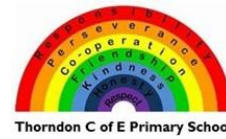


Thorndon Primary School – Science Knowledge Progression Document



NC Descriptor –KS1/ KS2	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Human Body Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Notice that animals, including humans, have offspring which grow into adults. Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Describe the simple functions of the basic parts of the digestive system in humans. Describe the life process of reproduction in some plants and animals. Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p>	<p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>The basic body parts are the head, arms, legs, nose, eyes, ears, mouth, hands and feet. Different body parts are used for different things, such as the eyes are used to see.</p> <p>Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p>	<p>The basic body parts are the head, arms, legs, nose, eyes, ears, mouth, hands and feet. The five senses are hearing, sight, smell, taste and touch. Ears are used for hearing, eyes are used to see, the nose is used to smell, the tongue is used to taste and skin gives the sense of touch.</p> <p>Human Senses</p>	<p>Human offspring go through different stages as they grow to become adults. These include baby, toddler, child, teenager, adult and elderly.</p> <p>Human Survival</p>	<p>Humans have a skeleton and muscles for movement, support and protecting organs. Major bones in the human body include the skull, ribs, spine, humerus, ulna, radius, pelvis, femur, tibia and fibula. Major muscle groups in the human body include the biceps, triceps, abdominals, trapezius, gluteals, hamstrings, quadriceps, deltoids, gastrocnemius, latissimus dorsi and pectorals.</p> <p>Animal Nutrition and the Skeletal System</p>	<p>The digestive system is responsible for digesting food and absorbing nutrients and water. The main parts of the digestive system are the mouth, oesophagus, stomach, small intestines, large intestines and rectum. The mouth starts digestion by chewing food and mixing it with saliva. The oesophagus transports the chewed food to the stomach, where it mixes with stomach acid and gets broken down into smaller pieces. In the small intestine, nutrients from the food are absorbed by the body. In the large intestine, water is absorbed by the body. The remaining undigested waste is stored in the rectum before excretion through the anus.</p> <p>Food and the Digestive System</p>	<p>Humans reproduce sexually, which involves two parents (one female and one male) and produces offspring that are different from the parents.</p> <p>Human Reproduction and Ageing</p>	<p>The circulatory system includes the heart, blood vessels and blood. The heart pumps blood through the blood vessels and around the body. There are three types of blood vessel: arteries, veins and capillaries. They each have a different-sized hole (lumen) and walls. The blood carries gases (oxygen and carbon dioxide), water and nutrients to where they are needed. The red blood cells carry oxygen and carbon dioxide around the body. The blood also contains white blood cells, which protect the body from infection.</p> <p>Circulatory System</p>
<p>Staying Safe Know about safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Know about safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer. Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p>	<p>It is important to wash and dry our hands after using the toilet and before eating to stop the spread of harmful germs.</p> <p>Ways to stay safe include: using sun cream and wearing and hat in the Sun; stopping, looking and listening when crossing the road; not touching sharp or hot objects; only eating or drinking what you know or have been given by an adult you trust.</p>	<p>It is important to stay safe. Some ways to stay safe include staying safe in strong sunlight (sun cream, sun hat and sunglasses), crossing roads (stop, look and listen), in the kitchen (not touching hot or sharp objects) and with household chemicals (not touching, drinking or eating)</p> <p>Seasonal Changes Human Sources</p>	<p>Humans need water, food, air and shelter to survive.</p> <p>Human Survival Remarkable Recipes</p>	<p>Light from the Sun is damaging for vision and the skin. Protection from the Sun includes sun cream, sun hats, sunglasses and staying indoors or in the shade.</p> <p>Light and Shadows</p>	<p>Working with electrical circuits can be dangerous. Precautions include not touching electrical components with wet hands and not putting batteries in mouths.</p> <p>Electrical Circuits and Conductors</p>	<p>Very hot and very cold materials can burn skin. Heating materials should be done safely.</p> <p>Properties of Changes of Materials</p>	<p>Lasers are intense beams of light and they should never be pointed at people's faces or aircraft.</p> <p>Light Theory</p>

<p>Healthy Lifestyle Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing. Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Know the risks associated with an inactive lifestyle (including obesity). Know what constitutes a healthy diet (including understanding calories and other nutritional content). Know the importance of sufficient good quality sleep for good health and that a lack of sleep can affect weight, mood and ability to learn. Know about dental health and the benefits of good oral hygiene and dental flossing.</p> <p>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. Know what constitutes a healthy diet (including understanding calories and other nutritional content). Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health). Know about dental health and the benefits of good oral hygiene and dental flossing, including regular check-ups at the dentist. Know key facts about puberty and the changing adolescent body, particularly from age 9 through to age 11, including physical and emotional changes. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Know the benefits of physical exercise, time outdoors, community participation, voluntary and service-based activity on mental wellbeing and happiness. Know what constitutes a healthy diet (including understanding calories and other nutritional content). Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health). Know the facts about legal and illegal harmful substances and associated risks, including smoking, alcohol use and drug taking.</p>	<p>Offer explanations for why things might happen, making use of recently introduced vocabulary</p> <p>Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p>	<p>Hand washing and good hygiene are important parts of a healthy lifestyle and prevent the spread of germs.</p> <p>Human Senses Chop, Slice and Mash</p>	<p>A healthy lifestyle includes exercise, good personal hygiene, good quality sleep and a balanced diet. Risks associated with an unhealthy lifestyle include obesity, tooth decay and mental health problems.</p> <p>Human Survival</p>	<p>Humans have to get nutrition from what they eat. It is important to have a balanced diet made up of the main food groups, including proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, and fats and spreads. Humans need to stay hydrated by drinking water.</p> <p>Animal Nutrition and the Skeletal System Cook Well, Eatwell</p>	<p>Regular teeth brushing, limiting sugary foods and visiting the dentist are important for good oral hygiene.</p> <p>Food and the Digestive System</p>	<p>Good personal hygiene (washing, wearing clean clothes and brushing teeth) can prevent disease or illness. Puberty is the period during which adolescents reach sexual maturity and become capable of reproduction. It causes physical and emotional changes.</p> <p>Human Reproduction and Ageing</p>	<p>Lifestyle choices can have a positive (exercise and eating healthily) or negative (drugs, smoking and alcohol) impact on the body.</p> <p>Circulatory System Food For Life</p>
---	---	--	---	--	--	---	--

<p>Pattern Seeking Observe changes across the four seasons. Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>Find patterns in the way that the size of shadows changes. 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. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. 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>Understand the effect of changing seasons on the natural world around them.</p> <p>Offer explanations for why things might happen, making use of recently introduced vocabulary</p> <p>Understand some</p>	<p>There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons.</p> <p>Seasonal Changes</p>	<p>The UK has typical weather in each of the seasons. For example, winter is cold and sometimes frosty, whereas summer is warm and sometimes sunny.</p> <p>Plant Survival Animal Survival</p>	<p>Shadows change shape and size when the light source moves. For example, when the light source is high above the object, the shadow is short and when the light source is low down, the object's shadow is long.</p> <p>Light and Shadows</p>	<p>Pitch is how high or low a sound is. Parts of an instrument that are shorter, tighter or thinner produce high-pitched sounds. Parts of an instrument that are longer, looser or fatter produce low-pitched sounds</p> <p>Volume is how loud or quiet a sound is. The harder an instrument is hit, plucked or blown, the stronger the vibrations and the louder the sound.</p> <p>Sound</p>	<p>As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky. However, this is due to the Earth rotating and not the Sun moving.</p> <p>Earth rotates to the east or, if viewed from above the North Pole, it rotates anti-clockwise, which means the Sun rises in the east and sets in the west. As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time.</p>	<p>A shadow appears when an object blocks the passage of light. Apart from some distortion or fuzziness at the edges, shadows are the same shape as the object. The distortion or fuzziness depends on the position or type of light source.</p> <p>Light Theory</p>
---	---	---	--	--	--	---	---

<p>Changes</p> <p>Observe and describe weather associated with the seasons and how day length varies. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock. 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). 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. 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>important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months.</p> <p>Seasonal Changes</p>	<p>Some objects and materials can be changed by squashing, bending, twisting, stretching, heating, cooling, mixing and being left to decay.</p> <p>Uses of Materials</p>	<p>Fossils form over millions of years and are the remains of a once-living organism, preserved as rock. Scientists can use fossils to find out what life on Earth was like in prehistoric times. Fossils form when a living thing dies in a watery environment. The body gets covered by mud and sand and the soft tissues rot away. Over time, the ground hardens to form sedimentary rock and the skeletal or shell remains turn to rock.</p> <p>Rocks, Relics and Rumbles</p>	<p>Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible. The temperature at which materials change state varies depending on the material. Water changes state from solid (ice) ⇌ liquid (water) at 0°C and from liquid (water) ⇌ gas (water vapour) at 100°C. The process of changing from a solid to liquid is called melting. The reverse process of changing from a liquid to a solid is called freezing. The process of changing from a liquid to a gas is called evaporation. The reverse process of changing from a gas to a liquid is called condensation.</p>	<p>Reversible changes include heating, cooling, melting, dissolving and evaporating. Irreversible changes include burning, rusting, decaying and chemical reactions.</p> <p>Properties and Changes of Materials</p>	
