Winnington Park Primary School Science Knowledge Progression

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
ELG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; - 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; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		Living things and their habitats (suitable habitats/ simple food chains) To know the differences between things that are living, dead, and things that have never been alive To identify that most living things live in habitats to which they are suited and to describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other To identify and name a variety of plants and animals in their habitats, including micro-habitats To 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.		Living things and their habitats (grouping and simple classifying/ changes to habitats can pose dangers) To know that living things can be grouped in a variety of ways. To know how to use classification keys to help group, identify and name a variety of living things in their local and wider environment To recognise that environments can change and that this can sometimes pose dangers to living things. To explain how environmental changes may have an impact on living things. To describe a food chain in detail.	Living things and their habitats (life cycles) To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird To describe the life process of reproduction in some plants and animals. To name, locate and describe the functions of the main parts of plants, including those involved in reproduction.	Living things and their habitats (classifying including microorganisms) To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals To know reasons for classifying plants and animals based on specific characteristics. To know the observable features of plants, animals and micro-organisms to group, classify and identify them into broad groups, using keys or other methods.

		To describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships. To name different plants and animals and describe how they are suited to different habitats				
	Plants (names and structure of plants) To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees To identify and describe the basic structure of a variety of common flowering plants, including trees	Plants (conditions for growing) To describe how seeds and bulbs grow into mature plants To describe how plants need water, light and a suitable temperature to grow and stay healthy. To know the basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants To name different plants and describe how they are suited to different habitats	Plants (function of parts & life cycle) To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers To know 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 To describe how water is transported within plants To describe the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. To name, locate and			

			describe the functions of the main parts of plants, transporting water and nutrients To describe the requirements of plants for life and growth			
	Animals, including humans (naming animals & body parts) To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals To identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) To identify and name the basic parts of the human body and say which part of the body is associated with each sense. To name and locate parts of the human	Animals, including humans (health and growth) To know what offspring means. To know that animals, including humans, have offspring which grow into adults To describe the basic needs of animals, including humans, for survival (water, food and air) To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. To describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults To describe the importance of exercise, a balanced diet and hygiene for humans	Animals, including humans (skeletons) To 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 To identify that humans and some other animals have skeletons and muscles for support, protection and movement. To name and describe the functions of the main parts of the musculoskeletal	Animals, including humans (Teeth, eating and digestion) To describe the simple functions of the basic parts of the digestive system in humans To identify the different types of teeth in humans and their simple functions To describe a food chain identifying producers, predators and prey. To name and describe the functions of the main parts of the digestive	Animals, including humans (changes in humans as they grow) To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird To describe the life process of reproduction in some plants and animals. To describe different reproductive processes and life cycles in animals	Animals, including humans (health and circulation) To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood To explain the impact of diet, exercise, drugs and lifestyle on the way their bodies function To describe the ways in which nutrients and water are transported within animals, including humans. To name and describe the functions of the main parts of the circulatory systems To describe the effects of diet, exercise, drugs and lifestyle on how the body functions

	body, including those related to the senses. To describe the observable features of animals from a range of groups. To know what animals eat.					
						Evolution and inheritance To know that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago To know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents To know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

						To describe how living things have changed over time using the basic ideas of inheritance, variation and adaptation
			Rocks (including fossil formation) To name different types of rocks To know that soils are made from rocks and organic matter. To describe how fossils are formed			
	Everyday materials To know the difference between an object and the material from which it is made To name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock To describe the simple physical properties of a variety of everyday materials	Uses of every day materials To know the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses To know the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. To know how to squash, bend, twist and stretch a material.		States of matter To know whether materials are solids, liquids or gases To know that some materials change state when they are heated or cooled To know the part evaporation and condensation play in the water cycle and understand that the rate of evaporation is linked to temperature.	Properties and changes of materials To know which materials would be in groups according to properties such as their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution To use knowledge of solids, liquids and gases to decide how mixtures might be	

					separated, including through filtering, sieving and evaporating To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic To demonstrate that dissolving, mixing and changes of state are reversible changes To explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	
			Light To recognise that they need light in order to see things and that dark is the absence of light To know that light is reflected from surfaces To recognise that light from the sun can be dangerous and that there are ways to			Light To recognise that light appears to travel in straight lines To explain that objects are seen because they give out or reflect light into the eye To explain that we see things because light

			protect their eyes To recognise that shadows are formed when the light from a light source is blocked by an opaque object			travels from light sources to our eyes or from light sources to objects and then to our eyes To explain why shadows have the same shape as the objects that cast them.
				Sound To identify how sounds are made, associating some of them with something vibrating To recognise that vibrations from sounds travel through a medium to the ear To explain the patterns between the pitch of a sound and features of the object that produced it To explain the patterns between the volume of a sound and the strength of the vibrations that produced it To recognise that sounds get fainter as the distance from the sound source increases.		

			Forces and magnets (friction/magnets) To know that things move differently on different surfaces To know that some forces need contact between two objects, but magnetic forces can act at a distance To know that magnets attract or repel each other and attract some materials and not others To name materials and objects that are attracted to magnets To know that magnets have two poles To know the difference between the two poles on a magnet		Forces (gravity, friction, air resistance, water resistance, levers pulleys and gears) To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. To identify the effects of air resistance, water resistance and friction, that act between moving surfaces To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	
	Seasonal Changes To know what the four seasons are To know the order of the seasons To describe typical				Earth and Space To describe the movement of the Earth, and other planets, relative to the Sun in the solar system To describe the movement of the Moon relative to the Earth	

	weather in each season To explain how one season has changed compared to the previous				To describe the Sun, Earth and Moon as approximately spherical bodies To explain day and night and the apparent movement of the sun across the sky using the idea of the Earth's rotation To describe the shapes and relative movements of the Sun, Moon, Earth and other planets in the solar system; and explain the apparent movement of the sun across the sky in terms of the Earth's rotation and that this results in day and night	
				Electricity To identify common appliances that run on electricity To know how to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers To 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		Electricity To know the brightness of a lamp or the volume of a buzzer is due to the number and voltage of cells used in the circuit To give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches To know recognised

				battery To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit To recognise some common conductors and insulators, and associate metals with being good conductors.		symbols and use them when representing a simple circuit in a diagram.