Progression Map: Scientific Knowledge and Understanding

Plants						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To make simple observations about plants and explain why some things occur.	To name common plants To describe the basic structure of flowering plants, including deciduous and evergreen To identify and describe the basic structure of a variety of common flowering plants, including trees.	To observe and describe how seeds and bulbs grow into mature plants. To describe how plants needs water, light and suitable temperature to grow healthy and strong.	To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers To describe the requirements of plants for life and growth and how they vary from plant to plant. To investigate the way in which water is transports within plants. To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			
Plant, leaf, stem, flower, grow, rain, sun, water, soil, seed	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud	All Year 1 vocab + Sun, warm, cool, water, grow, healthy	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal, wind dispersal, pollen, roots, stem, trunk, leaves, absorb,			

			nutrients, reproduce, germination, stamen, style			
Animals including humans						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To notice changes in their bodies after exercise, such as heart beating faster	To identify a variety of common animals, including: fish, amphibians, reptiles, birds and mammals	To know animals including humans, have offspring, which grow into adults.	To identify the right types and amount of nutrition human and animals needs.	To describe the simple functions of the basic parts of a human digestive system.	To describe the changes as humans develop from birth to old age.	To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.
To understand the importance of hand washing	To identify a variety of common animals that are carnivores, herbivores and omnivores.	To describe the basic needs of animals, including humans, for survival (water, food and air)	To explain that most animals (including humans) have skeletons muscles for support, protection and movement.	To identify the functions of different human teeth.		To identify the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood.
	To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, mammals) To label the body parts of a human body and say which part of the body is associated with each sense.	To describe the importance of exercise, eating the correct amount of different types of food, hygiene.		To construct and interpret a variety of food chains (identifying the producers, predators and prey).		To describe they ways in which nutrients and water are transported within animals, including humans.
head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, heart,	amphibian, mammal, omnivore, carnivore, herbivore, touch, taste, smell, feel, hear, see	Offspring, grow, adults, nutrition, reproduce, survival, water, food, air, exercise, hygiene, survival, exercise.	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones,	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients,	Egg, sperm, ovary, testes, fertilisation, puberty	Heart, pulse, rate, pumps, blood, blood vessel, transported, lungs, oxygen, carbon dioxide, nutrients, water,

			muscles, support, protect, skull, ribs, spine, muscles, joints.	large intestine, rectum, anus, incisor, canine, herbivore, omnivore.		muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle.

Living Things						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To identify similarities and differences between themselves and others, and among families, communities and traditions.		To compare differences between things that are living, dead and things that have never been alive.		To recognise that living things can be grouped in a variety of ways.	To describe the differences in the lifecycles of a mammal, an amphibian, an insect and a bird.	To describe how living things are classified in broad groups according to common characteristics and based on similarities and differences, including micro - organisms, plants and animals.
They can talk about their environment.		To identify that most living things live in habitats to which they are suited		To group, identify and name a variety of living things in their local environment.	To describe the life processes of reproduction in some plants and animals.	To give reasons for classifying plants and animals based on specific characteristics
		To identify and name a variety of plans and animals in their habitats, including microhabitats. To describe how animals obtain their food from plants and		To recognise that environments can change and that this can sometimes pose dangers to living things.		

		other animals using a simple food chain.				
		Living, dead, never been alive, suited, suitable, basic need, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland, names of micro habitats e.g. under logs, in bushes etc.		Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate.	Lifecycle, mammal, amphibian, germination, seed formation, insect, bird, pollination, life processes, plants, animals, reproduction, environment, dispersal, growth, living, eggs, and seeds.	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering and non - flowering.

Evolution and Inheritance						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. To recognise that living things have changed over times and fossils provide information about living things that

inhabited the Earth millions of years ago.

offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils.

Materials						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To introduce and encourage children to use the vocabulary of manipulation e.g. squeeze and prod	To distinguish between an object and the material from which it is made.	To identify the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.			To compare materials on the basis of their properties, including hardness, solubility, transparency, conductivity and response to magnets.	
To talk about why things happen and how things work.	To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.	To discover how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching			To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.	
To notice changes in properties as they are transformed through becoming	To describe the simple physical properties of a variety of everyday materials.				To use knowledge of solids, liquids gases to decide how mixtures might be separated, including through filtering,	

wet, dry, flaky or fixed.

To compare everyday materials based on their simple physical characteristics.

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 this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Wet, dry, shiny, dull, bendy, stiff, squashy, hard/soft, lumpy, wrinkly. Smooth, rough

Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull,

Names of materials: wood, plastic, glass, metal, water, rock, brick, paper, fabric, card, rubber, suitable/unsuitable, use/useful, hard/soft, stretchy/stiff. Rigid/flexible, waterproof/absorbent, strong/weak, rough/smooth, transparent/opaque,

Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/not reversible, change, burning, rusting, new material.

	see through, not see through	shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching				
States of Matter						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				To compare and group materials together, according to whether they are solids, liquids or gases. To 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 To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation,		

				temperature, water cycle		
Rocks and Soils						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			To compare different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed when things that have lived are trapped within a rock. To recognise that soils are made from rocks and organic matter. Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil.			
Seasonal Changes						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To show concern and care for the environment.	To observe changes across the four seasons.					

To notice changes and differences in the environment. To develop an understanding of decay and changing over time. Snow, wind, rain, sun, day, night, stormy, cloudy, hot, foggy	To observe and describe weather associated with the seasons. To observe how day length changes. Weather (e.g. sunny, rainy, windy, snowy etc.), winter, summer, spring, autumn, sunrise, sunset, day length					
Earth and Space						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					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. Describe the Sun, Earth and Moon as approximately spherical bodies. To use Earth rotation to explain day and night due to the apparent movement of the sun across the sky. Earth, sun, moon, Mercury, Jupiter, Saturn, Venus, Mars,	

Uranus, Neptune, Pluto (dwarf planet), spherical, solar system, rotates, star, orbit, planets, axis, night, day, season, galaxy. Meteorite.