



Aspect	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asking and answering questioning	<p>Ask simple scientific questions.</p> <p>Question words include what, why, how, when, who and which.</p> <p>Use everyday language/begin to use simple scientific words to ask or answer a scientific question.</p>	<p>Ask and answer scientific questions about the world around them. Questions can help us find out about the world.</p> <p>Suggest ideas, ask simple questions and know that they can be answered/investigated in different ways including simple secondary sources, such as books and video clips.</p>	<p>Ask questions about the world around them and explain that they can be answered in different ways. Questions can help us find out about the world and can be answered in different ways.</p> <p>Use ideas to pose questions, independently, about the world around them.</p>	<p>Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.</p>	<p>Ask a wide range of relevant scientific questions that broaden their understanding of the world around them and identify how they can answer them.</p>	<p>Ask and answer deeper and broader scientific questions about the local and wider world that build on and extend their own and others' experiences and knowledge.</p>
Equipment and measuring	<p>With support, use simple equipment to measure and make observations. Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.</p> <p>Use simple, non-standard measurements in a practical task.</p>	<p>Use simple equipment to measure, make observations and carry out simple tests. Simple equipment is used to take measurements and observations. Examples include timers, hand lenses, metre sticks and trundle wheels.</p>	<p>Take accurate measurements in standard units, using a range of simple equipment. Equipment is used to take measurements in standard units. Examples include data loggers pulse sensors, timers (seconds, minutes and hours), thermometers (°C) and metre sticks (mm, cm and m). Taking repeat readings can increase the accuracy of the measurement.</p>	<p>Take accurate measurements in standard units, using a range of equipment. Equipment is used to take measurements in standard units. Examples include data loggers plus sensors, timers (seconds, minutes and hours), thermometers (°C) and metre sticks, rulers or trundle wheels (mm, cm or m).</p>	<p>Take increasingly accurate measurements, in standard units, using a range of chosen equipment. Specialised equipment is used to take measurements in standard units. Examples include data loggers plus sensors, such as light (lux) sound (dB) and temperature (°C), timers (seconds, minutes and hours), thermometers (°C) and measuring tapes (mm, cm, m).</p>	<p>Take accurate, precise and repeated measurements in standard units, using a range of chosen equipment. Specialised equipment is used to take accurate measurements in standard units.</p>
Investigating	<p>With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. Simple tests can be carried out by following a set of instructions.</p>	<p>Follow a set of instructions to perform a range of simple tests, making simple predictions for what might happen and suggesting ways to answer their questions. Tests can be carried out by following a set of instructions. A prediction is a guess for what happen in an investigation.</p> <p>Do things in the correct order when performing a simple test and begin to recognise when something is unfair.</p>	<p>Set up and carry out some simple comparative and fair tests, making predictions for what might happen. Tests can be set up and carried out by following or planning a set of instructions. A prediction is a best guess for what might happen in an investigation based on some prior knowledge.</p> <p>Discuss enquiry methods and describe a fair test.</p>	<p>Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately. Scientific enquiries can be set up and carried out by following or planning a method.</p>	<p>Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding.</p>	<p>Plan and carry out a range of enquiries, including writing methods, identifying and controlling variables, deciding on equipment and data to collect and making predictions based on prior knowledge and understanding.</p>
Observing	<p>Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. Objects, materials and living things can be looked at and compared.</p> <p>Observe objects, materials and living things and describe what they see.</p>	<p>Observe objects, materials, living things and changes over time, sorting and grouping them based on their features and explaining their reasoning. Objects, materials and living things can be looked at, compared and grouped according to their features.</p> <p>Observe something closely and describe changes over time.</p>	<p>Make increasingly careful observations, identifying similarities, differences and changes and making simple connections. An observation involves looking closely at objects, materials and living things, which can be compared and grouped according to their features.</p> <p>Make decisions about what to observe during an investigation.</p>	<p>Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections. An observation involves looking closely at objects, materials and living things.</p> <p>Observations can be made regularly to identify changes over time.</p>	<p>Within a group, decide which observations to make, when and for how long, and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between cause and effect. An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time.</p>	<p>Independently, decide which observations to make, when and for how long and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between case and effect.</p>

