Progression in Science Knowledge

Knowledge	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				Biology			
Animals, including Humans (SAH)	After close observation, draw pictures of the natural world, including animals. Name and describe some animals children are likely to see, encouraging children to recognise familiar animals whilst outside.	SAH1.1 Identify and name a variety of different animals. SAH1.2 Identify and name animals that are carnivores, herbivores and omnivores. SAH1.3 Describe and compare a variety of different animals, including pets. SAH1.4 Identify, name and label the basic parts of the human body SAH1.5 Say which part of the body is associated with each sense.	SAH2.1 Recognise animals and their babies SAH2.2 Find out about the basic needs of animals and humans, and those important for survival SAH2.3 Describe the importance of exercise, diet and hygiene for humans.	SAH3.1 Understand that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; compare and contrast diets. SAH3.2 Understand that humans and some other animals get nutrition from what they eat. SAH3.3 Identify that humans and some other animals have skeletons for support, protection and movement SAH3.4 Identify that humans and some other animals have muscles for support and movement.	SAH4.1 Describe the simple functions of the basic parts of the human digestive system SAH4.2 Identify the different types of teeth in humans; explain their simple functions. SAH4.3 Construct and interpret a variety of food chains; identify producers, predators and prey	SAH5.1 Describe the changes as humans develop to old age	SAH6.1 Identify and name the main parts of the human circulatory system SAH6.2 Describe the functions of the main parts of the human circulatory system, including the heart, blood vessels and blood SAH6.3 Recognise the impact of diet, exercise, drugs and lifestyle on the way the human body functions SAH6.4 Describe the ways in which nutrients and water are transported within animals, including humans. SAH6.5 Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. SAH6.6 Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents SAH6.7 Understand how animals and plants are adapted to suit their environments in different ways and that adaptation may lead to evolution

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Living Things and their habitats & Plants (SLHP)	Create opportunities to discuss how we care for the natural world around us. Offer opportunities to sing songs and join in with rhymes and poems about the natural world. After close observation, draw pictures of the natural world, including plants. Name and describe some plants children are likely to see, encouraging children to recognise familiar plants whilst outside. Teach children about a range of contrasting environments within both their local and national region. Model the vocabulary needed to name specific natural features of the world. Share non-fiction texts that offer an insight into contrasting environments. Listen to how children communicate their understanding of their own environment and contrasting environments	SP1.3 Name the parts of different plants and trees. SP1.2 Identify deciduous and evergreen trees. SP1.3 Name the parts of different plants and trees.	SP2.1 Observe and describe how seeds and bulbs grow into plants. SP2.2 Find out and describe the basic needs of a plant. SLTH2.3 Explore and understand the difference between things that are living, those that are dead and those that have never been alive. SLTH2.4 Identify different habitats and explain how they suit different animals. SLTH2.5 Identify and name	SP3.1 Identify the different parts of flowering plants, including roots, stem/trunk, leaves and flowers. SP3.2 Describe the functions of different parts of flowering plants, including roots, stem/trunk, leaves and flowers. SP3.3 Understand the requirements of plants for life and growth and how they vary from plant to	SLTH4.1 Recognise that living things can be grouped in a variety of ways. SLTH4.2 Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment SLTH4.3 Recognise that environments can change and that this can sometimes pose dangers to living things	SLTH5.1 Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. SLTH5.2 Describe the life process of reproduction in some plants and animals.	SLTH6.1 Describe how living things, including micro-organisms, plants and animals, are classified into broad groups according to similarities and differences in common observable characteristics. SLTH6.2 Give reasons for classifying plants and animals based on their specific characteristics.

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	through conversation and in play.						
			a variety of plants and animals in their habitats.	SP3.4 Explain the way in which water is transported within plants. SP3.5 Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. plant.			

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Physics

	Observe and interact with natural processes, such as a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water.			**Light (SLS)** SL3.1 Recognise that light is needed in order to see objects and that dark is the absence of light. SL3.2 Notice that light is reflected from different surfaces in different ways. SL3.3 Recognise that light from the sun can be dangerous and that there are ways to protect our eyes. SL3.4 Recognise how shadows are formed when the light from a light source is blocked by a solid object and consider ways of changing shadows. SL3.5 Find patterns in the way that the sizes of shadows change – due to the time of day and change of light source.	**Electricity (SSE)** SE4.1 Identify common appliances that run on electricity. SE4.2 Construct a simple series electrical circuit; identify and name its basic parts. SE4.3 Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. SE4.4 Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. SE4.5 Recognise some common conductors and insulators (and associate metals) with being good conductors	**Forces, Earth and Space and Magnets (SFMES)** SF5.1 Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. SF5.2 Identify the effects of air resistance, water resistance and friction that act between moving surfaces. SF5.3 Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. SES5.4 Describe the movement of the Earth and other planets relative to the Sun in the solar system. SES5.5 Describe the movement of the Moon relative to the Earth SES5.6 Describe the Sun, Earth and Moon as approximately spherical bodies.	**Light (SLS)** SL6.1 Recognise that light appears to travel in straight lines. SL6.2 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. SL6.3 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. SL6.4 Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. **Electricity (SSE)** SE6.1 Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit SE6.2 Compare and give reasons for variations in how components function; include
					.		a focus on variations in the brightness of bulbs, the loudness of buzzers and the on/off position of switches. SE6.3 Use recognised symbols when representing a simple circuit in a diagram.

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Chemistry

	Observe and interact with natural processes, such as ice melting, light travelling through transparent material, an object casting a shadow, a magnet attracting an object.	**Materials (SPSM)** SM1.1 Identify the difference between an object and the material it is made from. SM1.2 Identify and name a variety of materials. SM1.3 Describe the properties of different materials. SM1.4 Compare and group materials based on their properties. SM1.5 Ask questions about materials.	**Materials (SPSM)** SM2.1 Propose materials that could be used for a given purpose; compare the materials and identify the most suitable material for the task. SM2.2 Describe how some materials can be manipulated or be made to change shape.	**Rocks (SPSM + SR)** SR3.1 Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. SR3.2 Describe in simple terms how fossils are formed when things that have lived are trapped within rock. SR3.3 Recognise that soils are made from rocks and organic matter.	**States of Matter (SPSM + SR)** SSM4.1 Compare and group materials together, according to whether they are solids, liquids or gases SSM4.2 Observe that some materials change state when they are heated or cooled. SSM4.3 Measure or research the temperature at which materials change state when they are heated or cooled in degrees Celsius (°C). SSM4.4 Identify the part played by evaporation and condensation in the water cycle. SSM4.5 Associate the rate of evaporation with temperature	**Materials (SPSM)** SM5.1 Compare and group together everyday materials on the basis of their properties. SM5.2 Know that some materials will dissolve in liquid to form a solution; describe how to recover a substance from a solution. SM5.3 Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. SM5.4 Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials. SM5.5 Demonstrate that dissolving, mixing and changes of state are reversible changes. SM5.6 Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible.	