

BIOLOGY PROGRESSION

SUBSTANTIVE CONCEPT ANIMALS INCLUDING HUMANS

NURSERY	RECEPTION	YEAR 1	YEAR 2
Name obvious body parts on humans and animals	To name basic parts of the human body including heart and brain	knowing and locating the main body parts of a human	knowing and explaining that animals, including humans, have offspring which grow into adults
Understand the key features of the life cycle of an animal.	To understand what humans, need to grow To sequence the life cycle of a human	knowing the five senses and explaining how they help compare different textures, sounds and smells	knowing and explaining simple life cycles of animals, including humans
Name some differences between animals, e.g. fur / colour / markings.	To know that people are different & appreciate similarities and differences	knowing and explaining what an animal is and what a plant is	knowing and explaining that animals need water, food and air to survive
Name more excretions, e.g. snot, tears, blood.	To identify what makes me unique To identify differences between my appearance and others To look closely at ourselves and observe our features To know that I get older over time. To understand that humans grow and change over time To sequence the life cycle of an animal To match animals with their babies I know what animals need to survive	knowing and explaining how seasons influence plants and animals knowing and identifying the common features of fish, amphibians, reptiles, birds and mammals knowing, explaining and grouping animals by the types of food they eat knowing and explaining the places (habitats) that fish, amphibians, reptiles, birds and mammals live	knowing and explaining that to be healthy, humans need to exercise, eat the right amounts of different types of food and keep clean <i>NC Links</i> <i>notice that animals, including humans, have offspring which grow into adults</i> <i>find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</i> <i>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</i>
	<i>ELG</i> <i>explore the natural world around them, making observations and drawing pictures of animals and plants</i>	<i>NC links</i> <i>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</i>	

		<p><i>identify and name a variety of common animals that are carnivores, herbivores and omnivores</i></p> <p><i>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</i></p> <p><i>identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</i></p>	
--	--	--	--

BIOLOGY PROGRESSION

SUBSTANTIVE CONCEPT LIVING THINGS AND THEIR HABITATS

NURSERY	RECEPTION	YEAR 1	YEAR 2
<p>Know that some vegetables grow underground and they look different above and below the ground.</p> <p>Develop an understanding of growth, decay and changes over time, e.g. observing an apple / banana rotting / school compost heap, wet pile of leaves.</p> <p>Show care and concern for living things and the environment</p> <p>Begin to understand the effect their behaviour can have on the environment.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Comment and ask questions about aspects of their familiar world such as the place where they live or the natural world</p> <p>Make observations and talk about what they see, using a wide vocabulary.</p> <p>Ask simple why, when, what questions.</p>	<p>I know and can name features of my school and surrounding area</p> <p>To identify features of a woodland habitat</p> <p>I know how to make a bug hotel and which minibeasts will live there.</p> <p>To identify features of a Rainforest habitat</p> <p>I know animals that live in the rainforest</p> <p>I know the impact of cutting down trees on the rainforest</p> <p>To identify features of a polar habitat and locate them on a globe</p> <p>I know animals that live in a polar habitat</p> <p>I know the issue of global warming on the polar habitats.</p> <p>I know what I can do about climate change</p> <p>To identify features of a beach and ocean habitat</p> <p>I know which animals live at the beach and ocean</p> <p>I know why our oceans are becoming polluted</p> <p>I understand how important it is to persuade others to stop polluting the oceans</p> <p><i>ELG</i></p>		<p>knowing and explaining the common characteristic of living things, such as MRS GREN</p> <p>knowing and explaining the difference between things that are living, dead and things that have never been alive</p> <p>knowing and explaining what a habitat is and why plants and animals that live there are best suited to it</p> <p>knowing and identifying a variety of plants and animals in micro-habitats and habitats</p> <p>knowing and explaining what an animal is and how they get their food from other plants and animals</p> <p>knowing and explaining what a simple food chain is, including the direction of energy</p> <p><i>NC Links</i> <i>explore and compare the differences between things that are living, dead, and things that have never been alive</i></p>

	<p><i>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class</i></p>		<p><i>identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</i></p> <p><i>identify and name a variety of plants and animals in their habitats, including microhabitats</i></p> <p><i>describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</i></p>
--	---	--	--