<p>Earth</p> <p>Observe and describe weather associated with the seasons and how day length varies. Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>Recognise that soils are made from rocks and organic matter. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 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. 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.</p>	<p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p>Different types of weather include: rain, snow, hail, fog, lightning, thunder and sunshine.</p>	<p>Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter.</p> <p>Seasonal Changes</p>	<p>The Earth is spherical and is covered in water and land. When it is daytime in one location, it is night time on the other side of the world.</p> <p>Uses of Materials</p>	<p>Soils are made from tiny pieces of eroded rock, air and organic matter. There are a variety of naturally occurring soils, including clay, sand and silt. Different areas have different soil types.</p> <p>Rocks, Relics and Rumbles (Geo)</p>	<p>The water cycle has four stages: evaporation, condensation, precipitation and collection. Water in lakes, rivers and streams is warmed by the Sun, causing the water to evaporate and rise into the air as water vapour. As the water vapour rises, it cools and condenses to form water droplets in clouds. The clouds become full of water until the water falls back to the ground as precipitation (rain, hail, snow and ice). The fallen water collects back in lakes, rivers and streams. Evaporation and condensation are caused by temperature changes.</p> <p>Misty Mountain, Winding River (Geo)</p>	<p>The Solar System is made up of the Sun and everything that orbits around it. There are eight planets in our Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Earth orbits around the Sun and a year (365.25 days) is the length of time it takes for Earth to complete a full orbit.</p> <p>The Moon orbits Earth, completing a full orbit every month (27.3 days).</p> <p>Earth and Space</p>	<p>Light travels in straight lines. Light sources give out light. They can be natural or artificial. When light hits an object, it is absorbed, scattered, reflected or a combination of all three. Light from a source or reflected light enter the eye. Vertebrates, such as mammals, birds and reptiles, have a cornea and lens that refracts light that enters the eye and focuses it on the nerve tissue at the back of the eye, which is called the retina. Once light reaches the retina, it is transmitted to the brain via the optic nerve.</p> <p>Light Theory</p>

<p>Light and sound Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. Recognise that they need light in order to see things and that dark is the absence of light. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Describe the Sun, Earth and Moon as approximately spherical bodies. Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p>	<p>To understand a shadow is formed when the light is blocked. Explore the natural world around them.</p>	<p>A shadow is formed when light from a light source, such as the Sun, is blocked by an opaque object, but not by transparent objects.</p>	<p>When an instrument is played by plucking, striking or blowing, the air around or inside it vibrates. These vibrations travel as a sound wave to the ear.</p>	<p>Dark is the absence of light and we need light to be able to see. A shadow is formed when light from a light source, such as the Sun, is blocked by an object. Opaque objects cast dark shadows. Translucent objects cast pale shadows. Transparent objects cast very pale shadows. Light and Shadows</p>	<p>When an instrument is played, the air around or inside it vibrates. These vibrations travel as a sound wave. Sound waves travel through a medium, such as air or water, to the ear. Sound</p>	<p>The Sun, Earth, Moon and the planets in our solar system are roughly spherical. All planets are spherical because their mass is so large that they have their own force of gravity. This force of gravity pulls all of a planet's material towards its centre, which compresses it into the most compact shape – a sphere. Earth and Space</p>	<p>'White' light is a term used to describe visible, ordinary daylight. White light can be split into a spectrum of colours (rainbow) by droplets of water or prisms. Light Theory</p>
<p>Forces Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. 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. Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. 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>Share their creations, explaining the process they have used.</p>	<p>Simple equipment can be used for measuring weather, such as measuring temperature with a thermometer; identifying wind direction and force with a windsock or measuring rainfall with a rain gauge. Seasonal Changes</p>	<p>Some objects float and others sink. Objects that float are typically light or hollow. Objects that sink are typically heavy or dense. Coastline</p>	<p>An object will not move unless a pushing or pulling force is applied. Some forces require direct contact, whereas other forces can act at a distance, such as magnetic force. Forces and Magnets</p>	<p>A series circuit is a simple loop with only one path for the electricity to flow. A series circuit must be a complete loop to work and have a source of power from a battery or cell. Circuits and Conductors</p>	<p>Gravity is a force of attraction. Anything with a mass can exert a gravitational pull on another object. The Earth's large mass exerts a gravitational pull on all objects on Earth, making dropped objects fall to the ground. Forces and Mechanisms</p>	<p>Voltage is measured in volts (V) and is a measure of the difference in electrical energy between two parts of a circuit. The bigger the voltage, the more electrons are pushed through the circuit. The more voltage flowing through a lamp, buzzer or motor, the brighter the lamp, the louder the buzzer and the faster the motor. Electrical Circuits and Components</p>
<p>Electricity and forces (Modelling) Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Offer explanations for why things might happen, making use of recently introduced vocabulary</p>	<p>Electrical circuits can light lamps or sound a buzzer. A switch turns an electrical circuit off and on.</p>	<p>Models can have moving parts that use levers, sliders, wheels and axles. Push and Pull (DT)</p>	<p>Models can contain electrical elements Making it Move (DT)</p>	<p>Electrical components include cells, wires, lamps, motors, switches and buzzers. Switches open and close a circuit and provide control. Electrical Circuits and Conductors</p>	<p>Mechanisms, such as levers, pulleys and gears, give us a mechanical advantage. A mechanical advantage is a measurement of how much a simple machine multiplies the force that we put in. The bigger the mechanical advantage, the less force we need to apply. Forces and Mechanisms</p>	<p>There are recognised symbols for different components of circuits. Electrical Circuits and Components</p>