Report and conclude	Talk about what they have done and say, with help, what they think they have found out. The results are information that has been found out from an investigation.	Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language. The results are information that has been found out from an investigation and can be used to answer a question.	Use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements. Results are information that has been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.	Use scientific vocabulary to report and answer questions about their findings based on evidence collected, draw simple conclusions and identify next steps, improvements and further questions. Results are information, such as data or observations, that has been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.	Use relevant scientific vocabulary to report on their findings, answer questions and justify their conclusions based on evidence collected, identify improvements, further questions and predictions. The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected.	Report on and validate their findings, answer questions and justify their methods, opinions and conclusions, and use their results to suggest improvements to their methodology, separate facts and opinions, post further questions and make predictions for what they might observe. The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected using correct, precise terminology.
Gather and record data	With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). Data can be recorded and displayed in different ways, including tables, pictograms and drawings.	Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy. Data can be recorded and displayed in different ways, including tables, charts and pictograms and drawings.	Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy. Data can be recorded and displayed in different ways, including tables, charts, graphs and labelled diagrams. Data can be used to provide evidence to answer questions.	Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs). Data can be recorded and displayed in different ways, including tables, charts, graphs, keys and labelled diagrams.	Gather and record data and results of increasing complexity, selecting from a range of methods (scientific diagrams, labels, classification keys, tables, graphs and models). Data can be recorded and displayed in different ways, including tables, bar and line charts, classification keys and labelled diagrams.	Choose an appropriate approach to record accurate results, including scientific diagrams, labels, timelines, classification keys, tables, models and graphs (bar, line and scatter), linking to mathematical knowledge. Data can be recorded and displayed in different ways, including tables, bar and line charts, scatter graphs, classification keys and labelled diagrams.
Identifying and classifying	<p>Identify, compare, group and sort a variety of common plants, including deciduous and evergreen trees, based on observable features.</p> <p>Identify, compare, group and sort a variety of common animals, including fish, amphibians, reptiles, birds and mammals, based on observable features. Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p>	<p>Identify and name a variety of plants and animals in a range of habitats and microhabitats.</p> <p>Describe the basic life cycles of some familiar animals.</p> <p>Observe what happens when a range of everyday materials, including foods, are heated and cooled, sorting and grouping them based on their observations.</p>	Identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton). Group and sort materials as being reflective.	<p>Compare, sort and group living things in a variety of ways based on observable features and behaviour. Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates.</p> <p>Classification keys are a scientific tool that aid the identification of living things.</p> <p>Group and sort materials into solids, liquids or gases. Materials can be grouped according to whether they are solids, liquids or gases.</p>	<p>Group and sort plants by how they reproduce. Flowering plants reproduce sexually. The flower is essential for sexual reproduction. Other plants reproduce asexually. Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism. Materials can be grouped according to their basic physical properties. Explain, following observation, that some substances (solutes) will dissolve in liquid (solvents) to form a solution and the solute can be recovered by evaporating off the solvent.</p>	<p>Use and construct classification systems to identify animals and plants from a range of habitats. Classification keys help us identify living things based on their physical characteristics.</p> <p>Classify living things into groups according to common observable characteristics and based on similarities and differences.</p> <p>Investigate and identify good thermal insulators, describing their common features. Heat energy is transferred in three different ways: conduction, convection and radiation.</p>

