Science Progressive Curriculum

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals, Including humans (Biology)	**Development Matters 3 and 4 year olds – Previous learning** Understand 'why' questions. (C+L) Make healthy choices about food, drink, activity and toothbrushing (PSED) Understand the key features of the life cycle of an animal (UtW) Begin to make sense of their own life story and family's history. (UtW) Begin to understand the need to respect and care for all living things (UtW) **EYFS Framework – Reception** Explore the natural world around them, make observations and drawings of animals (UtW) Ask questions to find out more and to check what has been said to them. (C+L) Articulate their ideas and thoughts in well-formed sentences. (C+L) Learn new vocabulary (C+L) Know and talk about food, drink, activity, sleep and toothbrushing, that support their overall health and wellbeing. (PSED) Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. (PSED)	Identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals Name a variety of common animals that are carnivores, herbivores and omnivores Sort animals into categories (including fish,amphibians, reptiles, birds and animals.) Classify and name animals by what they eat. Identify, name, draw and label basic parts of the human body Link the correct part of the human body to each sense Can sort living things and non-living things.	Notice that animals, including humans, have offspring which grow into adults Find out and describe what animals and humans need to survive Describe why exercise, a balanced diet, and good hygiene are important for humans.	Describe and explain the muscular system of a human. Describe and explain the skeletal system of a human. Describe the purpose of the skeleton in humans and animals. Construct food chains, identifying producers, predators and prey Interpret a variety of food chains to identify producer, predator and prey.	Explain importance of a nutritious balanced diet 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 Identify that animals including humans need the right types of nutrition. Know that animals cannot make their own food. Know that they get nutrition from what they eat.	Describe the changes as humans develop to old age	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans. **Evolution and Inheritance** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago. 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
Vocabulary	Fish, bird, reptile, mammal, insect, amphibian, living, grow, feed	Fish, Reptiles, Mammals, Birds, Amphibians (+ examples of each) Herbivore, Omnivore, Carnivore and examples of each, Leg, Arm, Elbow, Head, Ear, Nose, Back, Wings, Beak, eyes, neck, knees, face, mouth, teeth, hair Senses – taste, smell, vision, touch, hearing	Offspring, grow, adults, Survival, water, food, air, exercise, hygiene, nutrition, reproduce, Egg, chick, chicken, Egg, caterpillar, pupa, butterfly, Spawn, tadpole, frog, Lamb, sheep, Baby, toddler, child, teenager, adult	Skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic skeleton, vertebrate, contract, relax, muscles, ball joint, socket joint, hinge joint, gliding joint, food chain, sun, producers, prey, predators, carnivore, herbivore, omnivore	Mouth, Tongue, mixes, moistens, Teeth, incisors, cutting, slicing, canines, ripping, tearing, molars, chewing, grinding, floss, brush Oesophagus, Stomach, acid, enzymes, Small Intestine, Large Intestine, colon, digestion, Herbivore, Carnivore, Canine, Incisor, Molar Nutrition, nutrients, carbohydrates, protein, fats, fibre, water, vitamins, minerals	Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty, life cycle, gestation, reproduce, foetus, fertilisation, child, adult, old age, life expectancy, adolescence, early/middle/late adulthood, childhood	Circulatory system, Heart, lungs, liver, kidney, brain, skeletal, skeleton, muscle, muscular, digest, digestion, digestive, Blood, Vessels, impact, diet, Exercise, drugs, lifestyle, nutrients, water, damage, alcohol, substances Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics, inherited traits, adaptive traits, Charles Darwin, Alfred Wallace, DNA, genes, variation, offspring, environment, habitat, fossilisation, plants, animals, living things

