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Whole School Knowledge Progression

Knowledge Progression	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans	I know that different animals have different body parts (some have no legs, some have lots) I know that different animals like different foods and live in difference places I know that some animals are big and some animals are small I know that butterflies do not start out looking like butterflies (undergo metamorphosis) I know how to talk about different places an animals might live I know that some animals hibernate I know that some animals are adapted to live under the sea and that humans are adapted to live on land I know that if I wash my hands then that will kill off germs I know about the importance of a healthy diet I know I cannot eat unhealthy foods like chips and pizza everyday and I need a variety of food I know about the importance of a healthy exercise regime I know that exercise is good for my body.	**I know how to describe and compare observable features of animals from a range of groups** **I know how to group animals according to what they eat** I know how to identify and name a variety of common animals including fish, amphibians, reptiles, mammals and birds I know how to identify and name a variety of common animals that are carnivores, herbivores and omnivores **I know how to name and locate parts of the human body, including those related to the senses** **I know how to describe and compare observable features of animals from a range of groups** I know how to describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) I know how to identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense I know how to take care of animals taken from their habitat and understand the need to return them safely to their homes I know how to use the vocabulary and identify: head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth **Vocab** **Humans and animals**: head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth	**I know how to name and locate parts of the human body, including those related to the senses and describe them** **I know how to describe the basic needs of animals for survival and the main changes as offspring from young animals, including humans, grow into adults** **I know how to group animals according to what they eat, describe how animals get their food from other animals and/or plants, and use simple food chains to describe these relationships** I know how to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene I know how to describe the basic needs of animals, including humans, for survival (water, food and air) **Vocab:** **egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep** I know how to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene I know how to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	I know how 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 I know how to identify that humans and some other animals have skeletons and muscles for support, protection and movement	I know how to describe the simple functions of the basic parts of the digestive system in humans I know how to identify the different types of teeth in humans and their simple functions I know how to construct and interpret a variety of food chains, identifying producers, predators and prey	I know how to describe the changes as humans develop to old age	I know how to identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood I know how to recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function I know how to describe the ways in which nutrients and water are transported within animals, including humans
Everyday Materials	I know that objects are made from different materials I know about similarities and differences in relation to places, objects, materials and living things I know how to about the features of my immediate environment and how environments might vary from one another I know how to make observations of animals and plants and explain why some things occur, and talk about changes	**I know how to distinguish objects from materials, describe their properties, identify and group everyday materials** I know how to distinguish between an object and the material from which it is made I know how to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock I know how to describe the simple physical properties of a variety of everyday materials I know how to compare and group together a variety of everyday materials on the basis of their simple physical properties **Vocab** **Materials:** hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent. brick, paper, fabrics, elastic, foil.	**I know how to distinguish objects from materials, describe their properties, identify and group everyday materials and compare their suitability for different uses** I know how to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses I know how to describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching			I know how to 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 I know how to recognise that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution I know how to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating I know how to give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic I know how to demonstrate that dissolving, mixing and changes of state are reversible changes I know how to explain that some changes result in the formation of new materials,	

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Whole School Knowledge Progression

						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				I know how to recognise that he/she needs light in order to see things and that dark is the absence of light I know how to notice that light is reflected from surfaces I know how to recognise that light from the sun can be dangerous and that there are ways to protect eyes I know how to find patterns in the way that the size of shadows change I know that it is not safe to look directly at the sun, even when wearing dark glasses			I know how to recognise that light appears to travel in straight lines I know how to 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 I know how to 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 I know how to use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
Magnets	I know that magnets are 'sticky' without being sticky. I know magnets stick to certain materials (metals) I know how to find an object which a magnet will stick to			I know how to compare how things move on different surfaces I know how to notice that some forces need contact between two objects, but magnetic forces can act at a distance I know how to 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 I know how to describe magnets as having two poles			
Electricity					I know how to identify common appliances that run on electricity I know how to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 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 I know how 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 I know how to recognise some common conductors and insulators, and associate metals with being good conductors		I know how to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit I know how to 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 I know how to use recognised symbols when representing a simple circuit in a diagram

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Seasonal changes	I know how to identify that it is Autumn, Winter, Summer and Spring I know how to identify seasonal colours I know that lots of new life begins in the Spring time I know how to choose appropriate clothing for the seasons	**I know how to observe and describe changes across the four seasons** I know how to observe and describe weather associated with the seasons and how day length varies I know that it is not safe to look directly at the sun, even when wearing dark glasses					
Plants	I know that plants need sun to grow I know that plants need water to grow I know that most plants need soil and nutrients to grow I know some plants grow from seeds	I know how to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees I know how to identify and describe the basic structure of a variety of common flowering plants, including trees I know how to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees **Vocab** **Plants**: leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem.	**I know how to describe 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** I know how to observe and describe how seeds and bulbs grow into mature plants I know how to find out and describe how plants need water, light and a suitable temperature to grow and stay healthy **Vocab:** **bulbs. germination, reproduction (questions that recognise growth), growth, survival**	I know how to identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers I know how to 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 I know how to investigate the way in which water is transported within plants I know how to explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			
Living things and their habitats	I know about similarities and differences in relation to living things and their habitats I know how to talk about the features of my own immediate environment and how environments might vary from one another I know how to make observations of animals and plants and explain why some things occur, and talk about changes.		**I know how to identify whether things are alive, dead or have never lived** I know how to explore and compare the differences between things that are living, dead, and things that have never been alive **I know how to name different plants and animals and describe how they are suited to different habitats** I know how to 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 I know how to identify and name a variety of plants and animals in their habitats, including micro-habitats I know how 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 **Vocab:** **Habitat**: A natural environment or home of a variety of plants and animals **Micro-habitat**: A very small habitat, for example for woodlice under stones, logs or leaf litter		I know how to recognise that living things can be grouped in a variety of ways I know how to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment I know how to recognise that environments can change and that this can sometimes pose dangers and have an impact on living things	I know how to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird I know how to describe the life process of reproduction in some plants and animals	I know how 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 I know how to give reasons for classifying plants and animals based on specific characteristics

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Rocks				I know how to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties I know how to describe in simple terms how fossils are formed when things that have lived are trapped within rock I know how to recognise that soils are made from rocks and organic matter.			
Forces				I know how to compare how things move on different surfaces I know how to notice that some forces need contact between two objects, but magnetic forces can act at a distance I know how to 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 I know how to describe magnets as having two poles I know how to predict whether two magnets will attract or repel each other, depending on which poles are facing		I know how to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object I know how to identify the effects of air resistance, water resistance and friction, that act between moving surfaces I know how to recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect I know how to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird I know how to describe the life process of reproduction in some plants and animals	
Sound					I know how to identify how sounds are made, associating some of them with something vibrating I know how to recognise that vibrations from sounds travel through a medium to the ear I know how to find patterns between the pitch of a sound and features of the object that produced it I know how to find patterns between the volume of a sound and the strength of the vibrations that produced it I know how to recognise that sounds get fainter as the distance from the sound source increases		
States of matter					I know how to compare and group materials together, according to whether they are solids, liquids or gases I know how 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 (°C) I know how to identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature		

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Earth and Space						I know how to describe the movement of the Earth, and other planets, relative to the Sun in the solar system I know how to describe the movement of the Moon relative to the Earth I know how to describe the Sun, Earth and Moon as approximately spherical bodies I know how to use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky I know that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). I know that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).	
Evolution and inheritance							I know how to recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago I know how to recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents I know how to identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Famous Scientists			Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.			They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.	Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification Pupils might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.

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