<p>Report and Conclude Use their observations and ideas to suggest answers to questions. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings. Use test results to make predictions to set up further comparative and fair tests. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Offer explanations for why things might happen, making use of recently introduced vocabulary</p>	<p>The results are information that has been found out from an investigation.</p> <p>Seasonal Changes Plant Parts Animal Parts Seasonal Changes Human Senses Everyday Materials</p>	<p>The results are information that has been found out from an investigation and can be used to answer a question.</p> <p>Plant Survival Animal Survival Uses of Materials Habitats Human Survival</p>	<p>Results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Plant Nutrition and Reproduction Light and Shadows Forces and Magnets Animal Nutrition and the Skeletal System</p>	<p>Results are information, such as data or observations, that have been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Electrical Circuits And Conductors Grouping and Classifying States of Matter Misty Mountain, Winding River (Geo) Sound Food and the Digestive System</p>	<p>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.</p> <p>Human Reproduction and Ageing Properties and Changes of Materials Sow Grow and Farm (Geo) Earth and Space Forces and Mechanisms</p>	<p>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 correct, precise terminology and collected evidence.</p> <p>Evolution and Inheritance Light Theory Electrical Circuits and Components Frozen Kingdoms (Geo) Circulatory System</p>
<p>Gather and record data Gather and record data to help in answering questions. Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p>	<p>Offer explanations for why things might happen.</p>	<p>Data can be recorded and displayed in different ways, including tables, pictograms and drawings.</p> <p>Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials</p>	<p>Data can be recorded and displayed in different ways, including tables, charts, pictograms and drawings.</p> <p>Animal Survival Plant Survival Uses of Materials Habitats Human Survival</p>	<p>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.</p> <p>Animal Nutrition and the Skeletal System Rocks, Relics and Rumbles Forces and Magnets Plant Nutrition and Reproduction Light and Shadows</p>	<p>Data can be recorded and displayed in different ways, including tables, charts, graphs, keys and labelled diagrams.</p> <p>Electrical Circuits and Conductors Grouping and Classifying States of Matter Sound Food and the Digestive System</p>	<p>Data can be recorded and displayed in different ways, including tables, bar and line charts, classification keys and labelled diagrams.</p> <p>Human Reproduction and Ageing Properties and Changes of Materials Sow Grow and Farm (Geo) Earth and Space Forces and Mechanisms</p>	<p>Data can be recorded and displayed in different ways, including tables, bar and line charts, scatter graphs, classification keys and labelled diagrams.</p> <p>Circulatory System Electrical Circuits and Components Light Theory Evolution and Inheritance Frozen Kingdoms (Geo)</p>
<p>Investigation - Questioning Ask simple questions and recognise that they can be answered in different ways. Ask relevant questions and using different types of scientific enquiries to answer them. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p>	<p>Question words include what, why, how, when, who and which.</p> <p>Offer explanations for why things might happen.</p>	<p>Question words include what, why, how, when, who and which.</p> <p>Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials</p>	<p>Questions can help us find out about the world.</p> <p>Animal Survival Plant Survival Uses of Materials Habitats Human Survival</p>	<p>Questions can help us find out about the world and can be answered in different ways.</p> <p>Light and Shadows Plant Nutrition and Reproduction Forces and Magnets Animal Nutrition and the Skeletal System</p>	<p>Questions can help us find out about the world and can be answered using scientific enquiry.</p> <p>Electrical Circuits and Conductors Grouping and Classifying Sound Food and the Digestive System</p>	<p>Questions can help us find out about the world and can be answered using a range of scientific enquiries.</p> <p>Forces and Mechanisms Earth and Space Human Reproduction and Ageing Properties and Changes of Materials</p>	<p>Questions can help us find out about the world and can be answered using a range of scientific enquiries, including fair tests, research and observation.</p> <p>Electrical Circuits and Components Light Theory Evolution and Inheritance Circulatory System Frozen Kingdoms (Geo)</p>

<p>Investigation - Measurement Observe closely, using simple equipment. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p>	<p>Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.</p> <p>Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials</p>	<p>Simple equipment is used to take measurements and observations. Examples include timers, hand lenses, metre sticks and trundle wheels.</p> <p>Animal Survival Plant Survival Uses of Materials Habitats Human Survival</p>	<p>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 (millimetres, centimetres and metres). Taking repeat readings can increase the accuracy of the measurement.</p> <p>Light and Shadows Plant Nutrition and Reproduction Forces and Magnets</p>	<p>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 (millimetres, centimetres, metres).</p> <p>Sound Food and the Digestive System States of Matter</p>	<p>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 (millimetres, centimetres, metres).</p> <p>Forces and Mechanisms Earth and Space</p>	<p>Specialised equipment is used to take accurate 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 (millimetres, centimetres, metres).</p> <p>Circulatory System Electrical Circuits and Components</p>