Science Progressive Curriculum

	EYFS	Year 1	Year 2	Year 3	Year 5
Plants (Biology)	**Development Matters 3 and 4 year olds – Previous learning** Understand 'why' questions. (C+L) Plant seeds and care for growing plants (UtW) Understand the key features of the life cycle of a plant (UtW) Begin to understand the need to respect and care for the natural environment and all living things (UtW) **EYFS Framework – Reception** Make observations and drawings of plants and explain why some things occur and talk about changes (UtW) Explore the natural world around them. (UtW) Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. (UtW) Understand some important processes and changes in the natural world around them (UtW) Learn new vocabulary (C+L) Ask questions to find out more and to check what has been said to them. (C+L) Articulate their ideas and thoughts in well-formed sentences. (C+L)	Identify and name variety of common wild and garden plants. Identify and name a variety of deciduous and evergreen trees Identify and describe the basic structure of a variety of flowering plant. (petals, stem, leaf and root) Identify and describe the basic structure of a tree. (roots, trunk, branches and leaves)	Observe and describe how seeds and bulbs grow into plants Find out and describe what plants need in order to grow and stay healthy, (water, light and a suitable temperature	Identify and describe the functions of different parts of flowering plants and trees (roots, stem/trunk, leaves and flowers) Explore and describe the needs of different plants for survival (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 Describe the plant life cycle, especially the importance of flowers (pollination, seed formation and seed dispersal)	Describe the life process of reproduction in some plants. Give reasons for classifying plants and animals based on specific characteristics
Vocabulary		Deciduous, Evergreen, trees, Leaves, Flowers (blossom), Petals, Fruit, Roots, Bulb, Seed, Trunk, Branches, Stem, plant, root, bud, wild plants, garden plants, fruit, vegetables	Plant, leaf, root, leaves, bud, flowers, blossom, petals, root, stem, Seeds, Bulbs, Water, Light, Temperature, suitable, Grow, healthy, germination, reproduction, common, wild plants, garden plants, deciduous, evergreen, fruit, vegetables	Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower, common, wild plants, garden plants, deciduous, evergreen, tree, trunk, branches, leaf, root, leaves, bud, blossom, petals, stem, fruit, vegetables, bulb, seed	

Science Progressive Curriculum

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials, properties and changes of materials, including rocks (Chemistry)	**Development Matters 3 and 4 year olds – Previous learning** Use all their senses in hands-on exploration of natural materials (UtW) Explore collections of materials with similar and/or different properties (UtW) Talk about what they see, using a wide vocabulary (UtW) Talk about the differences between materials and changes they notice (UtW) Understand 'why' questions. (C+L) **EYFS Framework – Reception** Ask questions to find out more and to check what has been said to them. (C+L) Articulate their ideas and thoughts in well-formed sentences. (C+L) Learn new vocabulary (C+L) Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. (C+L) Understand some important processes and changes in the natural world around them, including changing states of matter (UtW)	Distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock Describe the simple physical properties of a variety of everyday materials Explain the material that an object is made from. Compare, sort and group objects based on the materials that they are made from	Identify and compare a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. Know why a material might/might not be used for a specific job. Explore how the shape of a solid object can be changed by squashing, bending, twisting and stretching	**Rocks, Fossils and Soil** Compare and group together different types of rocks on the basis of their appearance and simple physical properties Know about and explain the difference between sedimentary, metamorphic and igneous rock. 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	**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. Measure or research the temperature at which materials change state, in degrees Celsius Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	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 Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic 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 that action of acid on bicarbonate of soda.	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
Vocabulary		Wood, Plastic, Glass, Paper, Water, Metal, Rock, Hard, Soft, not/Bendy, Rough, Smooth, stretchy, stiff, shiny, dull, not/waterproof, not/absorbant	Charles Macintosh – Waterproof, fabric, Absorbent, John Dunlop – rubber John McAdam – macadamisation Squashing, Bending, Twisting, Stretching Wood, matches, floors, telegraph poles, metal, plastic, glass, brick, rock, paper, cardboard	Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent, appearance, physical, properties, hard, soft, shiny, dull, rough, smooth, not/absorbent, sedimentary, rock, organic matter, buildings, gravestones, grains	Solid, solidify, Liquid, Gas, Evaporation, evaporate, condense, condensation, Particles, Temperature, Freezing, Heating, iron, ice, melt, container, changing state, heated, heat, cool, degrees Celsius, thermometer, water cycle, melting, warm, water, water vapour	Dissolve, solution, separate, separating, solids, liquids, gases, evaporating, reversible changes, dissolving, mixing, evapoartion, filtering, sieving, melting, irreversible, new material, burning, rusting, chemists, Spencer Silver, Ruth Benerito, quantitative, chemical	Properties, hardness, solubility, transparency electrical, thermal, Conductors, Insulators, response to magnets, magnetism, electricity, chemists, quantitative, conductivity, insulation,

