CITY OF LONDON PRIMARY ACADEMY ISLINGTON

CURRICULUM OVERVIEW: SCIENCE

YEAR ONE

TERM	Autumn 1 Animals, Including Humans: All About Animals!	Autumn 2 Seasonal Change	Spring 1 Exploring Everyday Materials	Spring 2 Everyday Materials: Building	Summer 1 Plants	Summer 2 Animals, Including Humans: All About Me!
LEARNING OBJECTIVES	• To discover animal families. • To learn about the differences between mammals and birds. • To learn about the differences between amphibians, reptiles and fish. • To discover the types of food living things eat. • To explore the difference between wild animals and pets. • To explain the characteristics of an animal.	• To understand there are 4 seasons. • To understand the changes that take place in Autumn. • To understand the changes that take place in Winter. • To understand the changes that take place in Spring. • To understand the changes that take place in Summer. • To investigate how you can measure rainfall	• To identify and name a variety of everyday materials. • To distinguish between an object and the material it is made from • To describe the properties of everyday materials. • To identify materials and objects that are natural and manmade. • To investigate sinking and floating. • To explore which materials are best for different objects.	• To build a structure strong enough to withstand wind. • To build a waterproof structure. • To understand the properties of glass and its uses. • To explore a variety of fabrics and understand their different properties • To show what I know about materials' properties and uses.	• To understand that seeds grow into plants. • To identify the basic parts of a plant and tree. • To understand that different plants can grow in the same environment. • To know the difference between deciduous and evergreen trees. • To investigate fruit trees and vegetables. • To observe and understand the growth of a plant.	• To discover the basic parts of the human body. • To discover how we see. • To discover how we hear. • To explore our sense of taste. • To explore our sense of touch. • To explore our sense of smell.
NATIONAL CURRICULUM COVERAGE	• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	• Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies	• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock • Distinguish between an object and the material it is made from • Describe the simple physical properties of a variety of everyday materials • Compare and group together a variety of everyday materials on the basis of their simple physical properties		• Identify and describe the basic structure of a variety of common flowering plants, including trees • Become familiar with common names of flowers and plant structures • Keep records of how plants change over time • Identify and name a variety of deciduous and evergreen trees • Observe the growth of planted flowers • Understand how plants change over time	• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
SCIENTIFIC ENQUIRY COVERAGE	• Asking simple questions • Using simple equipment • Using their observations and ideas to suggest answers to questions • Grouping and sorting • Identifying and classifying • Performing simple tests • Gathering and recording data to help in answering questions					
TOPIC VOCABULARY	amphibian, backbone, bird, canines, carnivore, characteristic, cold-blooded, compare, differences, feather, fish, gills, hatchling, herbivore, mammal, natural, omnivore, pet, predator, reptile, scale, shelter, similarities, unsuitable, veterinary, warm-blooded, wild, climate	autumn, changes, chick, compare, frost, graph, grow, harvest, heatwave, hibernate, measuring, protect, rainfall, record, results, season, sleet, spring, summer, sun protection, temperature, warm, weather, winter	absorbent, brick, buoyant, dull, elastic, fabric, factory, float, glass, manmade, material, metal, natural, object, opaque, plastic, polyester, predict, property, rubber, sink, soak, sponge, stiff, submerge, transparent, umbrella, waterproof, wood	absorbent, brick, clay, cotton, evaluate, fabric, furniture, garden, jumper, material, mattress, non-absorbent, opaque, properties, roof, slate, soft, solid, strong. suitable, tile, transparent, waterproof, weather, wind, window frame, window pane, wool	adult plant, branch, bush, daisy, dandelion, deciduous, environment, evergreen, farm, flower, fruit, growth, leaf, observe, petal, plant, predict, root, seasons, seed, seedling, soil, stem, supermarket, tractor, tree, vegetable, weed, wild, young plant	body, brain, brain, deafness, ear, eye, eyelash, fingertips, flavour, head, joint, limb, mouth, nose, nose hair, nostril, odour, organ, pupil, sight, sign language, skeleton, skin, smell, sound, sweet, taste, tongue, touch, vibration

