

Working Scientifically	Biology
Physics	Chemistry

Working scientifically: (Years 3 and 4)							
- Asking relevant questions and using different types of scientific enquiries to answer them. - Setting up simple practical enquiries, comparative and fair tests. - Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. - Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. - 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 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. - Using straightforward scientific evidence to answer questions or to support their findings.							
Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Notes
Year 3	Forces and magnets: - Compare how things move on different surfaces. - Notice that some forces need contact between two 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 two poles. - Predict whether two magnets will attract or repel each other, depending on which poles are facing.	Light: - 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	Rocks: - 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	Animals, including humans: - 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.	Plants: - 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.		
Year 4	States of matter: - Compare and group materials together, according to whether they are solids, liquids or gases. - Observe that some materials change	Sound: - Identify how sounds are made, associating some of them with something vibrating. - Recognise that vibrations from sounds travel	Electricity: - 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.		Animals, including humans: - Describe the simple functions of the basic parts of the digestive system in humans. - Identify the different types of teeth in	Living things and their habitats: - Recognise that living things can be grouped in a variety of ways. - Explore and use classification keys to help group, identify	

	state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celcius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	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.	- 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 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 insulators, and associate metals with being good conductors.	humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.	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.	
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