<p>Investigation – Investigation Perform simple tests. Set up simple practical enquiries, comparative and fair tests. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p>	<p>Creating with Materials - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Simple tests can be carried out by following a set of instructions.</p> <p>Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials</p>	<p>Tests can be carried out by following a set of instructions. A prediction is a guess at what might happen in an investigation.</p> <p>Animal Survival Plant Survival Uses of Materials Habitats Human Survival</p>	<p>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>Light and Shadows Plant Nutrition and Reproduction Forces and Magnets Animal Nutrition and the Skeletal System Greenhouse (DT)</p>	<p>Scientific enquiries can be set up and carried out by following or planning a method. A prediction is a statement about what might happen in an investigation, based on some prior knowledge or understanding. A fair test is one in which only one variable is changed and all others remain constant.</p> <p>Sound Food and the Digestive System States of Matter Electrical Circuits and Conductors</p> <p>Misty Mountain, Winding River (Geo)</p>	<p>A method is a set of clear instructions for how to carry out a scientific investigation. A prediction is a statement about what might happen in an investigation based on some prior knowledge or understanding.</p> <p>Forces and Mechanisms Earth and Space Human Reproduction and Ageing Properties and Changes of Materials Sow, Grow and Farm (Geo)</p>	<p>A method is a set of clear instructions for how to carry out a scientific investigation, including what equipment to use and observations to make. A variable is something that can be changed during a fair test. A prediction is a statement about what might happen in an investigation based on some prior knowledge or understanding.</p> <p>Circulatory System Electrical Circuits and Components Light Theory Evolution and Inheritance Frozen Kingdoms (Geo)</p>
<p>Investigation –Observation Identify and classify. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Identify differences, similarities or changes related to simple scientific ideas and processes. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p>	<p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Objects, materials and living things can be looked at and compared.</p> <p>Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials Bright Lights, Big City (Geo)</p>	<p>Objects, materials and living things can be looked at, compared and grouped according to their features.</p> <p>Animal Survival Plant Survival Uses of Materials Habitats Human Survival</p>	<p>An observation involves looking closely at objects, materials and living things, which can be compared and grouped according to their features.</p> <p>Light and Shadows Plant Nutrition and Reproduction Forces and Magnets Animal Nutrition and the Skeletal System Greenhouse (DT) Rocks, Relics and Rumbles (Geo)</p>	<p>An observation involves looking closely at objects, materials and living things. Observations can be made regularly to identify changes over time.</p> <p>Sound Food and the Digestive System States of Matter Electrical Circuits and Conductors</p>	<p>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>Sow, Grow and Farm (Geo) Forces and Mechanisms Earth and Space Human Reproduction and Ageing Properties and Changes of Materials</p>	<p>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, identify processes and make comparisons.</p> <p>Evolution and Inheritance Light Theory Electrical Circuits and Components Circulatory System</p>

<p>Materials – Identification and classification 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. Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.</p> <p>Notice that light is reflected from surfaces. Compare and group materials together, according to whether they are solids, liquids or gases. 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. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p>	<p>Creating with Materials - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Everyday Materials Shade and Shelter (DT)</p>	<p>Some foods, such as ice and chocolate, melt when heated, but then harden (solidify or freeze) when cooled.</p> <p>Remarkable Recipes (DT)</p>	<p>Light can be reflected from different surfaces. Some surfaces are poor reflectors, such as some fabrics, while other surfaces are good reflectors, such as mirrors.</p> <p>Light and Shadows</p>	<p>Materials can be grouped according to whether they are solids, liquids or gases. Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay. Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids include water, juice and milk. Gases spread out to fill the available space and cannot be held. Examples of gases include oxygen, helium and carbon dioxide. Air is a mixture of gases.</p> <p>States of Matter</p>	<p>Materials can be grouped according to their basic physical properties. Properties include hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism.</p> <p>Some materials (solutes) will dissolve in liquid (solvents) to form a solution. The solute can be recovered by evaporating off the solvent by heating.</p> <p>Properties and Changes of Materials</p>	<p>Heat energy is transferred in three different ways: conduction, convection and radiation. A material that allows heat energy to travel through it is a thermal conductor. Poor thermal conductors are known as thermal insulators. Insulation is important for the survival of many animals. Blubber is a layer of fat that acts as an insulator under the skin of some animals, such as walruses and whales. It is an adaptation that is essential for their survival. Animals with fur, such as polar bears and Arctic foxes, trap a layer of air close to their skin to insulate them from the cold.</p> <p>Frozen Kingdom (Geo)</p>
--	--	---	---	--	---	---	---