<p>Working scientifically vocabulary progression</p> <p><i>*vocabulary needs to be carefully used to ensure clear understanding in relation to Science and working scientifically.</i></p>	<p>What...? How...? Why...? Similar, Different, *Best, *Worst, Change, Plan, Look, *Biggest, *Smallest, Compare, Sort, Group, Scientists, Question, Answer, Record</p>	<p>Observe, Change, Slowly, Quickly, Contrast, Describe, Name, Identify, Label, Record, Measure, *Bigger, *Smaller, Pattern, Notice, Cycle, Predict, Question, Questioning, Answer, Equipment, Classify, Data, Classify, Fair test, Diagram</p>	<p>Gradually, Identify, Observe, Recognise, Investigate, Record, Units, Table, Evidence, Research, Length, Observations, Prediction, Comparative test, Fair test, Data, Conclusion, Plan, Record, Enquiry, Classify</p>	<p>Similarities, Differences, Changes, Research, Source, Discovery, Process, Cycle, Measurements, Conclude, Evaluate, Rank, Plan, Vary, Keep the same/constant, Bar graph, Table, Tally, Improve, Secondary sources, Construct, Comparative test, Fair test, Classification keys, Prediction, Classify, Observations</p>	<p>Classify, Interpret, Pattern, Relationship, Prediction, Analyse, Interpret, Conclude, Evaluate, Rank, Variable, Constants, Control, Repeat, Key, Relationship, Line graph, Plan, Accuracy, Comparative test, Fair test, Observations, Validity, Patterns</p>	<p>Hypothesis, Variable, Constants, Evaluate, Plan, Conclude, Interpret, Classify, Categorise, Database, Enquiry, Control, Repeat, Support, Refute, Degree of trust, Scatter graph, Refute ideas or arguments, Systematic, Quantitative, Comparative test, Fair test, Classification keys, Observations, Validity, Patterns</p>
<p>Animals including humans</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Love to investigate titles: What can worms sense? Why do we have teeth? Can you leap like a frog? What is camouflage for? Whose poo?</p> <p>Love to investigate titles: Why do we have two eyes? Why do we have teeth? What can our hands do?</p>	<p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Love to investigate titles: Why should I exercise? How do germs spread? Do insects have a favourite colour? Do snails have noses? What is the life cycle of the ladybird? How many arms does an octopus have?</p>	<p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Love to investigate titles: Which is the juiciest fruit? Is it safe to eat? What are our joints for? What do owls eat? How do worms move?</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p>Love to investigate titles: What is spit for? How does toothpaste protect teeth? What do squirrels eat? Can worms sense danger?</p>	<p>Describe the changes as humans develop to old age.</p> <p>Love to investigate titles: Do we slow down as we get older?</p>	<p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>Love to investigate titles: What's in blood? How does blood flow? What can your heart rate tell you?</p>
<p>Animals including humans – vocabulary progression</p>	<p>Names of animal groups: Fish, amphibians, reptiles, birds, mammals.</p>	<p>Being born and growing: Young, offspring, live young, grow, develop, change, hatch, lay, fly, crawl, talk.</p>	<p>Food and nutrients: Fibre, fats (saturated and unsaturated), vitamins, minerals.</p>	<p>Digestive system: Digest, digestion, tongue, teeth, saliva, salivary glands, oesophagus, stomach, liver, pancreas, gall</p>	<p>Process of reproduction: Gestation, asexual reproduction, sexual reproduction, sperm, egg, cells, clone.</p>	<p>Circulatory system: Circulation, heart, pulse, heartbeat, heart rate, lungs, breathing, blood vessels, blood,</p>