YEAR TWO

TERM	Autumn 1: Animals, Including Humans: Life Cycles	Autumn 2 Animals, Including Humans: Health and Survival	Spring 1 Living Things and their Habitats: Close to Home	Spring 2 Living Things and their Habitats: Around the World	Summer 1 Uses of Everyday Materials	Summer 2 Plants
LEARNING OBJECTIVES	• To explore the human life cycle. • To describe and compare the stages of the human life cycle. • To compare offspring and their parents. • To explore the life cycle of a chicken. • To explain the life cycle of a butterfly. • To explain the life cycle of a frog.	• To describe animals' needs for survival. • To describe humans' needs and wants • To explore the importance of eating the right food. • To describe what a healthy, balanced diet looks like. • To investigate the impact of exercise on our bodies. • To investigate the importance of hygiene.	• To compare the differences between things that are living, dead, and things which have never been alive. • To identify and name a variety of plants and animals in a microhabitat. • To show what I know about microhabitats. • To find out what animals eat to survive in their habitats. • To understand food chains. • To understand the journey food makes from the farm to the supermarket	• To learn about animals in their habitats around the world. • To explain the impact humans have on habitats. • To describe the rainforest and its problems. • To describe life in the ocean. • To describe underground animals.	• To identify different materials and their uses. • To understand how to select the right materials to build a bridge. • To explore and test the stretchiness of materials. • To understand that some materials let us change objects' shapes • To explore materials' suitability • To change and test materials' properties.	• To investigate and compare seeds and bulbs. • To design an experiment to find out what plants need to grow. • To describe what plants need to grow and stay healthy • To describe the life cycle of a plant. • To observe and record the growth of plants over time. • To understand that plants adapt to suit their environment.
NATIONAL CURRICULUM COVERAGE	• Notice that animals, including humans, have offspring which grow into adults	• Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	• Explore and compare the differences between things that are living, dead, and things that have never been alive • Identify and name a variety of plants and animals in their habitats, including microhabitats • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain • Identify and name different sources of food • Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other		• Identify and compare the suitability of a variety of everyday materials • Find out how the shapes of solid • objects made from some materials can be changed by squashing, bending, twisting and stretching	• Observe and describe how seeds and bulbs grow into mature plants • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy • Understand the requirements of plants for germination, growth and survival, as well as, the processes of reproduction and growth in plants
SCIENTIFIC ENQUIRY COVERAGE	• Performing simple tests • Gathering and recording data to help in answering questions • Using their observations and ideas to suggest answers to questions • Identifying and classifying • Observing closely, using simple equipment • Asking simple questions and recognising that they can be answered in different ways					
TOPIC VOCABULARY	adult, amphibian, bar chart, caterpillar, chick, chrysalis, develop, differences, foetus, frog, froglet, frogspawn, gene, grow, hatchling, helpless, independent, inherit, larva, life cycle, metamorphosis, offspring, predict, reproduction, resemble, survive, tadpole, toddler, transformation, womb	bacteria, balance, balanced diet, calcium, carbohydrate, coordination, dairy, essential, exercise, fat, flexibility, fresh, food, germs, grow, healthy, hygiene, non-essential, nutrients, nutrition, oxygen, pre-cooked, prevent, processed food, protein, shelter, strength, survival, survive, virus, vital, vitamins	antennae, automated, carnivore, caterpillar, colony, condition, consumer, excrete, food chain, forklift truck, frozen food, fungi, habitat, herbivore, insect, life cycle, microhabitat, nutrients, nutrition, omnivore, producer, refrigerated lorry, reproduce, respire, rot, senses, shelter, suitable, survive, canned	biodiversity, climate, coral reef, deforestation, ecosystem, endangered, environment, extinct, habitat, mate, microhabitat, moisture, ocean, organism, plankton, poaching, pollution, rainforest, rainforest, trench	bend, bound, brick, bridge, construction, elastic, floppy, fluorescent, force, highway, hinder, John McAdam, limit, mackintosh, material, merchant, object, obstacle, property, protective, road, safety, squash, stretch, stretchy, structure, suitable, triangle, twist, waterproof	adapt, bulbs, carbon dioxide, compare, condition, control, crop, desert, energy, experiment, forest, germination, glucose, growth, healthy, insulate, investigate, life cycle, manure, method, photosynthesis, oxygen, plant, pollination, predict, reproduction, seedling, seeds, survive, thrive

