Science – Progression of Knowledge & Skills

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Animals Including Humans**					
<u>Animals: Life Cycles</u> • I can describe an animal life cycle <u>Senses</u> • I can name my senses and know which body part is associated with each sense. <u>Animals & Habitats</u> • I can name and describe some animals that live in ocean and beach habitats. • I can name some of the body parts of some animals that live in the sea • I can talk about how sea creatures are the same and different to animals that live on land. • I can talk about how to care for sea creatures. • I can create a fact book about sea creatures.	• I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. • I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). • I can 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 can find out about and describe the basic needs of animals, including humans, for survival (water, food and air). • I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. • I can notice that animals, including humans, have offspring, which grow into adults.	• I can 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 can identify that humans and some other animals have skeletons and muscles for support, protection and movement.	• I can construct and interpret a variety of food chains, identifying producers, predators and prey. • I can describe the simple functions of the basic parts of the digestive system in humans. • I can identify the different types of teeth in humans and their simple functions**.**	• I can describe the changes as humans develop to old age	• I can describe the ways in which nutrients and water are transported within animals, including humans. • I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Living Things & Their Habitats**					
<u>Animals</u> • I can name and describe the physical appearance of animals from my local area • I can name and describe some animals that are nocturnal • I can name and describe some animals that hibernate • I can talk about how to care for/protect animals in my local area <u>Contrasting Environments</u> • I can name and describe some animals that live in China. • I can name and describe some animals that live in polar habitats		• I can explore and compare the differences between things that are living, dead, and things that have never been alive. • I can 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 can identify and name a variety of plants and animals in their habitats, including microhabitats. • I can 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.		• I can recognise that living things can be grouped in a variety of ways. • I can explore and use classification keys to help group, identify and name a variety of living things in my local and wider environment. • I can recognise that environments can change and that this can sometimes pose dangers to living things.	• I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • I can describe the life process of reproduction in some plants and animals.	• I can 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 can give reasons for classifying plants and animals based on specific characteristics

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Everyday Materials**	**Uses of Everyday Materials**	**Rocks**	**States of Matter**	**Properties and Changes of Materials During Years**	
<u>Animals & Habitats</u> • I can name and describe common materials. • I know the difference between land and sea • I can talk about some features of the coastline and know that not all beaches are the same <u>Important Processes</u> • I can talk about the changes I notice water is frozen and then melts • I can talk about floating and sinking and make predictions using knowledge my explorations • I can talk about the changes I notice chocolate is melted and then put in the fridge • I can observe mould and talk about what I can see	• I can distinguish between an object and the material from which it is made. • I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. • I can describe the simple physical properties of a variety of everyday materials. • I can compare and group together a variety of everyday materials on the basis of their simple physical properties.	• I can 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 can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	• I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. • I can recognise that soils are made from rocks and organic matter • I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.	• I can 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 can compare and group materials together, according to whether they are solids, liquids or gases. • I can 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 can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	• I can 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 can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • I can know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • I can demonstrate that dissolving, mixing and changes of state are reversible changes. • I can 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.	

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Sound**					
<u>Senses</u> • I can name my senses and know which body part is associated with each sense				• I can identify how sounds are made, associating some of them with something vibrating. • I can recognise that vibrations from sounds travel through a medium to the ear. • I can find patterns between the pitch of a sound and features of the object that produced it. • I can find patterns between the volume of a sound and the strength of the vibrations that produced it. • I can recognise that sounds get fainter as the distance from the sound source increases.		

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World			**Forces and Magnets**		**Forces**	
<u>Important Processes</u> • I can explore magnets and talk about what I notice			• I can compare how things move on different surfaces. • I can notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. • I can observe how magnets attract or repel each other and attract some materials and not others. • I can 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 can describe magnets as having 2 poles. • I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.		• I can identify the effects of air resistance, water resistance and friction that act between moving surfaces. • I can recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. • I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Seasonal Changes**					
<u>Seasons</u> • I can name different types of weather • I can name the four seasons • I can talk about the changes that happen in the world around me Autumn • I can name and describe some animals that hibernate (hedgehogs, dormouse, bats and squirrels) • I can talk about the seasonal changes I can see in Winter • I can talk about the seasonal changes I can see in Spring • I can talk about the seasonal changes I can see in Summer including weather	• I can observe changes across the 4 seasons. • I can observe and describe weather associated with the seasons and how day length varies.					

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Plants**					
<u>Plants & Trees</u> • I know that trees and plants have different leaves • I can name and describe some common seeds and am beginning to name the trees they are from • I can recognise a bulb and can name a few plants that grow from a bulb <u>Plants</u> • I know that some plants grown from seeds and can recognise a seed • I know how to plant a seed • I know how to look after a plant • I can look closely at animals and plants and draw them <u>Contrasting Environments</u> • I can name fruit grown in Kenya	• I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • I can identify and describe the basic structure of a variety of common flowering plants, including trees.	• I can observe and describe how seeds and bulbs grow into mature plants. • I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	• I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. • I can 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 can investigate the way in which water is transported within plants. • I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Light**					
<u>Important Processes</u> • I can talk about what causes shadows and how they are different depending on the weather or the time of day			• I can recognise that I need light in order to see things and that dark is the absence of light. • I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • I can notice that light is reflected from surfaces. • I can recognise that shadows are formed when the light from a light source is blocked by an opaque object. • I can find patterns in the way that the size of shadows change.			• I can recognise that light appears to travel in straight lines. • I can 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 can 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 can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World: The Natural World	**Earth & Space**					
<u>Contrasting Environments</u> • I know that there are 8 planets and can name some of them					• I can describe the movement of the Earth and other planets relative to the sun in the solar system. • I can describe the movement of the moon relative to the Earth. • I can describe the sun, Earth and moon as approximately spherical bodies. • I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Evolution & Inheritance					
						• I can 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 can recognise that living thing produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity						
				• I can identify common appliances that run on electricity. • I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. • I can 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 can 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 can recognise some common conductors and insulators, and associate metals with being good conductors.		• I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. • I can 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 can use recognised symbols when representing a simple circuit in a diagram.

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EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically						
<u>Finding out and exploring</u> • I can show curiosity about objects, events and people • I can use senses to explore the world around me • I can engage in open-ended activity • I can show particular interests <u>Being willing to "have a go"</u> • I can initiate activities • I can seek challenge • I can show a "can do" attitude • I can take a risk • I can engage in new experiences • I can learn by trial and error <u>Playing with what they know</u> • I can pretend objects are things from my experience • I can represent my experiences in play • I can take on a role in my play • I can act out experiences with other people	• I can ask simple questions and recognise that they can be answered in different ways. • I can observe closely. • I can perform simple tests. • I can identify and classify. • I can use observation to suggest answers for questions.	• I can ask simple questions and recognise that they can be answered in different ways. • I can observe closely. • I can perform simple tests. • I can identify and classify. • I can use observation to suggest answers for questions. • I can gather and record data and use this to answer questions.	• I can ask relevant questions and use different types of scientific enquiries to answer them. • I can set up simple practical enquiries, comparative and fair tests. • I can gather, record, classify and present data in a variety of ways to help in answering questions. • I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	• I can ask relevant questions and use different types of scientific enquiries to answer them. • I can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. • I can gather, record, classify and present data in a variety of ways to help in answering questions. • I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. • I can identify differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support my findings.	• I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • I can use test results to make predictions to set up further comparative and fair tests. • I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations. • I can identify scientific evidence that has been used to support or refute ideas or arguments.	• I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • I can use test results to make predictions to set up further comparative and fair tests. • I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations. • I can identify scientific evidence that has been used to support or refute ideas.