	<p>Animal diets: Carnivore, herbivore, omnivore.</p> <p>Human and animal body parts: Body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills.</p> <p>Human senses: Sight, hearing, touch, smell, taste.</p> <p>Exploring senses: Loud, quiet, soft, rough.</p> <p>Animal, human, pet.</p>	<p>Young and Adult names: Lamb and sheep, kitten and cat, duckling and duck.</p> <p>Life cycle stages: baby, toddler, child teenager, adult, frogspawn, tadpole, froglet, frog.</p> <p>Survival and staying healthy: Basic needs, survive, food, air, exercise, diet, nutrition, healthy, balanced diet, hygiene, germs.</p> <p>Food groups: Fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt sugar.</p>	<p>Skeletons and muscles: Skeleton, muscles, tendons, joints, protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, vertebrate, invertebrate, endoskeleton, exoskeleton, hydrostatic skeleton.</p> <p>Names of human bones: Skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, radius, femur, tibia, fibula.</p> <p>Other: energy.</p>	<p>bladder, small intestine, duodenum, large intestine, rectum, anus, faeces, organ.</p> <p>Types of teeth and dental care: Molar, premolar, incisor, canine, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth.</p> <p>Food chains and animal diets: Decomposer, food web.</p>	<p>Changes and life cycle: Embryo, foetus, uterus, prenatal, adolescence, puberty, menstruation, adulthood, menopause, life expectancy, old age, hormones, sweat.</p> <p>Changing body parts: Breasts, penis, larynx, ovaries, genitalia, public hair.</p>	<p>pump, transported, oxygenated blood, deoxygenated blood, oxygen, arteries, veins, capillaries, chambers, plasma, platelets, white blood cells, red blood cells.</p> <p>Lifestyle: Drug, alcohol, smoking, disease, calorie, energy input, energy output.</p> <p>Other: water transportation, nutrient transportation, waste products.</p>
Plants	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees</p> <p>Love to investigate titles: What's in a bud? How do leaves change? Are all leaves the same? Do pine cones know it's raining?</p>	<p>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</p> <p>Love to investigate titles: Can seeds grow anywhere? How does grass grow? Do plants grow in winter?</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, 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 part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Love to investigate titles: Do plants have legs? Why are trees tall? What are flowers for?</p>			
Plants – vocabulary progression	<p>Names of common plants: Wild plant, garden plant, evergreen tree, deciduous tree, common flowering plant, weed grass.</p> <p>Name some features of plants: Flower, vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil.</p>	<p>Growth of plants: Germination, shoot, seed dispersal, grow, food store, life cycle, die, wilt, seedling, sapling.</p> <p>Needs of plants: Sunlight, nutrition, light, healthy, space, air.</p> <p>Name different types of plant: e.g. bean plant, cactus.</p>	<p>Water transportation: Transport, evaporation, evaporate, nutrients, absorb, anchor.</p> <p>Life cycle of flowering plants: Pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water) reproduce, fertilisation, fertilise, stamen, anther, filament, carpel (pistil),</p>			

	Name some common types of plant: e.g. sunflower, daffodil	Names of different habitats: e.g. rainforest, desert.	stigma, style, ovary, ovule, sepal, carbon dioxide.			
Living things and their habitats.		<p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>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.</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats.</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>Love to investigate titles: Do snails have noses? Where do snails live? Will it degrade? What is the life cycle of the ladybird? How many arms does an octopus have? Where do worms like to live?</p>		<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Love to investigate titles: What do squirrels eat?</p> <p>Love to investigate titles: Are all sea creatures the same?</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Love to investigate titles: How do worms reproduce? Why do birds lay eggs? How many potatoes can you grow? What is the life cycle of the mealworm?</p>	<p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Love to investigate titles: Where do wild plants grow best? Why are things classified? How many worms are underground?</p>
Living things and their habitats – vocabulary progression		<p>Living or dead: living, dead, never living, not living, alive, never been alive, healthy.</p> <p>Habitats including microhabitats: depend, shelter, safety, survive, suited, space, minibeast, air.</p> <p>Life processes: movement, sensitivity, growth, reproduction, nutrition, excretion, respiration.</p> <p>Food chains: food sources, food, producer, consumer, predator, prey.</p> <p>Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat.</p>		<p>Living things: organisms, specimen, species.</p> <p>Grouping living things: classification, classification keys, classify, characteristics.</p> <p>Names of invertebrate animals: snails and slugs, worms, spiders, insects.</p> <p>Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs.</p> <p>Environmental changes: environment, environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive</p>	<p>Reproduction: asexual reproduction, sexual reproduction, gestation, metamorphosis, gametes, tuber, runners/side branches, plantlet, cuttings, embryo, adolescent, penis, vagina, egg, pregnancy, gestation.</p>	<p>Classifying: Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation.</p> <p>Microorganisms: bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose.</p>