YEAR THREE

TERM	Autumn 1: Scientific Enquiry	Autumn 2 Rocks	Spring 1 Plants	Spring 2 Light	Summer 1 Forces and Magnets	Summer 2 Animals, Including Humans
LEARNING OBJECTIVES	• To pose questions and write predictions. • To record and present results. • To write a method and carry out a practical test. • To write a conclusion. • To understand fair testing, controls and variables. • To conclude a scientific enquiry.	• To explore the formation and properties of igneous rocks. • To explore the formation and properties of sedimentary and metamorphic rocks. • To explain weathering and the suitability of rocks for different purposes. • To explore how water contributes to the weathering of rocks. • To understand how fossils are formed. • To explore different types of soil.	• To compare the effect of different factors on plant growth. • To describe the functions of different parts of a flowering plant and how they are used in photosynthesis. • To investigate the way in which water is transported within plants. • To explore the part that flowers play in the life cycle of flowering plants. • To understand the pollination process and the ways in which seeds are dispersed. • To compare the effect of different factors on plant growth.	• To identify the difference between light sources and non-light sources. • To explore the light that comes from the sun and how to stay safe. • To explore materials which are reflective. • To discover how shadows are formed. • To investigate how shadows change throughout the day. • To investigate how you can change the size of a shadow.	• To explore contact and non-contact forces. • To compare how things move on different surfaces. • To explore different types of magnets. • To explore the properties of magnets and everyday objects that are magnetic • To investigate how magnetic forces can act at a distance • To explore the everyday uses of magnets.	• To explore the 5 key food groups. • To learn about the nutrition in the food we eat. • To learn about the different types of skeletons. • To learn about the human skeleton. • To learn about animals and their skeletons. • To explore the role of muscles.
NATIONAL CURRICULUM COVERAGE	• Asking relevant questions and using different types of scientific enquiries to answer them • Making systematic and careful observations and, where appropriate, taking accurate measurements • using standard units, using a range of equipment, including thermometers and data loggers • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • Identifying differences, similarities or changes related to simple scientific ideas and processes • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Setting up simple practical enquiries, comparative and fair tests • Using straightforward scientific evidence to answer questions or to support their findings • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	• Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • Explore how and why [rocks] might have changed over time (non-statutory) • 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	• 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 • Identify and describe the functions of different parts of a flowering 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	• Recognise that they need light in order to see things and that dark is the absence of light • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Notice that light is reflected from surfaces • Recognise that shadows are formed when the light from a light source is blocked by an opaque object • Find patterns in the way that the size of shadows change	• Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance • Compare how things move on different surfaces • Describe magnets as having 2 poles • Predict whether 2 magnets will attract or repel each other, depending on which poles are facing • 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	• 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

SCIENTIFIC ENQUIRY COVERAGE	• Asking relevant questions and using different types of scientific enquiries to answer them • Making systematic and careful observations and, where appropriate, taking accurate measurements • using standard units, using a range of equipment, including thermometers and data loggers • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • Identifying differences, similarities or changes related to simple scientific ideas and processes • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Setting up simple practical enquiries, comparative and fair tests • Using straightforward scientific evidence to answer questions or to support their findings • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions					
TOPIC VOCABULARY	acid, alkali, baking, collated, compare, conclusive, control experiment, data, diagram, enquiry, equipment, evidence, explanation, fair test, graph, investigation, measurements, method, PH, plausible, practical, conclusion, prediction, record, renewable energy, results, scientific, scientific knowledge, solar, table, variable	acid rain, amber, appearance, biological weathering, chalky soil, chemical weathering, clay soil, crystals, decompose, embedded, erosion, extinct, extrusive igneous rock, fossil, fragments, igneous rocks, intrusive igneous rock, limestone, magma, marble, metamorphic rock, physical weathering, receding, sandstone, sandy soil, sediment, sedimentary rock, submerged, texture, weathering	absorb, anchor, anther, chlorophyl, fertiliser, filament, formation, germination, nectar, nursery, nutrients, phloem, photosynthesis, pollen, pollination, pollinator, potassium, reproduction, sapling, seed dispersal, stigma, stomata, stomata, stunted, style, transpiration, UV light, vulnerable, xylem	artificial, blocks, cast, closer, direction, exposure, fluorescent, further, high visibility, length, light, materials, natural, opaque, opposite, position, protection, puppet, rays, reflect, reflective, shadow, shape, size, source, sunburn, sundial, surface, ultraviolet rays, vitamin D	air resistance, attract, bar magnet, compass, contact force, direction, force friction, horseshoe magnet, iron, magnet, magnetic, magnetic field, magnetic needle, magnetic north, magnetism, motion, non-contact forces, non-magnetic materials, orienteering, recycle, repel, resistance, steel, surface, texture, tilt	balanced, biceps, carbohydrate, contract, diaphragm, diet, endoskeleton, energy, exoskeleton, fibular, hamstrings, humerus, hydrostatic skeleton, invertebrate, mineral, muscle, nutrition, nutrition label, portion, protein, radius, rib cage, skull, spine, tibia, ulna, vertebrate, vitamin