<p>Materials – Properties and Uses</p> <p>Describe the simple physical properties of a variety of everyday materials. 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>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Observe how magnets attract or repel each other and attract some materials and not others. 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. Recognise some common conductors and insulators, and associate metals with being good conductors. 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. Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.</p>	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</p>	<p>Materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof.</p> <p>Everyday Materials Shade and Shelter (DT)</p>	<p>A material's physical properties make it suitable for particular purposes, such as glass for windows and brick for building walls. Many materials are used for more than one purpose, such as metal for cutlery and cars.</p> <p>Uses of Materials Animal Survival</p>	<p>There are three different rock types: sedimentary, igneous and metamorphic. Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock. Examples include sandstone and limestone. Igneous rocks are made from cooled magma or lava. They usually contain visible crystals. Examples include pumice and granite. Metamorphic rocks are formed when existing rocks are heated by the magma under the Earth's crust or squashed by the movement of the Earth's tectonic plates. They are usually very hard. Examples include slate and marble. Compare and group materials based on their magnetic properties.</p> <p>Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.</p> <p>Forces and Magnets Rocks, Relics and Rumbles (Geo)</p>	<p>Electrical conductors allow electricity to flow through them, whereas insulators do not. Common electrical conductors are metals. Common insulators include wood, glass, plastic and rubber.</p> <p>Electrical Circuits and Conductors</p>	<p>Some mixtures can be separated by filtering, sieving and evaporating. Sieving can be used to separate large solids from liquids and some solids from other solids. Filtering can be used to separate small solids from liquids. Evaporating can be used to separate dissolved solids from liquids.</p> <p>A material's properties dictate what it can be used for. For example, cooking pans are made from metal, which is a good thermal conductor, allowing heat to quickly transfer from the hob to the contents of the pan.</p> <p>Properties and Changes of Materials</p>	<p>Mirrors and lenses are used in a range of everyday objects (telescopes, periscopes, cards and on roads). The human eye has a lens that bends and focuses light on the back of the eye (retina) so that we can see.</p> <p>Light Theory</p>
--	---	--	--	---	--	--	--

<p>Nature – Identification and classification Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of plants and animals in their habitats, including microhabitats. Notice that animals, including humans, have offspring which grow into adults. Identify that humans and some other animals have skeletons and muscles for support, protection and movement. 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. 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 micro-organisms, plants and animals.</p>	<p>Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that shed old leaves and grow new leaves all year round are called evergreen trees. Examples include holly and pine.</p> <p>Animals are living things. Animals can be sorted and grouped into six main groups: fish, amphibians, reptiles, birds, invertebrates and mammals.</p> <p>Human Senses Seasonal Changes Plant Parts Animal Parts</p>	<p>A habitat is a place where a living thing lives. A microhabitat is a very small habitat.</p> <p>Animals have offspring that grow into adults. Different animals have different stages of growth or life cycles.</p> <p>Habitats Plant Survival Animal Survival</p>	<p>Some animals have skeletons for support, movement and protection. Endoskeletons are those found inside some animals, such as humans, cats and horses. Exoskeletons are those found on the outside of some animals, such as beetles and flies. Some animals have no skeleton, such as slugs and jellyfish.</p> <p>Animal Nutrition and the Skeletal System</p>	<p>Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things.</p> <p>Grouping and Classifying</p>	<p>Flowering plants reproduce sexually. The flower is essential for sexual reproduction. Other plants reproduce asexually. Bulbs, corms and rhizomes are some parts used in asexual reproduction in plants.</p> <p>Sow, Grow and Farm (Geo)</p>	<p>Classification keys help us identify living things based on their physical characteristics.</p> <p>Scientists classify living organisms into broad groups according to their characteristics. Vertebrates are an example of a classification group. There are a number of ranks, or levels, within the biological classification system. The first rank is called a kingdom, the second a phylum, then class, order, family, genus and species.</p> <p>Evolution and Inheritance Frozen Kingdoms (Geo)</p>
<p>Nature – Parts and Functions Identify and describe the basic structure of a variety of common flowering plants, including trees. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Investigate the way in which water is transported within plants. Identify the different types of teeth in humans and their simple functions. Describe the life process of reproduction in some plants and animals. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p>	<p>Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>The basic plant parts include root, stem, leaf, flower, petal, fruit, seed and bulb. Trees have a woody stem called a trunk. Different animal groups have some common body parts, such as eyes and a mouth, and some different body parts, such as fins or wings.</p> <p>Human Senses Plant Parts Animal Parts</p>	<p>Plants need water, light and a suitable temperature to grow and stay healthy. Without any one of these things, they will die.</p> <p>Plant Survival</p>	<p>The plant's roots anchor the plant in the ground and transport water and minerals from the ground to the plant. The stem (or trunk) support the plant above the ground. The leaves collect energy from the Sun and make food for the plant. Flowers make seeds to produce new plants. Water is transported in plants from the roots, through the stem and to the leaves, through tiny tubes called xylem.</p> <p>Plant Nutrition and Reproduction</p>	<p>There are four different types of teeth: incisors, canines, premolars and molars. Incisors are used for cutting. Canines are used for tearing. Premolars and molars are used for grinding and chewing. Carnivores, herbivores and omnivores have characteristic types of teeth. Herbivores have many large molars for grinding plant material. Carnivores have large canines for killing their prey and tearing meat.