Science Knowledge Progression Map- end points

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Biology- Plants	Make observations of plants Know some names of plants, trees and flowers • May be able to name and describe different plants, trees and flowers Show some care for their world around them	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants. Identify and name the roots, trunk, branches and leaves of trees.	Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and warmth to grow and stay healthy.	Identify and describe the functions of different parts of the flowering plant: roots, stem/trunk/leaves and flowers Explore the part flowers play in a flowering plant's life cycle, including pollination, seed formation and seed dispersal Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary between plants Know the way in which water is transported between plants		Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)	
Biology- Living things and their habitats		Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) Identify and describe the basic structure of a	Explore and compare the difference between things that are living, dead and things that have never been alive.	See links with plants	Construct and interpret a variety of food chains, identifying producers, predators and prey. Identify that most living things live in	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.	Classify living things into broad groups according to observable characteristics and based on similarities and differences Give reasons for

		variety of common flowering plants, including trees. (Y1 - Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans) Observe changes across the four seasons.	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. Identify and name a variety of plants and animals in their habitats, including micro habitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food.		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. Identify and name a variety of plants and animals in their habitats, including micro habitats.		classifying plants and animals based on specific characteristics.
Biology- Animals including humans	be able to identify different parts of their body. • Have some understanding of healthy food and the need for variety in their diets.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.	Know that animals, including humans, have offspring which grow into adults Know the basic stages in a life cycle for	Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food;	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different	Know the life cycle of different living things, e.g. Mammal, amphibian, insect bird. Know the differences between different life	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.

	Be able to show care and concern for living things. Know the effects exercise has on their bodies. Have some understanding of growth and change. Can talk about things they have observed including animals	Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Identify, draw and label basic parts of the human body	animals, including humans. Find out and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	they get their nutrition from what they eat. Know how nutrients, water and oxygen are transported within animals and humans. Know about the importance of a nutritious, balanced diet. Identify that humans and some other animals have skeletons and muscles for support, protection and movement:	types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey	cycles. Know the process of reproduction in plants. Know the process of reproduction in animals	Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.
Biology- Evolution and inheritance							Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation can

							lead to evolution.
Chemistry- Everyday materials, properties and changes		Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.				
Chemistry- States of matter					Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify the part	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution and describe how to	

					played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. 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.	
Chemistry- Rocks and soils				Compare and group together different kinds of rocks on the basis of their appearance and simple physical			

				properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.			
Chemistry- Seasonal changes	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies			See links with light		See links with Earth and Space	
Physics- Sound and light	Understand the key features of the life cycle of a plant and an animal. (Nursery – Plants & Animals, excluding humans) Explore the natural world around them. (Reception – Seasonal changes) Describe what they see, hear and feel whilst outside. (Reception – Seasonal changes) Understand the effect of changing seasons on the natural world around them. (Reception – Seasonal changes)			Recognise that they need light in order to see things, and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds		Recognise that light appears to travel in straight lines. 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. 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

				the way that the size of shadows change.	get fainter as the distance from the sound source increases.		
Physics- Forces and magnets	Explore how things work. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. Explore the natural world around them. Describe what they see, hear and feel whilst outside.			Compare how things move on different surfaces Notice that some forces need contact between two objects, but magnetic forces can act at a distance Observe how magnets attract or repel each other and attract some materials and not others. 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. Describe magnets as having two poles.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	
Physics- Electricity	May have some understanding that objects need electricity to work.				Identify common appliances that run on electricity. Construct a simple		Associate the brightness of a lamp

	May understand that a switch will turn something on or off. Explore how things work. (Nursery - Electricity)				series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes the circuit and associate this with whether a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. Know the difference between a conductor and an insulator, giving examples of each. Safety when using electricity.		or the volume of a buzzer with the number and voltage of cells used in the circuit compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches use recognised symbols when representing a simple circuit in a diagram
Physics- Earth and space		See links with Seasons- observing the changes in the length of day and night				Describe the movement of the Earth, and other planets, relative to the sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun,	

						Earth and Moon as appropriately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	