Curriculum Coverage – Science

National Curriculum Objective	Year 1			Year 2			Year 3			Year 4			Year 5			Year 6		
	A	Sp	Su	A	Sp	Su	A	Sp	Su	A	Sp	Su	A	Sp	Su	A	Sp	Su
Ask simple questions and recognise that they can be answered in different ways																		
Observe closely, using simple equipment																		
Perform simple tests																		
Identify and classify																		
Use their observations and ideas to suggest answers to questions																		
Gather and record data to help in answering questions																		
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, including trees																		
Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals																		
Identify and name a variety of common animals that are carnivores, herbivores and omnivores																		
Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)																		
Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense																		
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																		
Observe changes across the 4 seasons																		

Observe and describe weather associated with the seasons and how day length varies																			
Explore and compare the differences between things that are living, dead, and things that have never been alive																			
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 microhabitats																			
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																			
Observe and describe how seeds and bulbs grow into mature plants																			
Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy																			
Notice that animals, including humans, have offspring which grow into adults																			
Find out about 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																			
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																			
Ask relevant questions and use different types of scientific enquiries to answer them																			
Set up simple practical enquiries, comparative and fair tests																			
Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers																			
Gather, record, classify and present data in a variety of ways to help in answering questions																			

Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables																			
Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions																			
Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions																			
Identify differences, similarities or changes related to simple scientific ideas and processes																			
Use straightforward scientific evidence to answer questions or to support their findings.																			
Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers																			
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																			
Investigate the way in which water is transported within plants																			
Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal																			
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																			
Identify that humans and some other animals have skeletons and muscles for support, protection and movement																			
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																			
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 the way that the size of shadows change																			
Compare how things move on different surfaces																			

Notice that some forces need contact between 2 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 2 poles																			
Predict whether 2 magnets will attract or repel each other, depending on which poles are facing																			
Recognise that living things can be grouped in a variety of ways																			
Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment																			
Recognise that environments can change and that this can sometimes pose dangers to living things																			
Describe the simple functions of the basic parts of the digestive system in humans																			
Identify the different types of teeth in humans and their simple functions																			
Construct and interpret a variety of food chains, identifying producers, predators and prey																			
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 played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature																			
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 get fainter as the distance from the sound source increases																			

Identify common appliances that run on electricity																		
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																		
Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit																		
Recognise some common conductors and insulators, and associate metals with being good conductors																		
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary																		
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate																		
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs																		
Use test results to make predictions to set up further comparative and fair tests																		
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																		
Identify scientific evidence that has been used to support or refute ideas or arguments																		
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																		
Describe the changes as humans develop to old age																		
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 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																		
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 approximately 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																		
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																		
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																		
Give reasons for classifying plants and animals based on specific characteristics																		
Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood																		
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																		
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 may lead to evolution																			
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																			
Associate the brightness of a lamp 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																			