Science progression

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants (Biology)		Identifying and naming a variety wild and garden plants (including deciduous and evergreen trees). Identifying and describing the basic structure of a variety of common flowering (including trees)	Observing how seeds and bulbs grow into mature plants. Finding out how plants need water, light and suitable temperature to grow and stay healthy.	Identifying and describing the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Exploring 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. Investigating the way in which water is transported within plants. Exploring the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
Living things and their habitats (Biology)	Identifying similarities and differences in relation to living things. Observing change in living things and explaining reasons for change. Talking about their known environments (home, school, parks, farms and woodlands) and make simple comparisons.		Exploring and comparing the differences between things that are living, dead and things that have never been alive. Identifying 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. Explaining how animals and plants depend on each other. Identifying and naming a variety of animals and plants in their habitats including microhabitats (min-beast hotels). Describing how animals obtain their food from other animals and plants, using the idea of a simple food chain Identifying and naming different sources of food.		Recognising that living things can be grouped in a variety of ways. Exploring and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognising that environments can change and that this can sometimes pose dangers to living things.	Describing differences in life cycles of a mammal, amphibian, insect and bird. Describing the life processes and reproduction in some animals.	Describing how living things are classified into broad groups according to common observable characteristic and based on similarities and differences, including microorganisms and animals. Giving reasons for classifying animals based on specific characteristics.
Animals including humans (Biology)		Identifying and naming a variety of common animals including fish, amphibian, reptiles, birds and mammals. Identifying and naming a variety of common animals that are carnivores, omnivores and herbivores. Describing and comparing the structure of a variety of common animals: fish, amphibian, reptiles, birds and mammals (including pets). Identifying, naming, drawing and labelling the basic parts of the human body and say which part of the body is associated with each sense.	Noticing animals, including humans, have offspring which grow into adults. Describing the basic needs of animals (including humans): water, food and air. Describing the importance for exercise, eating the right amount of different types of food and hygiene.	Identifying 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. Identifying that humans and some other animals have skeletons and muscles for support, protection and movement.	Describing a simple function of the basic parts of the digestive system in humans. Identifying different types of teeth in humans and their simple functions. Constructing and interpreting a variety of food chains; identifying producers, predators and prey.	Describing changes as humans develop into old age. **(PSHE)**	Identifying and naming the main parts of the human circulatory system and describing the functions of the heart, blood vessels and blood. Recognising the impact of diet, exercise, drugs and life-style on the way their bodies function. Describing the ways which nutrients and water are transported within animals.

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Evolution and inheritance (Biology)							Recognising that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognising living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identifying how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Forces (Physics)	Identifying similarities and differences in relation to forces applied to an object. (Noticing a model falls down if a push force is applied/Using feet to peddle a bike.)			Comparing how things move on different surfaces Noticing that some forces need contact between objects, but magnetic forces can act at a distance. Observing how magnets attract or repel each other and attract some materials and not others. Comparing and grouping together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describing magnets as having two poles. Predicting whether two magnets will attract or repel each other, depending on which poles are facing.		Explaining that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identifying the effects of air resistance, water resistance and friction that act between moving surfaces. Recognising that some mechanisms (including levers, pulleys and gears) allow a smaller force to have a greater effect.	
Light (Physics)				Recognising that they need light in order to see and that dark is the absence of light. Noticing that light is reflected from surfaces . Recognising that light from the Sun can be dangerous and that there are ways to protect their eyes. Recognising that shadows are formed when the light from the light source is blocked by an opaque object. Finding patterns in the way that the sizes of a shadow change.			Recognising that light appears to travel in straight lines. Using the ideas that light travels in a straight line to explain that objects are seen because they give out or reflect light into the eye. Explaining that we see things because light travels from a light source to our eyes or from light sources to objects and then to our eyes. Using the idea that light travels in straight lines to explain why shadows have the same shape and the objects that cast them.
Sound (Physics)					Identifying how sounds are made, associating some of them with something vibrating.		

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					Recognising that vibrations from sounds travel through a medium to the ear. Finding patterns between the pitch and volume of the sound and features of the object that produced it. Recognising that sound gets fainter as the distance from the sound source increases.		
Electricity (Physics)					Identifying common appliances that run on electricity. Constructing a simple series electrical circuit that includes cells, wires, bulbs, switched and buzzers. Identifying whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete circuit with battery. Recognising that a switch opens and closes a circuit. Recognising common conductors and insulators.		Associating the brightness of a lamp and the volume of a buzzer with the number and voltage of cells used in the circuit. Comparing and giving reasons in variations for how components function, including the brightness of bulbs, loudness of buzzers and the on/off position of switches. Using and recognising symbols when representing a simple circuit in a diagram.
Earth & Space (Physics)						Describing the movement of the Earth, and other planets, relative to the Sun and the solar system. Describing the movement of the Moon relative to the Earth. Describing the Sun, Earth and Moon as approximately spherical bodies. Using the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	
Rocks (Chemistry)				Comparing and grouping different types of rocks based on their physical appearance and simple physical properties. Describing in simple terms how fossils are formed when things that have lived are trapped within rock. Recognising that soils are made from different types of rock and organic matter.			

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States of matter (Chemistry)					Comparing and grouping materials together according to whether they are solids liquids or gases. Observing that some materials change state when they are heated or cooled, and measuring or researching the temperature at which this happens in degrees Celsius. Identifying the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature		
Materials (Chemistry/Physics)	Identifying similarities and differences in relation to objects and materials (Is it rough or smooth? Does it melt in warm water? Can it float?). Observing chemical change and explaining reasons for change (The chocolate melts when I hold it).	Distinguishing between an object and the materials from which it is made. Identifying, describing and naming a variety of everyday materials and their properties. Comparing and grouping together a variety of everyday materials based on their simple physical properties. Identifying and comparing suitability of a variety of everyday materials.	Identifying and comparing suitability of a variety of everyday materials. Finding out how the shapes of solid objects made from some materials can be changed.			Comparing and grouping together a range of everyday materials on the basis of their properties, including their hardness, solubility, transparency and conductivity and response to magnets. Knowing that some materials will dissolve in a liquid to form a solution, and describe how to recover a substance from a solution. Using knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Giving reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials. Demonstrating that dissolving, mixing and changes of state can be reversible. Explaining that some changes result in the formation of a new material and this kind of change is not usually reversible.	
Seasonal changes		Observing changes across the four seasons Observing and describing weather associated with the seasons and how the day length varies.					
Working Scientifically	Observing change and explaining reasons for change (e.g. day and night). Identifying similarities and differences. Observing change and explaining reasons for change.	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions.		Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.		Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Identifying scientific evidence that has been used to support or refute ideas or arguments Using test results to make predictions to set up further comparative and fair tests. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	

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			Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Using straightforward scientific evidence to answer questions or to support their findings. Setting up simple practical enquiries, comparative and fair test Using straightforward scientific evidence to answer or support their findings. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Asking relevant questions and using different types of scientific enquiries to answer them. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Planning different types of scientific enquiries to answer questions, including recognising and controlling Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. variables where necessary.