YEAR FOUR

TERM	Autumn 1 States of Matter	Autumn 2 Animals, Including Humans	Spring 1 Living Things and their Habits	Spring 2 Living Things and their Habitats: Conservation	Summer 1 Sound	Summer 2 Electricity
LEARNING OBJECTIVES	• To compare and group the 3 states of matter. • To explore how particles behave in solids, liquids and gases. • To investigate melting points. • To explore freezing and boiling points. • To explore evaporation and condensation. • To understand the water cycle.	• To identify the organs in the digestive system. • To describe the roles of the digestive system's organs in the journey of food • To identify the types of human teeth and their functions. • To investigate the effects of different liquids on the teeth. • To understand food chains. • To explore food webs.	• To explore different habitats. • To research a habitat. • To classify animals. • To create a classification key. • To explain an animal's adaptations. • To investigate and classify pond plants.	• To describe ecosystems and how they are affected by changes in the seasons. • To understand human impact on the environment through deforestation. • To explore air pollution. • To understand water pollution. • To explore methods that can be used to conserve water. • To understand that humans can have a positive impact on nature.	• To identify how sounds are made. • To investigate how vibrations from sounds travel through a medium to the ear. • To investigate sound insulation. • To investigate volume. • To investigate pitch. • To investigate sounds from near and far.	• To discuss electrical appliances and electrical safety. • To learn about electrical components in a series circuit. • To investigate electrical circuits. • To explore conductors and insulators. • To explain and create electrical switches. • To investigate how electrical components can change within a circuit.
NATIONAL CURRICULUM COVERAGE	• 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	• 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 • Making a guide to local living things (non-statutory) • 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	• 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 volume of a sound and the strength of the vibrations that produced it • Find patterns between the pitch of a sound and features of the object that produced it • Recognise that sounds get fainter as the distance from the sound source increases	• 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 some common conductors and insulators, and associate metals with being good conductors • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
SCIENTIFIC ENQUIRY COVERAGE	• Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • Using straightforward scientific evidence to answer questions or to support their findings • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • Reporting on findings from enquiries, including oral and written explanations • Setting up simple practical enquiries, comparative and fair tests • Identifying differences, similarities or changes related to simple scientific ideas and processes					
TOPIC VOCABULARY	absorb, arranged, boiling, bond, condensation, cooled, deposition, evaporation, freezing, gas, groundwater, heated, liquid, matter, melting, melting point, particle, precipitation, process, reverse, solid, sublimation, surface runoff, temperature, thermometer, transpiration, volume, particle, water cycle, water vapour	absorb, canines, cavity, consumer, digestive system, ecosystem, enamel, fluoride, food web, gall bladder, gum, hide, incisors, interdependence, jaw, large intestine, liver, molars, oesophagus, peristalsis, plaque, predator, prey, producer, saliva, small intestine, stomach, threatened, tooth decay, tundra	adapted, blubber, camouflage, characteristics, classification keys, classify, climate, coastal, colouring, conditions, criteria, ecosystem, environment, exposure, features, flowering plant, grassland, habitat, identify, invertebrate, microhabitat, non-flowering, organism, oxygenised, plant, pond dipping, region, species, sub-groups, vertebrate	biodiversity, chemicals, climate change, conservation areas, conserve, contaminate, deforestation, drought, ecosystem, emissions, endangered, fossil fuels, freshwater, greenhouse gases, marine sanctuaries, migrate, monsoon Northern Hemisphere, pesticides, pollution, protect, pure, rainforest, recycling, sewage, Southern Hemisphere, water butt, water treatment plant	absorb, amplitude, decibel metre, decibels, defenders, eardrum, echo, energy, fade, high pitch, instruments, insulate, low pitch, materials, medium, orchestra, particles, pitch, power, reflect, signals, sound source, source, travel, vacuum, vibration, volume, waves	appliance, batteries, battery, bulb, cell, circuit, complete circuit, component, conductor, control, copper, current, electricity, hydropower, incomplete circuit, insulator, mains electricity, metal, non-renewable energy, power, renewable energy, rubber, switch, series circuit, socket, solar panels, voltage, wind turbines, wire