				species, endangered species, extinct.		
Evolution and inheritance						<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>Love to investigate titles: Why is holly prickly? Where do wild plants grow best? Why do birds have different beaks? Can we slow cooling down? How do animals stay warm? Why are things classified? How does inheritance work? How many worms are underground?</p>
Evolution and inheritance – vocabulary progression						<p>Evolution and inheritance: evolve, adaptation, inherit, natural selection, adaptive traits, inherited traits, mutations, theory of evolution, ancestors, biological parent, chromosomes, genes, Charles Darwin.</p> <p>Other: selective breeding, artificial selection, breed, cross breeding, genetically modified food, cloning, DNA.</p>
Seasonal Changes	<p>Observe changes across the 4 seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>					

	<p>Love to investigate titles: How do leaves change? Do pine cones know it's raining? How wild is the wind? How big is a raindrop?</p>				
<p>Seasonal Changes – vocabulary progression</p>	<p>Seasons: spring, summer, autumn, winter, seasonal change.</p> <p>Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast.</p> <p>Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge.</p> <p>Day length: night, day, daylight.</p>				
<p>Forces</p>			<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>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.</p> <p>Describe magnets as having 2 poles.</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p> <p>Love to investigate titles: Can you block magnetism? Why do magnets attract and repel? What does friction do? How mighty are magnets?</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p> <p>Love to investigate titles: How do levers help us? What do pulleys do? Why are zip-wires so fast?</p>
<p>Forces – vocabulary progression</p>			<p>How things move:</p>		<p>Types of forces:</p>

			<p>move, movement, surface, distance, strength.</p> <p>Types of forces: push, pull, contact force, non-contact force, friction.</p> <p>Magnets: magnetic, magnetic field, magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic poles (north pole, south pole), attract, repel, compass.</p> <p>Magnetic and non-magnetic materials: e.g. iron, nickel, cobalt.</p>		<p>air resistance, water resistance, buoyancy, upthrust, Earth's gravitational pull, gravity, opposing forces, driving force.</p> <p>Mechanisms: levers, pulleys, gears/cogs.</p> <p>Measurements: weight, mass, kilograms (kg), Newtons (N), scales, speed, fast, slow.</p> <p>Other: streamlined, Earth.</p>	
Light			<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p> <p>Love to investigate titles: Why do cat's eyes glow at night? Why do shadows change? What are sunglasses for?</p>			<p>Recognise that light appears to travel in straight lines.</p> <p>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.</p> <p>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.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p>Love to investigate titles: Is green really green? How does light travel? What is a reflection? How can we make red? What colour is a shadow? Can you see through it? Can you turn a light down?</p>
Light – vocabulary progression			<p>Light and seeing: dark, absence of light, light source, illuminate, visible, shadow, translucent, energy, block.</p> <p>Light sources: e.g. candle, torch, fire, lantern, lightning.</p>			<p>Reflection: periscope.</p> <p>Seeing light: visible spectrum, prism.</p> <p>How light travels: light waves, wavelength, straight line, refraction.</p>

			<p>Reflective light: reflect, reflection, surface, ray, scatter, reverse, beam, angle, mirror, moon.</p> <p>Sun safety: dangerous, glare, damage, UV light, UV rating, sunglasses, direct.</p>		
Sound				<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p> <p>Love to investigate titles: Can we block sound? How far can sound travel? How can we change a sound?</p>	
Sound – vocabulary progression				<p>Parts of the ear: eardrum. Making sound: vibration, vocal cords, particles.</p> <p>Measuring sound: pitch, volume, amplitude, sound wave, quiet, loud, high, low, travel, distance.</p> <p>Other: soundproof, absorb sound.</p>	
Earth and Space				<p>Describe the movement of the Earth and other planets relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth’s rotation to explain day and night and the</p>	

