Thorndon Primary School - Skills Progression Document

Thorndon C of E Primary School

NC Descriptor –KS1 KS2	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	Draw and label the main parts of the human body and say which body part is associated with which sense. **Human Senses**	Describe the stages of human development (baby, toddler, child, teenager, adult and elderly). **Human Survival**	Describe how humans need the skeleton and muscles for support, protection and movement. **Animal Nutrition and the Skeletal System**	Describe the purpose of the digestive system, its main parts and each of their functions. **Food and the Digestive System**	Describe the process of human reproduction. **Human Reproduction and Ageing**	Name and describe the purpose of the circulatory system and the functions of the heart, blood vessels and blood. **Circulatory System**
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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	Describe ways to stay safe in some familiar situations. **Seasonal Changes** **Human Sources**	Describe what humans need to survive. **Human Survival** **Remarkable Recipes**	Explain why light from the Sun can be dangerous.. **Light and Shadows**	Explain the precautions needed for working safely with electrical circuits. **Electrical Circuits and Conductors**	Explain the precautions needed for working safely when heating, burning, cooling and mixing materials. **Properties of Changes of Materials**	Explain the dangers of using lasers and ways to use them safely. **Light Theory**
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, 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.	Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices	Explain why hand washing and cleanliness are important. **Human Senses** **Chop, Slice and Mash**	Describe the importance of a healthy lifestyle, including exercise, a balanced diet, good quality sleep and personal hygiene. **Human Survival**	Explain the importance and characteristics of a healthy, balanced diet. **Animal Nutrition and the Skeletal System** **Cook Well, Eatwell**	Describe what damages teeth and how to look after them. **Food and the Digestive System**	Explain why personal hygiene is important during puberty. **Human Reproduction and Ageing**	Explain the impact of positive and negative lifestyle choices on the body. **Circulatory System Food For Life**
Processes – Pattern Seeking Observe changes across the four seasons. Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. 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.	Make connections about what they have heard and ask questions to clarify their understanding	Observe changes across the four seasons. **Seasonal Changes**	Describe typical UK seasonal weather patterns. **Plant Survival** **Animal Survival**	Find patterns in the way shadows change during the day. **Light and Shadows**	Compare and find patterns in the pitch of a sound, using a range of equipment, such as musical instruments. Compare and find patterns in the volume of a sound, using a range of equipment, such as musical instruments. **Sound**	Use the idea of Earth's rotation to explain day and night, and the Sun's apparent movement across the sky. **Earth and Space**	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. **Light Theory**

Processes - Changes 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. 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. 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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	Observe and describe how day length changes across the year. **Seasonal Changes**	Describe how some objects and materials can be changed and how these changes can be desirable or undesirable. **Uses of Materials**	Describe simply how fossils are formed, using words, pictures or a model. **Rocks, Relics and Rumbles**	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. **States of Matter**	Identify, demonstrate and compare reversible and irreversible changes. **Properties and Changes of Materials**	Describe some significant changes that have happened on Earth and the evidence, such as fossils, that support this. **Evolution and Inheritance**
Processes - Earth 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. 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.	Make comments about what they have heard and ask questions to clarify understanding	Observe and describe different types of weather. **Seasonal Changes**	Describe features of Earth using words and pictures. **Uses of Materials**	Investigate soils from the local environment, making comparisons and identifying features. **Rocks, Relics and Rumbles (Geo)**	Describe the water cycle using words or diagrams and explain the part played by evaporation and condensation. **Misty Mountain, Winding River (Geo)**	Describe or model the movement of the planets in our Solar System, including Earth, relative to the Sun. Describe or model the movement of the Moon relative to Earth. **Earth and Space**	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. **Light Theory**
Processes - Phenomena 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.	Listen attentively and respond to what they hear with relevant questions	Explain in simple terms how shadows are formed.	Explain in simple terms how sounds are made.	Describe the differences between dark and light and how we need light to be able to see. Explain, using words or diagrams, how shadows are formed when a light source is blocked by an opaque object. **Light and Shadows**	Explain how sounds are made and heard using diagrams, models, written methods or verbally. **Sound**	Describe the Sun, Earth and Moon as approximately spherical bodies and use this knowledge to understand the phases of the Moon and eclipses. **Earth and Space**	Describe, using scientific language, phenomena associated with refraction of light. **Light Theory**
Processes - 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.	Make comments about what they have heard and ask questions to clarify their understanding	Investigate weather using toys, models or simple equipment. **Seasonal Changes**	Sort and group objects that float and sink. **Coastline**	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). **Forces and Magnets**	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. **Circuits and Conductors**	Explain that objects fall to Earth due to the force of gravity. **Forces and Mechanisms**	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. **Electrical Circuits and Components**
Processes - 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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	Describe, following exploration, what simple electrical circuits can do.	Make models with moving parts. **Push and Pull (DT)**	Make working models with simple mechanisms or electrical circuits. **Making it Move (DT)**	Construct operational simple series circuits using a range of components and switches for control. **Electrical Circuits and Conductors**	Describe and demonstrate how simple levers, gears and pulleys assist the movement of objects. **Forces and Mechanisms**	Create circuits using a range of components and record diagrammatically using the recognised symbols for electrical components. **Electrical Circuits and Components**