BIOLOGY PROGRESSION

SUBSTANTIVE CONCEPT PLANTS

NURSERY	RECEPTION	YEAR 1	YEAR 2
<p>Know that fruit and vegetables are plants.</p> <p>Know that some vegetables grow underground and they look different above and below the ground.</p> <p>Understand the key features of the life cycle of a plant.</p> <p>Show care and concern for living things and the environment, e.g. keep plants alive by watering them.</p> <p>Make observations and talk about what they see, using a wide vocabulary.</p> <p>Ask simple why, when, what questions.</p> <p>Show interested in why things happen.</p> <p>Describe similarities and differences.</p>	<p>Name some common plants / vegetation, e.g. grass, tree, bush, daisy, dandelion</p> <p>Examine change over time, for example, life cycle of different plants / fruit / vegetables, growing plants from seeds, plants which go to seed</p> <p>Talk about simple plant parts and what happens to them. leaves, roots, stem, petal</p> <p>Talk about simple similarities and differences in plants.</p> <p><i>ELG</i> <i>explore the natural world around them, making observations and drawing pictures of animals and plants</i></p>	<p>knowing and identifying the basic structure of plants and trees, such as roots, bulbs, stem, leaf, flower, fruits, trunk, branch and crown</p> <p>knowing and identifying the common names of wild and garden plants buttercup, stinging nettle, dandelion, daisy, ivy, sunflower, tulip, pansy, rose, lavender</p> <p>knowing and identifying explaining different trees in the locality – oak, horse chestnut, beech, scots pine</p> <p>knowing and explaining the difference between evergreen and deciduous trees, including the influence of season</p> <p><i>NC links</i> <i>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</i></p> <p><i>identify and describe the basic structure of a variety of common flowering plants, including trees</i></p>	<p>knowing and explaining what conditions are needed for seeds to germinate and mature into plants</p> <p>knowing and explaining how bulbs grow</p> <p>knowing and explaining the conditions that plants need to thrive, grow, mature, and reproduce</p> <p><i>NC Links</i> <i>Observe and describe how seeds and bulbs grow into mature plants</i></p> <p><i>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</i></p>

PHYSICS PROGRESSION

SUBSTANTIVE CONCEPT SEASONAL CHANGES AND DAILY WEATHER

NURSERY	RECEPTION	YEAR 1	YEAR 2
<p>Know the difference between day and night, dark and light.</p> <p>Name more weather types, e.g. storm, thunder, lightning, rainbow, cloudy.</p> <p>Know that we wear different clothes for different weather</p>	<p>To know seasonal changes over time</p> <p>To know and explain the changes that happen in Autumn, Winter, Spring and Summer</p> <p>To know and understand the difference between hot and cold and how humans react differently</p> <p>I know how to take care of myself in the summer</p> <p>To know that the earth is getting hotter over time due to climate change</p> <p>I know what I can do about climate change</p> <p>I know why our oceans are becoming polluted.</p> <p><i>ELG</i> <i>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</i></p>	<p>knowing and explaining the order of seasons</p> <p>knowing and explaining the changes within each season including months of the year</p> <p>knowing different patterns of weather and explaining, for example, how rain can occur in all seasons</p> <p>knowing that the earth rotates and explaining how day and night occurs</p> <p><i>NC links</i> <i>observe changes across the 4 seasons</i> <i>observe and describe weather associated with the seasons and how day length varies</i></p>	

CHEMISTRY PROGRESSION

SUBSTANTIVE CONCEPT EVERYDAY MATERIALS / USES OF EVERYDAY MATERIALS

NURSERY	RECEPTION	YEAR 1	YEAR 2
<p>Talk about the differences between materials and changes they notice.</p> <p>Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and / or different properties</p> <p>Describe similarities and differences.</p> <p>Begin to group and sort</p>	<p>Know about similarities and differences in materials.</p> <p>Sort materials using criteria such as soft, hard, flexible, plastic, wood, metal.</p> <p>Develop their own ideas through experimentation with a diverse range of materials. (EAD Link)</p> <p>Increasingly choose more appropriate materials for the job, e.g. cotton reels / lids for wheels, wool for hair. (EAD Link)</p> <p>Look at how materials change, e.g. when cooking</p> <p>To know how to sort using simple criteria</p> <p><i>ELG</i></p> <p><i>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</i></p> <p><i>ELG – EAD link</i></p> <p><i>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function</i></p>	<p>knowing the properties of everyday materials, such as wood, plastic, glass, metal, water, and rock</p> <p>knowing and explaining the difference between an object and the material from which it is made, such as metal and a spoon</p> <p>knowing and explaining the properties of materials, such as hard / soft, stretchy, / stiff, rough / smooth, bendy / rigid, waterproof /not waterproof, absorbent / not absorbent, opaque / translucent / transparent</p> <p>knowing, explaining and grouping a range of everyday materials depending on their properties</p> <p><i>NC links</i></p> <p><i>distinguish between an object and the material from which it is made</i></p> <p><i>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</i></p> <p><i>describe the simple physical properties of a variety of everyday materials</i></p>	<p>knowing and explaining what properties everyday materials have</p> <p>knowing, comparing and explaining the properties and suitability of everyday materials for particular uses, such as glass in windows or bricks for building – identifying what is suitable or unsuitable</p> <p>knowing and explaining how the shape of everyday materials can be changed, for example by squashing, bending, twisting and stretching</p> <p>explaining how significant scientists have made useful things from knowing about the properties of materials, such as Charles Macintosh</p> <p><i>NC links</i></p> <p><i>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</i></p> <p><i>find out how the shapes of solid objects made from some materials can be</i></p>

		<i>compare and group together a variety of everyday materials on the basis of their simple physical properties</i>	<i>changed by squashing, bending, twisting and stretching</i>
--	--	--	---

PHYSICS PROGRESSION

SUBSTANTIVE CONCEPT FORCES

NURSERY

RECEPTION

YEAR 1

YEAR 2

--	--	--	--