Science Progression of Knowledge and Skills – Year 4

	Working Scientifically	Knowledge	Vocabulary
Year 4	Living things and their habitats	Living things and their habitats	
	• Pupils might work scientifically by: • Using and making simple guides or keys to explore and identify local plants and animals. • Making a guide to local living things. • Raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.	• 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.	human impact, population, development, nature reserves, vertebrate animals, flowering plants, non-flowering plants, habitat, fish, amphibians, reptiles, birds, and mammals, invertebrates
	Animals including humans	Animals including humans	
	Pupils might work scientifically by: • Comparing the teeth of carnivores and herbivores and suggesting reasons for differences. • Finding out what damages teeth and how to look after them. • They might draw and discuss their ideas about the digestive system and compare them with models or images.	• 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.	Classification, keys, digestion, stomach, acid, oesophagus, large intestine, small intestine, mouth, tongue, acid, incisor, molar, premolar, canine, Food chain, producer, prey, predator
	States of matter	States of matter	
	Pupils might work scientifically by: • grouping and classifying a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream (for example, to make food such as chocolate crispy cakes and ice-cream for a party).	• 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.	Solids , liquids, gases, state, matter, evaporation, condensation, precipitation, everyday

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	• They could research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid. • They might observe and record evaporation over a period of time, for example, a puddle in the playground or washing on a line, and investigate the effect of temperature on washing drying or snowmen melting.	• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	materials, cooling, heating, chemical change, temperature, water cycle
	Sound	Sound	
	Pupils might work scientifically by: • Finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. • They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. • They could make and play their own instruments by using what they have found out about pitch and volume.	• 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.	Vibration, high pitch, low pitch, strength, sound wave, volume, amplitude, ear, particles, distance, sound proof, absorb sound, vacuum, eardrum.
	Electricity	Electricity	
	Pupils might work scientifically by: • observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit	• 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.	Appliance, circuit, cells, wires, bulbs, switches, buzzers, conductor, insulator (voltage and current is Y6 vocab – can be used but does not need defining)

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