

Year Group	Working Scientifically <i>(Observation over time; Pattern Seeking; Identifying, classifying and grouping; Comparative and Fair testing; Research using secondary sources)</i>
R	Science is introduced through Understanding the World activities
	Take part in simple tests
	Use simple equipment in group work
	Begin to work in groups to gather data
	Make comments and observations to support ideas and questions
1	Begin to ask simple questions
	Begin to perform simple tests
	Observe using simple equipment
	Work in groups to gather and record simple data
	Begin to identify and classify
	With support use their observations/ideas to suggest answers to questions
2	Ask simple questions and recognise they can be answered in different ways.
	Perform simple tests
	Observe closely using simple equipment
	Gather and record data to help in answering questions
	Identify and classify with increasing explanation
	Use the observations/ideas to suggest answers to questions
3	Ask relevant questions
	Set up simple practical enquiries, comparative and fair tests
	Begin to make systematic and careful observations and measure using standard units.
	Begin to gather, record and present data in a variety of ways (for example) using simple scientific language, drawings and labelled diagrams.
	Begin to identify differences and similarities or changes related to simple scientific ideas and processes
	Begin to use straightforward scientific evidence to answer question or support their findings
	Begin to use results to draw simple conclusions
	Begin to report on findings (eg.oral/written explanation, display/presentations)
4	Ask relevant questions and use different types of scientific enquiries to answer them
	Make systematic and careful observations taking accurate measurements using a range of equipment including thermometers and data loggers.
	Gather, record and present data in a variety of ways (for example) using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
	Identify difference and similarities/changes related to scientific ideas and processes
	Use straightforward scientific evidence to answer question or support their findings
	Use results to draw simple conclusions and begin to make predictions for new values/to raise further questions
	Report on findings from enquiries including oral and written explanations, displays/presentations
5	Plan different types of enquiry to answer the questions including recognising and controlling variables
	Take measurements using a range of scientific equipment, with increasing accuracy. Begin to take repeat readings.
	Record data and results of increasing complexity using diagrams, labels, classification keys, tables and appropriate charts and tables.
	Start to identify scientific evidence which has been used to support or refute ideas
	Begin to use test results to make predictions to set up further comparative and fair tests
	Report and present findings in a variety of ways including conclusions, causal relationships and explanations
6	Plan different types of enquiry to answer given and own questions including recognising and controlling variables.
	Take measurements using a range of scientific equipment (selecting and justifying own choice at times) taking repeat readings when appropriate
	Record data and results of increasing complexity using diagrams, labels, classification keys, tables , scatter graphs, bar charts and line graphs
	Identify scientific evidence which has been used to support or refute ideas
	Use test results to make predictions to set up furthers comparative and fairs tests
	Report and present findings in a variety of ways including conclusions, causal relationships and explanations of degree of reliability

Year Group	<p style="text-align: center;">BIOLOGY</p> <p style="text-align: center;"><i>Plants, Living Things and their Habitat, Animals including Humans, Evolution and Inheritance</i></p>
R	Make group observations of different plants and begin to name them
	Discuss changes in plants (growth and change)
	Discuss what plants may need to survive
	Identify a living thing
	Begin to look at where animals may live
	Begin to identify and name animals(including pets)
	Begin to group and compare animals
1	Begin to 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
	Begin to 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)
	Find out about the basic needs of Animals, including humans, for survival (water, food, air)
	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
2	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
	Observe and describe how seeds and bulbs grow into mature plants
	Identify and name a variety of plants and animals in their habitats, including microhabitats
	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
	Explore and compare the differences between things that are living, dead, and things that have never been alive
	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
	Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals
	Describe the basic needs of Animals, including humans, for survival (water, food, air)
3	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
	Begin to 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.
4	Describe in simple terms how fossils are formed when things that have lived are trapped within rock
	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
5	Construct and interpret a variety of food chains, identifying producers, predators and prey
	Describe the life processes of reproduction in some plants (and Animals including humans)
	Describe the differences in life cycles of humans, amphibians, an insect and a bird
6	Describe the changes as humans develop to old age
	Describe how living things are classified in broad groups including microorganisms, 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

Year Group	CHEMISTRY Materials , The Earth (Rocks and soils and atmosphere)
R	Begin to discuss the difference between an object and the material from which it is made
	Begin to discuss and name some simple, common everyday materials
	Begin to sort some objects made of similar materials
1	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
2	identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses
	compare how things move on different surfaces
	find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
3	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
5	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
6	

Year Group	PHYSICS <i>(Forces (motion) and Magnets, Light, Sound, Electricity, Earth and Space)</i>
R	Discuss seasonal change
	Begin to name the 4 seasons
	Discuss similarities between the 4 seasons
1	observe changes across the 4 seasons
	observe and describe weather associated with the seasons and how day length varies
2	find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
3	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 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 a solid object
	find patterns in the way that the size of shadows change
4	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
5	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
	Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs (ENERGY)
	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
6	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

