Year 3	**Animal Nutrition and Skeletal System** Compare and contrast the diets of different animals. Ask questions about the world around them and explain that they can be answered in different ways. Explain the importance and characteristics of a healthy, balanced diet. Set up and carry out some simple, comparative and fair tests, making predictions for what might happen. Describe how humans need the skeleton and muscles for support, protection and movement.	**Rocks** Name the three different rock types: sedimentary, igneous and metamorphic. Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. 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.	**Forces and Magnets** Explain that an object will not move unless a push or pull force is applied, describing forces in action and whether the force requires direct contact or whether the force can act at a distance (magnetic force). Explain that an object will not move unless a push or pull force is applied, describing forces in action and whether the force requires direct contact or whether the force can act at a distance (magnetic force). Take measurements in standard units, using a range of simple equipment.	**Plant Nutrient and Reproduction** Investigate how water is transported within plants. Describe the requirements of plants for life and growth (air, light, water, nutrients and room to grow) and how they vary from plant to plant. Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy. Make increasingly careful observations, identifying similarities, differences and changes and making simple connections. Set up and carry out some simple,	**Light and Shadow** Make increasingly careful observations, identifying similarities, differences and changes and making simple connections. Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy. Set up and carry out some simple, comparative and fair tests, making predictions for what might happen. Group and sort materials as being reflective or non-reflective. Explain why light from the Sun can be dangerous.

	Describe how humans need the skeleton and muscles for support, protection and movement. Identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton).		Compare how objects move over surfaces made from different materials. 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. Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy. Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other,	comparative and fair tests, making predictions for what might happen. Take measurements in standard units, using a range of simple equipment. Draw and label the life cycle of a flowering plant. Name and describe the functions of the different parts of flowering plants (roots, stem, leaves and flowers).	Make increasingly careful observations, identifying similarities, differences and changes and making simple connections. Explain, using words or diagrams, how shadows are formed when a light source is blocked by an opaque object.

			while like poles repel each other. Make increasingly careful observations, identifying similarities, differences and changes and making simple connections. Compare and group materials based on their magnetic properties. Ask questions about the world around them and explain that they can be answered in different ways.		

Year 4	**Food and the Digestive System** Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs). Construct and interpret a variety of food chains and webs to show interdependence and how energy is passed on over time. Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes.	**Sound** Explain how sounds are made and heard using diagrams, models, written methods or verbally. Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately. Compare how the volume of a sound changes at different distances from the source. Compare and find patterns in the volume of a sound, using a range of equipment, such as musical instruments.	**States of Matter** Group and sort materials into solids, liquids or gases. 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. Observe and explain that some materials change state when they are heated or cooled and measure or research the temperature in degrees Celsius (˚C) at which materials change state. Take accurate measurements in	**Grouping and classifying** Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.	**Electrical Circuits and Conductors** Construct operational simple series circuits using a range of components and switches for control. Predict and describe whether a circuit will work based on whether or not the circuit is a complete loop and has a battery or cell. 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.

	Describe the purpose of the digestive system, its main parts and each of their functions. Identify the four different types of teeth in humans and other animals, and describe their functions. Describe what damages teeth and how to look after them. Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.		standard units, using a range of equipment. Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs).	Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour. Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs). Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour.	Describe materials as electrical conductors or insulators. Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately. Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections. Explain the precautions needed for working safely with electrical circuits. Describe materials as electrical conductors or insulators.

					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. Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them

Year 5	**Properties and Changes of Materials** Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding. Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism. Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use, including metals, wood and glass. 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. Take increasingly accurate measurements in standard units, using a range of chosen equipment.	**Forces and Mechanisms** Explain that objects fall to Earth due to the force of gravity. Take increasingly accurate measurements in standard units, using a range of chosen equipment. Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding. Compare and describe, using a range of toys, models and natural objects, the effects of water resistance, air resistance and friction.	**Earth and Space** Describe or model the movement of the planets in our Solar System, including Earth, relative to the Sun. Ask a wide range of relevant scientific questions that broaden their understanding of the world around them and identify how they can answer them. Describe the Sun, Earth and Moon as approximately spherical bodies and use this knowledge to understand the phases of the Moon and eclipses. Use the idea of Earth's rotation to explain day and night, and the	**Human Reproduction and Ageing** Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird. Describe the changes as humans develop from birth to old age. Gather and record data and results of increasing complexity, selecting from a range of methods (scientific diagrams, labels, classification keys, tables, graphs and models). Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding. Explain why personal hygiene is important during puberty. 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.

	Gather and record data and results of increasing complexity, selecting from a range of methods (scientific diagrams, labels, classification keys, tables, graphs and models). 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. Separate mixtures by filtering, sieving and evaporating. Identify, demonstrate and compare reversible and irreversible changes.	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. Describe and demonstrate how simple levers, gears and pulleys assist the movement of objects. Ask a wide range of relevant scientific questions that broaden their understanding of the world around them and identify how they can answer them.	Sun's apparent movement across the sky. Describe or model the movement of the Moon relative to Earth.	Describe the life process of reproduction in some plants and animals.

	Autumn		Spring		Summer	
Year 6	**Circulatory System** Name and describe the purpose of the circulatory system and the functions of the heart, blood vessels and blood. Explain that the circulatory system in animals transports oxygen, water and nutrients around the body. Take accurate, precise and repeated measurements in standard units, using a range of chosen equipment. 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 cause and effect. Choose an appropriate approach to recording accurate results, including scientific diagrams, labels, timelines, classification keys, tables, models and graphs (bar, line and scatter), linking to mathematical knowledge.	**Electrical Circuits and Components** Create circuits using a range of components and record diagrammatically using the recognised symbols for electrical components. Compare and give reasons for variations in how components in electrical circuits function (brightness of lamps; volume of buzzers and function of on or off switches). Independently decide which observations to make, when and	**Living things and their habitats** Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences.	**Light Theory** Explain the dangers of using lasers and ways to use them safely. Identify that light travels in straight lines. Explain that, due to how light travels, we can see things because they give out or reflect light into the eye. 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,	**Evolution and Inheritance** Explain that living things have changed over time, using specific examples and evidence. Describe some significant changes that have happened on Earth and the evidence, such as fossils, that support this. Identify that living things produce offspring of the same kind, although the offspring are not identical to either parent.

	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. Explain the impact of positive and negative lifestyle choices on the body.	for how long and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between cause and effect. Take accurate, precise and repeated measurements in standard units, using a range of chosen equipment. 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. Plan and carry out a range of		separate facts from opinions, pose further questions and make predictions for what they might observe. Explain, using words, diagrams or a model, why shadows have the same shape as the objects that cast them and how shadows can be changed. Describe, using diagrams, how light behaves when reflected off a mirror (plane, convex or concave) and when passing through a lens (concave or convex).	Identify how animals and plants are adapted to suit their environment, such as giraffes having long necks for feeding, and that adaptations may lead to evolution. Describe how animals and plants can be bred to produce offspring with specific and desired characteristics (selective breeding).

		enquiries, including writing methods, identifying and controlling variables, deciding on equipment and data to collect and making predictions based on prior knowledge and understanding. Explain how the brightness of a lamp or volume of a buzzer is affected by the number and voltage of cells used in a circuit.			