YEAR FIVE

TERM	Autumn 1 Earth and Space	Autumn 2 Forces	Spring 1 Properties of Materials	Spring 2 Changes of Materials	Summer 1 Animals, Including Humans	Summer 2 Living Things and their Habitats
LEARNING OBJECTIVES	• To explore the solar system and its planets • To understand the heliocentric model of the solar system • To explain the Earth's movement in space • To explain the Earth's rotation and night and day • To explain the movement of the Moon • To design a planet using knowledge gained	• To explore gravity and the life and work of Isaac Newton • To examine the connection between air resistance and parachutes • To explore water resistance • To investigate the effects of friction on different surfaces • To investigate mechanisms- levers and pulleys • To investigate mechanisms: gears	• To explore properties of materials • To explore thermal conductors and thermal insulators • To explore the hardness of materials • To discover materials that are soluble in water • To investigate the solubility of materials • To explore how mixtures can be separated by filtering, sieving, evaporating or magnets	• To use evaporation to recover a solute from a solution • To recognise and describe reversible changes • To observe chemical reactions and describe how we know new materials are made • To investigate rusting reactions • To investigate burning reactions • To investigate chemical reactions- acids and bicarbonate of soda	• To identify the key stages of a mammal's life • To explore the gestation periods of mammals • To learn about foetal development • To investigate the hand span of differently • To learn about the changes experienced in puberty • To describe the changes humans may experience during old age	• To understand the life processes of a plant • To understand the life cycles of mammals • To compare the life cycles of insects and amphibians • To understand the life cycle of birds and reptiles • To know about the life and work of Jane Goodall and David Attenborough • To research and present the life cycle of a creature
NATIONAL CURRICULUM COVERAGE	• Describe the Sun, Earth and Moon as approximately spherical bodies • Describe the movement of the Earth and other planets relative to the Sun in the solar system • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky • Describe the movement of the Moon relative to the Earth	• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces • Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	• Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • Compare and group together everyday materials based on evidence from comparative and fair tests, including their conductivity of heat • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	• Describe how to recover a substance from a solution • Demonstrate that dissolving, mixing and changes of state are reversible changes • Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and associated with associated the action of acid on bicarbonate of soda	• Describe the changes as humans develop to old age	• Describe the life process of reproduction in some plants and animals • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
SCIENTIFIC ENQUIRY COVERAGE	• Identifying scientific evidence that has been used to support or refute ideas or arguments • Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Using test results to make predictions to set up further comparative and fair tests					
TOPIC VOCABULARY	astronomy, axis, dial, dwarf planet, eclipse, gas giant planets, gas planet, geocentric, gnomon, heliocentric, hemisphere, moon, moon phase, orbit, poles, rocky planet, season, shadow, Solar System, spherical, sundial, terrestrial planet, time zone, waning, waxing	air resistance, astronomy, bevel gear, buoyant, friction, fulcrum, Galileo Galilei, gear, gravity, lever, load, lubricant, mass, mechanism, mesh, Newton meter, opposing, parachute, pivot, pulley, rack and pinion, resistance, sink, Sir Isaac Newton, streamlined, upthrust, water resistance, weight	conduction, conductive, degrees Celsius, dissolve, durable, evaporation, filtering, force, hardness, insoluble, insulator, iron, magnetic, mixture, molecules, pure, substance, saturation, sieving, soluble, solute, solution, solvent, steel, stone, substance, thermal, transparent, versatile	acid, bicarbonate of soda, carbon dioxide, chemical change, combustion, compare, control variable, corrosion, effervescence, evaporate, extinguish, fair test, fuel, irreversible, melting, mixture, oxygen, physical change, predict, product, pure substance, reaction, reversible, rusting, smother, solute, solution, solvent, variable	adolescence, adolescent, breeding, cataracts, childhood, constant, dependent, develop, duration, elasticity, embryo, extreme, foetus, gestation, growth spurt, hormones, keratin, lifestyle, midwife, milk teeth, mood swing, motor skills, neurodegenerative, pregnant, puberty, puberty, reproduce, trimester, umbilical chord, womb	amphibian, asexual, caterpillar, documentary, egg, embryo, endangered, fertilisation, fledgling, genes, hatch, larva, life cycle, living organism, mammary glands, marsupial, metamorphosis, monotreme mammal, natural sciences, naturalist, placental mammal, pouch, primatologist, pupa, reproduction, reproduction, tuber, vertebrate, warm-blooded

