LOWER KEY STAGE 2: Science Curriculum

Working Scientifically	Biology Pupils should be taught to:	Chemistry Pupils should be taught to:	Physics Pupils should be taught to:
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 ▪ setting up simple practical enquiries, comparative and fair tests ▪ making accurate measurements using standard units, using a range of equipment, for example 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, 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 and suggest improvements, new questions and predictions for setting up further tests ▪ identifying differences, similarities or changes related to simple scientific ideas and processes ▪ using straightforward scientific evidence to answer questions or to support their findings.	**All living things** ▪ identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups ▪ give reasons for classifying plants and animals based on specific characteristics recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats **Animals, including human** ▪ 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 ▪ describe the ways in which nutrients and water are transported within animals, including humans ▪ identify that humans and some animals have skeletons and muscles for support, protection and movement. ▪ 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. **Plants** ▪ identify and describe the functions of different parts of flowering plants: roots, stem, 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 role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **Evolution and inheritance** ▪ identify how plants and animals, including humans, resemble their parents in many features ▪ recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago ▪ identify how animals and plants are suited to and adapt to their environment in different ways.	**Rocks** ▪ compare and group together different kinds of rocks on the basis of their simple physical properties ▪ relate the simple physical properties of some rocks to their formation (igneous or sedimentary) ▪ describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock. **States of matter** ▪ 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 the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics ▪ identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**Electricity** ▪ identify common appliances that run on electricity ▪ construct a simple series electrical circuit ▪ 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 **Forces and magnets** ▪ notice that some forces need contact between two objects and some forces 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 **Light** ▪ observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes ▪ notice that light is reflected from surfaces ▪ associate shadows with a light source being blocked by something; find patterns that determine the size of shadows. **Sound** ▪ observe and name a variety of sources of sound, noticing that we hear with our ears ▪ identify how sounds are made, associating some of them with something vibrating ▪ recognise that sounds get fainter as the distance from the sound source increases ▪ 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.