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.	Make comments about what they have heard and ask questions to clarify understanding	Talk about what they have done and say, with help, what they think they have found out. **Seasonal Changes** **Plant Parts** **Animal Parts** **Seasonal Changes** **Human Senses** **Everyday Materials**	Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language. **Plant Survival** **Animal Survival** **Uses of Materials** **Habitats** **Human Survival**	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. **Plant Nutrition and Reproduction** **Light and Shadows** **Forces and Magnets** **Animal Nutrition and the Skeletal System**	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. **Electrical Circuits and Conductors** **Grouping and Classifying** **States of Matter** **Misty Mountain, Winding River (Geo)** **Sound** **Food and the Digestive System**	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. **Human Reproduction and Ageing** **Properties and Changes of Materials** **Sow Grow and Farm (Geo)** **Earth and Space** **Forces and Mechanisms**	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 from opinions, pose further questions and make predictions for what they might observe. **Evolution and Inheritance** **Light Theory** **Electrical Circuits and Components** **Frozen Kingdoms (Geo)** **Circulatory System**
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.		With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). **Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials**	Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy. **Animal Survival** **Plant Survival** **Uses of Materials** **Habitats** **Human Survival**	Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy. **Animal Nutrition and the Skeletal System** **Rocks, Relics and Rumbles Forces and Magnets** **Plant Nutrition and Reproduction** **Light and Shadows**	Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs). **Electrical Circuits and Conductors** **Grouping and Classifying** **States of Matter** **Sound** **Food and the Digestive System**	Gather and record data and results of increasing complexity, selecting from a range of methods (scientific diagrams, labels, classification keys, tables, graphs and models). **Human Reproduction and Ageing** **Properties and Changes of Materials** **Sow Grow and Farm (Geo)** **Earth and Space** **Forces and Mechanisms**	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. **Circulatory System** **Electrical Circuits and Components** **Light Theory** **Evolution and Inheritance** **Frozen Kingdoms (Geo)**
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.	Make comments about what they have heard and ask questions to clarify their understanding	Ask simple scientific questions. **Seasonal Changes Plant Parts Animal Parts Human Senses Everyday Materials**	Ask and answer scientific questions about the world around them. **Animal Survival** **Plant Survival** **Uses of Materials** **Habitats** **Human Survival**	Ask questions about the world around them and explain that they can be answered in different ways. **Light and Shadows** **Plant Nutrition and Reproduction** **Forces and Magnets** **Animal Nutrition and the Skeletal System**	Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them. **Electrical Circuits and Conductors** **Grouping and Classifying Sound** **Food and the Digestive System**	Ask a wide range of relevant scientific questions that broaden their understanding of the world around them and identify how they can answer them. **Forces and Mechanisms** **Earth and Space** **Human Reproduction and Ageing** **Properties and Changes of Materials**	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. **Electrical Circuits and Components** **Light Theory** **Evolution and Inheritance Circulatory System Frozen Kingdoms (Geog)**