</p> <p>Food and the Digestive System</p>	<p>Parts of a flower include the stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal. Pollination is when the male part of a plant (pollen) is carried, by wind, insects or other animals, to the female part of the plant (carpel). The pollen travels to the ovary, where it fertilises the ovules (eggs). Seeds are then produced, which disperse far away from the parent plant and grow new plants.</p> <p>Sow, Grow and Farm (Geo)</p>	<p>Animals that sexually reproduce generate new offspring of the same kind by combining the genetic material of two individuals. Each offspring inherits two of every gene, one from the female parent and one from the male parent. Animals and plants can be bred to produce offspring with specific and desired characteristics. This is called selective breeding. Examples include cows that produce large quantities of milk or crops that are disease-resistant.</p> <p>Evolution and Inheritance</p>

<p>Nature – Nutrition Identify and name a variety of common animals that are carnivores, herbivores and omnivores. 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. . 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. Construct and interpret a variety of food chains, identifying producers, predators and prey. Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>Carnivores eat other animals (meat), herbivores eat plants and omnivores eat other animals and plants. Animal Parts</p>	<p>Food chains show how living things depend on one another for food. All food chains start with a plant, followed by animals that either eat the plant or other animals. Habitats Animal Survival</p>	<p>Animals cannot make their own food and need to get nutrition from the food they eat. Carnivores get their nutrition from eating other animals. Herbivores get their nutrition from plants. Omnivores get their nutrition from eating a combination of both plants and other animals. Animal Nutrition and the Skeletal System</p>	<p>Food chains show what animals eat within a habitat and how energy is passed on over time. All food chains start with a producer, which is typically a green plant. The producer is eaten by a primary consumer (prey), which is eaten by a secondary consumer (prey), which is eaten by a tertiary consumer. All food chains end with a top or apex predator. Changes within a food chain, such as an abundance or lack of one food type, have an impact on the entire food chain. Food and the Digestive System</p>	<p>Population changes in a habitat can have significant consequences for food chains and webs. Sow, Grow and Farm (Geo)</p>	<p>The role of the circulatory system is to transport oxygen, water and nutrients around the body. They are transported in blood and delivered to where they are needed. Circulatory System</p>
<p>Nature – Survival Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). 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. Describe the life process of reproduction in some plants and animals. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>Living things need to be cared for in order for them to survive. They need water, food, warmth and shelter. Animal Parts Plant Parts</p>	<p>Animals need water, food, air and shelter to survive. Their habitat must provide all these things. Human Survival Animal Survival</p>	<p>Plants need air, light, water, minerals from the soil and room to grow, in order to survive. Different plants have different needs depending on their habitat. Examples include cacti, which need less water than is typical, and ferns, which can grow in lower light levels. Plant Nutrition and Reproduction Greenhouse (DT)</p>	<p>An adaptation helps an animal or plant survive in its habitat. If living things are unable to adapt to changes within their habitat, they are at risk of becoming extinct. Misty Mountain, Winding River (Geo)</p>	<p>Reproduction is the process of producing offspring and is essential for the continued survival of a species. There are two types of reproduction: sexual and asexual. Sexual reproduction involves two parents (one female and one male) and produces offspring that are different from the parents. Asexual reproduction involves one parent and produces offspring that is identical to the parent. Sow, Grow and Farm (Geo) Human Reproduction and Ageing</p>	<p>An adaptation is a physical or behavioural trait that allows a living thing to survive and fill an ecological niche. Adaptations evolve by natural selection. Favourable traits help an organism survive and pass on their genes to subsequent generations. Frozen Kingdoms (Geo) Evolution and Inheritance (Sci)</p>
<p>Habitats Use their observations and ideas to suggest answers to questions. 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. Recognise that environments can change and that this can sometimes pose dangers to living things. Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. Give reasons for classifying plants and animals based on specific characteristics.</p>	<p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>The local environment is a habitat for living things and can change during the seasons Seasonal Changes Plant Parts</p>	<p>Local habitats include parks, woodland and gardens. Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains. All living things live in a habitat to which they are suited and it must provide everything they need to survive. Human Survival Animal Survival Habitats</p>	<p>Environments are constantly changing due to natural influences, such as seasons, extreme weather, population changes and availability of food. Living things must adapt to these changes in order to survive.</p>	<p>Humans can affect habitats in negative ways, such as littering, pollution and land development, or positive ways, such as garden ponds, bird boxes and wildflower areas. Misty Mountain, Winding River (Geo) Food and the Digestive System</p>	<p>Farming in the UK can be divided into three main types: arable (growing crops), pastoral (raising livestock), mixed (arable and pastoral). Intensive farming in the past has resulted in the loss of habitats. Sow, Grow and Farm (Geo) (Geo)</p>	<p>Living things are classified into groups, according to common observable characteristics and based on similarities and differences. Frozen Kingdoms (Geo)</p>

