.</p> <p>Manipulate and play with different materials.</p> <p>Use their imagination as they consider what they can do with different materials.</p>			
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Seasonal Changes/ Space			
Nursery	Reception	Year 1	Year 2
<p>I can identify changes that happen in summer.</p> <p>I can talk about ways that we need to look after ourselves in the summer.</p> <p>I can talk about the different features of Autumn.</p> <p>I can identify ways that the world around us changes and begin to wonder why these happen.</p> <p>I can find Autumn objects and describe them.</p> <p>Development matters- 3- 4 year olds</p> <p>I can use all of my senses in hands on exploration of natural materials.</p> <p>I can explore and talk about different forces I can feel.</p> <p>I can talk about what I see, using wide vocabulary.</p> <p>I can explore a variety of natural materials, including season specific objects.</p> <p>Development matters- 0-3 year olds</p> <p>Explore natural materials, indoors and outside</p>	<p>I can identify things that we can see outside in winter.</p> <p>I can talk about things I see on a winter walk.</p> <p>I can name some features of Spring and understand why simple changes of Spring occur.</p> <p>Development matters- Reception</p> <p>I understand the effect of changing seasons on the natural world around me.</p> <p>I can explore the natural world around me.</p> <p>I can describe what I see, hear and feel whilst outside.</p> <p>ELG- Understand some important processes and changes in the natural world around them, including seasons and changing states of matter.</p>	<p>I can name different types of weather.</p> <p>I can identify the 4 seasons based on weather.</p> <p>I can start to use a weather log.</p> <p>I can describe the weather in each season.</p> <p>I understand what temperature is and how it changes.</p> <p>I can describe the appearance of trees and how trees look like during different events? e.g.</p> <p>Father's Day or Halloween</p> <p>I can link the months of the year to each season</p> <p>I can define what a liquid is.</p> <p>I can make a rain gauge.</p> <p>I can order types of wind by strength and use a scale to record wind strength.</p> <p>I can define hibernation and offer examples of animals that hibernate.</p> <p>I understand why and where animals hibernate.</p>	<p>I can define space.</p> <p>I understand how we learn about space</p> <p>I can identify things found in space: planets, sun, moon, stars.</p> <p>I can order planets in our solar system.</p> <p>I can identify features of the planets in the solar system.</p> <p>I understand why we have seasons and day and night?</p> <p>I can give examples of stars and famous constellations.</p> <p>I can talk about the history of space discovery.</p> <p>I can name a famous astronaut.</p> <p>I can name examples of jobs related to exploring space.</p> <p>Extraordinary scientists- Katherine Johnson's life story and contributions to science and how maths was used to safely send rockets to space and back.</p> <p>Caroline Herschel's life story and contributions to Science- Studying the stars and constellations</p> <p>Mae Jemison's life story and contributions to science and what it is like to be an astronaut.</p>