					<p>apparent movement of the sun across the sky.</p> <p>Love to investigate titles: How does the Moon move? How do we know the Earth is round? Why do planets have craters? Can we track the Sun?</p>	
<p>Earth and Space – vocabulary progression</p>					<p>Solar system: star, planet.</p> <p>Names of planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus.</p> <p>Shape: spherical bodies, sphere.</p> <p>Movement: rotate, axis, orbit, satellite.</p> <p>Theories: geocentric model, heliocentric model, astronomer.</p> <p>Day length: sunrise, sunset, midday, time zone.</p>	
<p>Electricity</p>				<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p>Love to investigate titles: What conducts electricity? How do plugs work? Can you make a circuit from play dough?</p>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p>Love to investigate titles: Can fruit light a bulb?</p>	

<p>Electricity – vocabulary progression</p>				<p>Electricity: mains-powered, battery-powered, mains electricity, plug, appliances, devices.</p> <p>Circuits: circuit, simple series circuit, complete circuit, incomplete circuit.</p> <p>Circuit parts: bulb, cell, wire, buzzer, switch, motor, battery.</p> <p>Materials: electrical conductor, electrical insulator.</p> <p>Other: safety.</p>		<p>Flow and measure of electricity: voltage, amps, resistance, electrons, volts (V), current.</p> <p>Circuits: symbol, circuit diagram, component, function, filament.</p> <p>Variations: dimmer, brighter, louder, quieter.</p> <p>Types of electricity: natural electricity, human-made electricity, solar panels, power station.</p> <p>Other: positive, negative.</p>
<p>Materials</p>	<p>Everyday Materials</p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Love to investigate titles: How does it feel? How does it move? Can you be a superhero? How do you make bread? What makes the loudest sound? What keeps us dry?</p>	<p>Use of Everyday Materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p>Love to investigate titles: Can you make a paper bridge? Why do boats float? Can you find the treasure?</p> <p>Love to investigate titles: Which stuff is stickier? Do all balls bounce? Can water make music? How is mud made?</p>	<p>Rocks</p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p> <p>Love to investigate titles: How do fossils form? What is soil? What is sand?</p>	<p>States of Matter</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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).</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>Love to investigate titles: Where does water go? How do smells get up your nose? Are all liquids runny?</p>	<p>Properties and Changes of Materials</p> <p>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.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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 the action of acid on bicarbonate of soda.</p>	

					Love to investigate titles: Which materials conduct heat? Will it erupt? Why does a compass always point north? How do rockets lift off? Do all solids dissolve? Can you clean dirty water? Why does milk go off?	
Materials – vocabulary progression	<p>Names of materials: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric.</p> <p>Properties of materials: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff.</p> <p>Other: object.</p>	<p>Changing shape: squash, bend, twist, stretch.</p> <p>Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic.</p> <p>Other: suitability, recycle, pollution.</p>	<p>Types of rock: sedimentary rock, igneous rock, metamorphic rock.</p> <p>Properties of rocks: permeable, semi-permeable, impermeable, durable.</p> <p>Names of rocks: e.g. marble, chalk, granite, sandstone, slate.</p> <p>Formation of rocks and fossils: natural, human-made, magma, lava, molten rock, sediment, erosion, fossilisation, layers, bone, fossil.</p> <p>Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost.</p> <p>Other: palaeontology.</p>	<p>States of matter: solids, liquids, gases, particles.</p> <p>State change: evaporate, condense, melt, freeze, heat, cool, melting point, freezing point, boiling point, water vapour.</p> <p>Water cycle: precipitation, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail.</p> <p>Other: atmosphere.</p>	<p>Properties of materials: thermal conductor/insulator, magnetism, electrical resistance, transparency.</p> <p>Mixtures and solutions: dissolving, substance, soluble, insoluble.</p> <p>Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product.</p> <p>Separating: sieving, filtering, magnetic attraction.</p>	