YEAR SIX

TERM	Autumn 1 Electricity	Autumn 2 Looking After Our Environment	Spring 1 Light	Spring 2 Animals, Including Humans	Summer 1 Evolution and Inheritance	Summer 2 Living Things and their Habitats
LEARNING OBJECTIVES	• To describe parts of an electric circuit • Explore voltage and its effect on an electrical circuit • Apply knowledge to identify and correct problems in a circuit • Investigate what affects the output of a circuit • To build a set of traffic lights	• To learn about climate change • To explore ways to reduce how much rubbish is sent to landfill • To explore ways to reduce energy consumption • To explore what happens when fuels are burnt • To explore he outcomes of COP26 • To compare data associated with the weather	• To explore how light travels • To explore reflection • To explore reflection and explain how it can be used to help us see • To investigate how shadows can change • To investigate how we can show why shadows have the same shape as the object that casts them • To explore light phenomena	• To understand the function of the heart and its role in the circulatory system • To identify and compare blood vessels • To explore blood • To learn how the body transports water and nutrients • To investigate what affects your heart rate • To learn about the impact of drugs and alcohol on the body	• To understand how offspring vary and are not identical to their parents • To learn about animal adaptations • To learn about plant adaptations • To explore what we can learn from fossils • To explore the theory of evolution by natural selection • To explore human evolution	• To classify living organisms • To understand the kingdoms of life • To classify living things using the Linnaean system • To identify the characteristics of different types of microorganisms • To investigate asexual reproduction through spore dispersal • To classify and describe a living organism
NATIONAL CURRICULUM COVERAGE	• Use recognised symbols when representing a simple circuit in a diagram • Associate the brightness of a bulb or the volume of a buzzer with the number and voltage of cells used in the circuit • Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches	• Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • Identifying scientific evidence that has been used to support or refute ideas or arguments • Using test results to make predictions to set up further comparative and fair tests	• Recognise that light appears to travel in straight lines • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • Describe the ways in which nutrients and water are transported within animals, including humans • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function	• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	• Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals • Give reasons for classifying plants and animals based on specific characteristics •
SCIENTIFIC ENQUIRY COVERAGE	• Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • Using test results to make predictions to set up further comparative and fair tests • Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Identifying scientific evidence that has been used to support or refute ideas or arguments					
TOPIC VOCABULARY	battery, blown, brightness, circuit, diagram, closed electric circuit, conductor, control test, current, dimmer switch, electricity, fair test, indicating, insulator, LED, output, resistor, sensor, signal, synchronised, systematically, timer-based, traffic light, variable, variable resistor, voltage, voltmeter, wires	biodegrade, climate, climate change, coal, combustion, conference, COP, council, emissions, fossil fuel, fuel, global warming, greenhouse gases, habitat, industrial revolution, landfill, natural disaster, net zero, non-renewable, pledge, prevent, recycle, renewable, rubbish, sensitive, species, subsidy, sustainability, vulnerable, weather	angle, block, direction disperse, eye, fair test, light, light source, line of sight, mirror, opaque, optical, periscope, phenomena, plan, prediction, real life problem, reflected, refraction, rotate, scientific diagram, shadow, spectrum, sun shade, symbol, table, translucent, transparent, utilise, variable	artery, atrium, blood, BPM, capillary, circulatory system, concentration, depressant, diet, diffusion, drug, exercise, hallucinogens, heart rate, microscope, nutrients, osmosis, painkiller, plasma, platelet, pulse, red blood cell, valves, vein, ventricle, vessel, white blood cell	adaptation, ancestor, characteristic, Charles Darwin, climate, environmental, epiphytes, evolved, extinct, feature, fossil, habitat, Homo sapiens, ichthyosaurus, inherit, Jurassic coast, Mary Anning, natural selection theory, Neanderthal, nutrients, nutrition, offspring, Palaeontologist, pollinate, predators, primate, tools, toxic, variation	bacteria, Carl Linnaeus, cell, classification, classify, conifer, domain, ecosystem, fern, fungi, habitat, kingdom, Latin, living organism, microorganism, microscopic, MRS GREN, multicellular, mycelium, plant, protozoa, reproduction, species, unicellular, virus