<p>Comparison – Physical Things Compare and group together a variety of everyday materials on the basis of their simple physical properties. Explore and compare the differences between things that are living, dead, and things that have never been alive. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing. Identify common appliances that run on electricity. Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p>	<p>Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>Materials can be grouped according to their properties. Everyday Materials Shade and Shelter (DT) Chop, Slice and Mash (DT)</p>	<p>Living things are those that are alive. Dead things are those that were once living but are no longer. Some things have never been alive. Habitats</p>	<p>Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other. Forces and Magnets</p>	<p>Electricity is a type of energy. It is used to power many everyday items, such as kettles, computers and televisions. Electricity can also come from batteries. Batteries eventually run out of power and need to be recycled or recharged. Batteries power devices that can be carried around, such as mobile phones and torches. Electrical Circuits and Conductors</p>	<p>A life cycle is the series of changes in the life of a living thing and includes these basic stages: birth, growth, reproduction and death. Mammals' life cycles include the stages: embryo, juvenile, adolescent and adult. Amphibians' life cycles include the stages: egg, larva (tadpole), adolescent and adult. Some insects' (butterflies, beetles and bees) life cycles include the stages: egg, larva, pupa and adult. Birds' life cycles include the stages: egg, baby, adolescent and adult. Sow, Grow and Farm (Geo) Human Reproduction and Ageing</p>	<p>Environmental factors can affect the distribution of living things within a habitat. These factors include light (intensity and duration), weather, altitude, soil type and humans, such as when we mow or trample grass.</p>
<p>Comparison – Phenomena Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. Compare how things move on different surfaces. Recognise that sounds get fainter as the distance from the sound source increases. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. 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>Offer explanations for why things might happen, making use of recently introduced vocabulary</p>	<p>Shadows are normally the same shape as the object that cast them. Shadows change during the day as the Sun appears to change position in the sky. Shadows occur where light is blocked by an opaque object Everyday Materials</p>	<p>Volume is how loud or quiet a sound is. Pitch is how high or low a sound is.</p>	<p>Friction is a force between two surfaces as they move over each other. Friction slows down a moving object. Smooth surfaces usually generate less friction than rough surfaces. Forces and Magnets</p>	<p>Sounds are louder closer to the sound source and fainter as the distance from the sound source increases. Sound</p>	<p>Friction, air resistance and water resistance are forces that oppose motion and slow down moving objects. These forces can be useful, such as bike brakes and parachutes, but sometimes we need to minimise their effects, such as streamlining boats and planes to move through water or air more easily and using lubricants and ball bearings between two surfaces to reduce friction. Forces and Mechanisms</p>	<p>A circuit needs a power source, such as a battery or cell, with wires connected to both the positive and negative terminals. Other components include lamps, buzzers or motors, which an electric current passes through and affects a response, such as lighting a lamp or turning a motor. When a switch is open, it creates a gap and the current cannot travel around the circuit. When a switch is closed, it completes the circuit and allows a current to flow all the way around it. Electrical Circuits and Components</p>

<p>Change – Living Things Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. Observe and describe how seeds and bulbs grow into mature plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Recognise that environments can change and that this can sometimes pose dangers to living things. Describe the changes as humans develop to old age. Know key facts about puberty and the changing adolescent body, particularly from age 9 through to age 11, including physical and emotional changes. 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>Offer explanations for why things might happen, making use of recently introduced vocabulary</p>	<p>All living things (plants and animals) change over time as they grow and mature.</p> <p>Seasonal Changes Plant Parts</p>	<p>Plants grow from seeds and bulbs. Seeds and bulbs need water and warmth to start growing (germinate). As the plant grows bigger, it develops leaves and flowers.</p> <p>Plant Survival</p>	<p>Flowers are important in the life cycle of flowering plants. The processes of a plant's life cycle include germination, flower production, pollination, seed formation and seed dispersal. Insects and the wind can transfer pollen from one plant to another (pollination). Animals, wind, water and explosions can disperse seeds away from the parent plant (seed dispersal).</p> <p>Plant Nutrition and Reproduction</p>	<p>Habitats change over time, either due to natural or human influences. Natural influences include extreme or unseasonable weather. Human influences include habitat destruction or pollution. These changes can pose a risk to animals and plants that live in the habitat.</p> <p>Food and the Digestive System</p>	<p>Humans go through characteristic stages as they develop towards old age. These stages include baby, infant, toddler, child, adolescent, young adult, adult and senior citizen. Puberty is the transition between childhood and adulthood.</p> <p>Human Reproduction and Ageing</p>	<p>Scientists compare fossilised remains from the past to living species that exist today to hypothesise how living things have evolved over time. Humans and apes share a common ancestry and evidence for this comes from fossil discoveries and genetic comparison.</p> <p>Evolution and Inheritance</p>
--	---	---	--	--	---	--	--