Year 3 and 4 Science Curriculum

Working scientifically	During Years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: ▪ 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 ▪ identifying differences, similarities or changes related to simple scientific ideas and processes ▪ using straightforward scientific evidence to answer questions or to support their findings.
BIOLOGY	**<u>Plants</u>** ▪ (3) identify and describe the functions of different parts of flowering plants: roots, stem/trunk leaves and flowers ▪ (3) 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 ▪ (3) investigate the way in which water is transported within plants ▪ (3) explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **<u>Animals, including human</u>** ▪ (3) 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 ▪ (3) identify that humans and some other animals have skeletons and muscles for support, protection and movement. ▪ (4) describe the simple functions of the basic parts of the digestive system in humans ▪ (4) identify the different types of teeth in humans and their simple functions. ▪ (4) construct and interpret a variety of food chains, identifying producers, predators and prey **<u>Living things and their habitats</u>** ▪ (4) recognise that living things can be grouped in a variety of ways ▪ (4) explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment ▪ (4) recognise that environments can change and that this can sometimes pose dangers to living things

CHEMISTRY	**Rocks** ▪ (3) compare and group together different kinds of rocks on the basis of their appearance and simple physical properties ▪ (3) describe in simple terms how fossils are formed when things that have lived are trapped within rock. ▪ (3) recognise that soils are made from rocks and organic matter **States of matter** ▪ (4) compare and group materials together, according to whether they are solids, liquids or gases ▪ (4) 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) ▪ (4) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
PHYSICS	**Electricity** ▪ (4) identify common appliances that run on electricity ▪ (4) construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers ▪ (4) 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 ▪ (4) recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit ▪ (4) recognise some common conductors and insulators, and associate metals with being good conductors **Forces and magnets** ▪ (3) compare how things move on different surfaces ▪ (3) notice that some forces need contact between two objects but magnetic forces can act at a distance ▪ (3) observe how magnets attract or repel each other and attract some materials and not others ▪ (3) 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 ▪ (3) describe magnets as having two poles ▪ (3) predict whether two magnets will attract or repel each other, depending on which poles are facing **Light** ▪ (3) recognise that they need light in order to see things and that dark is the absence of light ▪ (3) notice that light is reflected from surfaces ▪ (3) recognise that light from the sun can be dangerous and that there are ways to protect their eyes ▪ (3) recognise that shadows are formed when the light from a light source is blocked by a solid object ▪ (3) find patterns in the way that the size of shadows changes ▪ **Sound** ▪ (4) identify how sounds are made, associating some of them with vibrating ▪ (4) recognise that vibrations from sounds travel through a medium to the ear ▪ (4) find patterns between the pitch of a sound and features of the object that produced it ▪ (4) find patterns between the volume of a sound and the strength of the vibrations that produced it. ▪ (4) recognise that sounds get fainter as the distance from the sound source increases