Science Progressive Curriculum

	EYFS	Year 3	Year 4	Year 5	Year 6
Forces, including Sound, Light and Earth and Space (Physics)	**Development Matters 3 and 4 year olds – Previous learning** Understand 'why' questions. (C+L) Talk about what they see, using a wide vocabulary (UtW) Explore how things work (UtW) Explore and talk about the different forces they can feel (UtW) **EYFS Framework – Reception** Learn new vocabulary (C+L) Ask questions to find out more and to check what has been said to them. (C+L) Articulate their ideas and thoughts in well-formed sentences. (C+L) Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. (C+L) Make comments about what they have heard and ask questions to clarify their understanding. (C+L)	Explore and describe how objects move on different surfaces Describe how magnets work, including the term 'pole' Explain how some forces require contact and some do not, give examples. Explore and explain how objects attract and repel in relation to objects and other magnets. Predict whether 2 magnets will attract or repel and give reasons. Predict whether materials/objects will be magnetic and carry out an enquiry to test this out. Compare and group materials/objects using results from their enquiry. **Sound** Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel through a medium to the ear Explain the place of vibration in hearing. Explain how sound travels from a source to our ears 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 Describe what happens to a sound as it travels away from its source.	**Light** Recognise that they need light in order to see things Recognise that dark is an absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and identify ways to protect their eyes Recognise and investigate that shadows are formed when the light from a light source is blocked by a solid object Investigate patterns in the way that the size of shadows change.	**Light** Explain and demonstrate how we see objects Explain how light travels Explain how some optical instruments work, eg, periscope, telescope etc. Explain why shadows have the same shape as the objects that cast them	Explain what gravity is and its impact on our lives. Identify and explain the effects of air resistance. Identify and explain water resistance. Identify and explain friction. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect **Earth And Space** Describe the movement of the Earth, and other planets, relative to the sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Moon and Earth as approximately spherical bodies Explain day and night, using the idea of the Earth's rotation, and the apparent movement of the sun across the sky
Vocabulary		Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull, North, South, open, surface, magnet Volume, Vibration, vibrate, vibrating, air, medium, ear, sound, Wave, Pitch, Tone, Speaker, faint, fainter, loud, louder, string, percussion, woodwind, brass, insulate	Light, Shadows, Mirror, Reflective, Dark, Reflection, see, surface, natural, star, sun, moon, blocked, solid, artificial, torch, candle, lamp, sunlight, dangerous, protect eyes.	Refraction, Reflection, reflect, Light source, Spectrum, Rainbow, Colour, travels, straight, object, shadows, mirrors, periscope, filters, opaque, transparent, translucent, retina, pupil	Air resistance, Water resistance, Friction, Gravity, Isaac Newton, Galileo Galilei, Gears, Pulleys, surface, force, effect, move, accelerate, decelerate, stop, change direction, brake, mechanism, spring, theory of gravitation Earth, Sun, Moon, moons, planets, Axis, Rotation, Day, Night, star, solar system, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, rotate, Aristotle, Ptolemy, Galileo, Copernicus, Brahe, Alhazen, orbit, spherical heliocentric, hemisphere, season, tilt

Science Progressive Curriculum

	Year 4	Year 6
Electricty (Physics)	Identify common appliances that run on electricity Construct a simple series electrical circuit. Identifying and name basic parts, including cells, wires, bulbs, switches and buzzers Predict and test whether a lamp will light within circuit. Draw a circuit diagram. Describe the function of a switch in a circuit Describe the differences between a conductor and insulators, give examples of each.	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 associate the brightness of a lamp 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 use recognised symbols when representing a simple circuit in a diagram.
Vocabulary	Cells, Wires, Bulbs, Switches, open, closed, Buzzers, Battery, Circuit, Series, Conductors, metal, water, Insulators, wood, rubber, plastic, glass, appliances, electricity, electrical, safety, sign, danger	voltage, brightness, volume, switches, danger, series circuit, working safely, electricity, sign, circuit diagram, switch, bulb, buzzer, motor, recognised symbols

