Science Core Curriculum
Year 4

Unit	Animals including humans Food & digestion	Living things and their habitats Classifying living things & their habitats Nature & the environment	States of matter	Electricity	Sound
Substantive Knowledge	• 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	• 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 •	• 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 (°C) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	• 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 conductor	• 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

Disciplinary knowledge	• Set up simple practical enquiries, comparative and fair tests • Gather, record, classify and present data in a variety of ways to help in answering questions • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Making systematic and careful observations • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	• Set up simple practical enquiries, comparative and fair tests • Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Gather, record, classify and present data in a variety of ways to help in answering questions • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Use 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 • Use straightforward scientific evidence to answer questions or to support their findings • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	• Ask relevant questions and using different types of scientific enquiries to answer them • Set up simple practical enquiries, comparative and fair tests • Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	• Ask relevant questions and using different types of scientific enquiries to answer them • Set up simple practical enquiries, comparative and fair tests • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Identify differences, similarities or changes related to simple scientific ideas and processes • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	• Ask relevant questions and using different types of scientific enquiries to answer them • Set up simple practical enquiries, comparative and fair tests • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Identify differences, similarities or changes related to simple scientific ideas and processes • Use straightforward scientific evidence to answer questions or to support their findings • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Key Vocab	Animals including humans	Living things and their habitats	Living things and their habitats – conservation	States of matter	Electricity	Sound
	digestive system oesophagus stomach small intestine large intestine saliva peristalsis absorb liver gall bladder incisors canines molars jaw gum enamel plaque tooth decay cavity fluoride ecosystem producer consumer prey predator food web tundra hide interdependence threatened	habitat microhabitat conditions adapted camouflage coastal grassland environment climate exposure classify characteristics vertebrate invertebrate species sub-groups identify criteria classification keys organism adapted region features colouring blubber ecosystem oxygenised flowering plant non- flowering plant pond dipping	ecosystem Northern Hemisphere Southern Hemisphere migrate monsoon rainforest deforestation drought biodiversity recycling fossil fuels pollution greenhouse gases emissions climate change chemicals sewage contaminate pesticides water treatment plant conserve drought freshwater pure water butt endangered marine sanctuaries protect conservation areas recycling	matter solid liquid gas volume particle bond arranged cooled heated particle melting melting point temperature thermometer freezing reverse boiling sublimation deposition evaporation condensation absorb water vapour process water cycle precipitation surface runoff transpiration groundwater	electricity batteries mains electricity appliance socket circuit series circuit component cell voltage current power battery wire bulb conductor insulator metal copper rubber switch current control complete circuit incomplete circuit non-renewable energy renewable energy wind turbines solar panels hydropower	vibration medium waves eardrum signals source energy particles echo vacuum materials reflect absorb insulate defenders volume decibels decibel metre amplitude power pitch high pitch low pitch instruments orchestra energy particles travel sound source fade