



Progression of Skills: Scientific Knowledge and Concepts

As well as showing what has been taught in previous year groups for each topic of the Science curriculum, this table also shows links between the different topics across year groups. Links to other topics within each year group have not been included as teachers will be aware of what has already been taught in the current school year.

This table will show what scientific knowledge and understanding the children should have already acquired which will form the foundation for any new learning. It may be helpful to informally identify what children have learnt and retained from previous year groups and recap prior learning at the start of a new topic, particularly if there has been a gap of a year or more since that topic was last taught.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	<p>Growth - carefully planting, watering and looking after plants they have grown from seeds. Recording growth of seeds & notice changes; measuring height & other changes. Observe growth and decay over time</p> <p><u>Links to:</u> Living Things Needs of plants (Y2b) Plants Nutrients (Y6b) Transporting water (Y6c) Plants (Y1a,b)</p>	<p>Pupils should be taught to:</p> <p>a identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>b identify and describe the basic structure of a variety of common flowering plants, including trees</p> <p><u>Links to:</u> Living Things Needs of plants (Y2b) Plants Nutrients (Y6b) Transporting water (Y6c) Growth (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a observe and describe how seeds and bulbs grow into mature plants</p> <p>b find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p> <p><u>Links to:</u> Plants (Y1a,b) Living Things Needs of plants (Y3b) Growth (EYFS)</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> - identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers - explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant - investigate the way in which water is transported within plants - explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal <p><u>Links to:</u> Living Things Needs of plants (Y2b) Nutrients (Y6b) Transporting water (Y6c) Growth (EYFS)</p>			

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals Including Humans	<p>Lifecycles in natural world of plants & animals watching tadpoles grow & release into pond area, our own lifecycle of babies-toddlers-young child, chicks in incubators</p> <p>Healthy living & dentistry & how to look after your teeth Includes healthy foods (food tech) & exercise (whole school activity sports day)</p> <p>Links to: Animals including humans (Y1d, Y2c, Y3ab, Y4ab, Y5a)</p>	<p>Pupils should be taught to:</p> <p>a identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>b identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>c describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>d identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>Links to: Animals including humans (Y2c, Y3a, Y4ab, Y5a, Y6c) Life cycles (EYFS) Healthy living and dentistry (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a notice that animals, including humans, have offspring which grow into adults</p> <p>b find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>c describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p> <p>Links to: Animals including humans (Y1d, Y3a, Y4ab, Y5a, Y6c) Life cycles (EYFS) Healthy living and dentistry (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>b identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p>Links to: Animals including humans (Y1d, Y2c, Y4ab, Y5a, Y6c) Life cycles (EYFS) Healthy living and dentistry (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a describe the simple functions of the basic parts of the digestive system in humans</p> <p>b identify the different types of teeth in humans and their simple functions</p> <p>c construct and interpret a variety of food chains, identifying producers, predators and prey</p> <p>Links to: Living Things - Food chains (Y2d) - Life cycles (EYFS) - Healthy living and dentistry (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a describe the changes as humans develop to old age</p> <p>Links to: Animals including humans (Y1d, Y2c, Y6c) Life cycles (EYFS)</p>	<p>Pupils should be taught to:</p> <p>b identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>c recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>d describe the ways in which nutrients and water are transported within animals, including humans</p> <p>Links to: Plants - Nutrients (Y3b) - Transporting water (Y3c) Links to: Animals including humans (Y1d, Y2c, Y3ab, Y4ab, Y5a) Life cycles (EYFS) Healthy living and dentistry (EYFS)</p>
Living Things and Their Habitats	<p>Minibeast hunts Encourage children’s exploration, curiosity, appreciation and respect for living things eg sharing the fascination of a child who finds woodlice teeming under an old log - modelling the careful handling of a worm and helping children return it to the dug-up soil.</p> <p>Links to: Animals including humans Food chains (Y4c) - Identifying, describing, comparing (Y1a, Y1c) Living things and their habitats (Y5ab, Y6a, b) Plants - Identifying and grouping (Y1a) Requirements for life and growth (Y2b, Y3b)</p>		<p>Pupils should be taught to:</p> <p>a explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>b 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</p> <p>c identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>d 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</p> <p>Links to: Animals including humans Food chains (Y4c) Minibeast hunts (EYFS)</p>		<p>Pupils should be taught to:</p> <p>a recognise that living things can be grouped in a variety of ways</p> <p>b explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>c recognise that environments can change and that this can sometimes pose dangers to living things</p> <p>Links to: Animals Including Humans - Identifying, describing, comparing (Y1a, Y1c) Living things and their habitats (Y5ab, Y6a, b) Plants - Identifying and grouping (Y1a) - Requirements for life and growth (Y2b, Y3b) Minibeast hunts (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>b describe the life process of reproduction in some plants and animals</p> <p>Links to: Animals Including Humans - Offspring (Y2a) Plants - Life cycle (Y3d) Living things and their habitats (Y6a, b) Minibeast hunts (EYFS)</p>	<p>Pupils should be taught to:</p> <p>a describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>b give reasons for classifying plants and animals based on specific characteristics</p> <p>Links to: Animals Including Humans - Identifying, describing, comparing (Y1a, Y1c) Living things and their habitats (Y5ab) Plants - Identifying and grouping (Y1a) Requirements for life and growth (Y2b, Y3b) Minibeast hunts (EYFS) Growth (EYFS)</p>

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces and Magnets	<p>Forces Explore how different materials sink and float. eg how the water pushes up when they try to push a plastic boat under it - how they can stretch elastic, snap a twig, but can't bend a metal rod - magnetic attraction and repulsion, pushing, pulling lifting – Gross Motor play in construction areas, outside using trucks, trugs, planks, crates</p> <p><u>Links to:</u> Forces and magnets (Y3de) Materials/States of matter (Y5e,f)</p>			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> a compare how things move on different surfaces b notice that some forces need contact between two objects, but magnetic forces can act at a distance c observe how magnets attract or repel each other and attract some materials and not others d 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 e describe magnets as having two poles f predict whether two magnets will attract or repel each other, depending on which poles are facing <p><u>Links to:</u> Materials/States of matter (Y5e,f)</p>		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> a explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object b identify the effects of air resistance, water resistance and friction, that act between moving surfaces c recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect <p><u>Links to:</u> Forces and magnets (Y3de)</p>	
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Light	<ul style="list-style-type: none"> • Dark/Light Explore how you can shine light through some materials, but not others. • Use of our light table, bonfire night & firework - links with EAD exploration of colour mixing & textures • Investigate shadows. Draw around shadows <p><u>Links to:</u> Light (Y3a,b,c,d) Light (Y6a,b,c,d)</p>			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> a recognise that they need light in order to see things and that dark is the absence of light b notice that light is reflected from surfaces c recognise that light from the sun can be dangerous and that there are ways to protect their eyes d recognise that shadows are formed when the light from a light source is blocked by an opaque object e find patterns in the way that the size of shadows change <p><u>Links to:</u> Light (Y6a,b,c,d) Light and dark (EYFS)</p>			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> a recognise that light appears to travel in straight lines b use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye c explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes d use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them <p><u>Links to:</u> Light (Y3a,b,c,d) Light and dark (EYFS)</p>