Science Progressive Curriculum

	Year 2	Year 4	Year 5
Living things and their habitats (Biology)	Explore, compare the differences between things that are living, dead, and things that have never been alive Classify things by living, dead or never lived Identify that most living things live in habitats to which they are suited Describe how different habitats provide for the basic needs of different kinds of animals and plants Know how different kinds of animals depend on each other Identify and name a variety of plants and animals in their habitats, incl 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.	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	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals 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.
Vocabulary	Living, dead, never alive, habitats, micro-habitats, food, food chain, sun, grass, cow, human, alive, healthy, logs, leaf litter, stony path, under bushes, shelter, seashore, woodland, ocean, rainforest, conditions, hot, warm, cold, dry, damp, wet, bright, shade, dark	Environment, flowering, non-flowering, plants, animals, environment, dangers, vertebrate, fish, amphibians, reptiles, birds, mammals, invertebrate, snails, slugs, worms, spiders, insects, human impact, positive – nature reserves, ecologically planned parks, garden ponds, negative – population, development, litter, deforestation	Life cycles, mammal, amphibian, insect, bird, Life processes of reproduction, plants, animals, vegetable garden, flower border, Animal naturalists, David Attenborough Animal behaviourist, Jane Goodall, Reproduction, plants, asexual, sexual, animals, sexual Life cycles around the world, rainforest, oceans, desert Prehistoric, similarities, differences Classify, compare, Linnaean, Carl Linnaeus, classification, domain, knigdom, phylum, class, order, family, genus, species, characteristics, vertebrates, invertebrates, microorganisms, organism, flowering, non-flowering

	EYFS	Year 1
Seasons (Physics)	**EYFS Framework – Reception** Learn new vocabulary **(C+L)** Describe events in some detail **(C+L)** Describe what they see, hear, and feel while they are outside **(UtW)** Understand the effect of changing seasons on the natural world around them. **(UtW)** Understand some important process and changes in the natural world around them, including the seasons.	Name the seasons and know about the type of weather in each season Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies.
Vocabulary	Summer, Spring, Autumn, Winter, Sun, Day, Moon, Night, Light, Dark	Season, Summer, Spring, Autumn, Winter, Sun, Day, daytime Moon, Night. Night time, weather, wind, rain, snow, hail, sleet, fog, hot warm, cold

Science Progressive Curriculum

	EYFS	KS1	Lower KS2	Upper KS2
Scientific Skills and Enquiry	**Development Matters 3 and 4 year olds – Previous learning** Understand 'why' questions (C+L) Talk about what they see, using a wide vocabulary (UtW) Explore how things work (UtW) **EYFS Framework – Reception** Learn new vocabulary (C+L) Ask questions to find out more and to check what has been said to them (C+L) Articulate their ideas in well-formed sentences (C+L) Describe events in detail (C+L) Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen (C+L) Use new vocabulary in different contexts (C+L) Make comments about what they have heard and ask questions to clarify their understanding (C+L) (LAU) Explore and observe (UtW) Know about similarities and differences (UtW) Draw on their experiences and what has been read in class (UtW)	Ask questions about what they notice Record and gather data Use simple equipment Use different types of scientific enquiry including: Observing changes over time Noticing similarities, differences and patterns Grouping and classifying things Carrying out simple tests that compare Finding things out using secondary sources of information, such as books and the Internet. Use the correct language to talk about their learning	Use relevant questions and scientific enquiry to carry out research Design and carry out a comparative and fair test Work systematically and make careful observations Measure accurately Classify and present data Record information using a range of methods, including drawings, labelled diagrams, keys, bar charts and tables Use equipment, including a thermometer and a data logger Gather data Make predictions and conclusions Explain similarities and differences and talk about changes Gather evidence Make improvements Construct an experiment and interpret results Make oral and written explanations	Plan in a scientific way Display and present evidence and findings Work with precision and accuracy Repeat an investigation to check readings Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar graphs and line graphs Make predictions Carry out further comparative and fair tests Report and present data while making reference to conclusions, causal relationships, explanaions and degree of trust Present oral and written findings Identify, classify and describe Identify patterns Work in a systematic way Use quantative measures
Vocabulary		Question, answer, observe, observing, equipment, identify, classify, sort, group, record – diagram, chart, map data, compare, contrast, describe, biology, chemistry, physics	Research – relevant questions, scientific enquiry, comparative and fair test, systematic, careful observation, accurate measuremens, Equipment – thermometer, data logger Data – gather, record, classify, present Record – drawings, labelled diagrams, keys, bar charts, tables, oral and written explanations, conclusions, predictions, differences, similarities, changes, evidence, improve, secondary sources, guides, keys, construct, interpret	Plan, variables, measurements, accuaracy, precision, repeat readings, Report data – scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graph, predictions, further comparative and fair test Report and present – conclusions, causal relationaship, explanations, degree of trust, oral and written display and presentation Evidence – supposrt, refute ideas or arguments, identify, classify and describe, patterns, systematic, quantitive measurements