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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	With support, use simple equipment to measure and make observations. **Seasonal Changes** **Plant Parts** **Animal Parts** **Human Senses** **Everyday Materials**	Use simple equipment to measure and make observations. **Animal Survival** **Plant Survival** **Uses of Materials** **Habitats** **Human Survival**	Take measurements in standard units, using a range of simple equipment. **Light and Shadows** **Plant Nutrition and Reproduction** **Forces and Magnets**	Take accurate measurements in standard units, using a range of equipment. **Sound** **Food and the Digestive System** **States of Matter**	Take increasingly accurate measurements in standard units, using a range of chosen equipment. **Forces and Mechanisms** **Earth and Space** **Human Reproduction and Ageing** **Properties and Changes of Materials**	Take accurate, precise and repeated measurements in standard units, using a range of chosen equipment. **Circulatory System** **Electrical Circuits and Components** **Light Theory** **Evolution and Inheritance**
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.		With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. **Seasonal Changes** **Plant Parts** **Animal Parts** **Human Senses** **Everyday Materials**	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. **Animal Survival** **Plant Survival** **Uses of Materials** **Habitats** **Human Survival**	Set up and carry out some simple, comparative and fair tests, making predictions for what might happen. **Light and Shadows** **Plant Nutrition And Reproduction** **Forces and Magnets** **Animal Nutrition and the Skeletal System** **Greenhouse (DT)**	Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately. **Sound** **Food and the Digestive System** **States of Matter** **Electrical Circuits and Conductors** **Misty Mountain, Winding River (Geo)**	Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding. **Forces and Mechanisms** **Earth and Space** **Human Reproduction and Ageing** **Properties and Changes of Materials** **Sow, Grow and Farm (Geo)**	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. **Circulatory System Electrical Circuits and Components** **Light Theory** **Evolution and Inheritance** **Frozen Kingdoms (Geo)**
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.		Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. **Seasonal Changes** **Plant Parts** **Animal Parts** **Human Senses** **Everyday Materials** **Bright Lights, Big City (Geo)**	Observe objects, materials, living things and changes over time, sorting and grouping them based on their features and explaining their reasoning. **Animal Survival** **Plant Survival** **Uses of Materials** **Habitats** **Human Survival**	Make increasingly careful observations, Identifying similarities, differences and changes and making simple connections. **Light and Shadows** **Plant Nutrition and Reproduction** **Forces and Magnets** **Animal Nutrition and the Skeletal System** **Greenhouse (DT)** **Rocks, Relics and Rumbles (Geo)**	Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections. **Sound** **Food and the Digestive System** **States of Matter** **Electrical Circuits and Conductors**	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. **Sow, Grow and Farm (Geo)** **Forces and Mechanisms** **Earth and Space** **Human Reproduction and Ageing** **Properties and Changes of Materials**	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. **Evolution and Inheritance** **Light Theory** **Electrical Circuits and Components** **Circulatory System**
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. 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.	Offer ideas why things might happen, making use of recently introduced vocabulary	Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock. **Everyday Materials** **Shade and Shelter (DT)**	Observe what happens when a range of everyday materials, including foods, are heated and cooled, sorting and grouping them based on their observations. **Remarkable Recipes (DT)**	Group and sort materials as being reflective or non-reflective. **Light and Shadows**	Group and sort materials into solids, liquids or gases. **States of Matter**	Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism. 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. **Properties and Changes of Materials**	Investigate and identify good thermal insulators, describing their common features. **Frozen Kingdoms (Geo)**

Materials – Properties and Uses 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. 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.		Investigate and describe the simple physical properties of some everyday materials, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid and waterproof or not waterproof. **Everyday Materials** **Shade and Shelter (DT)**	Compare the suitability of a range of everyday materials for particular uses, including wood, metal, plastic, glass, brick, rock, paper and cardboard . **Uses of Materials** **Animal Survival**	Compare and group rocks based on their appearance, properties or uses. Compare and group materials based on their magnetic properties. **Forces and Magnets** **Rocks, Relics and Rumbles (Geo)**	Describe materials as electrical conductors or insulators. **Electrical Circuits and Conductors**	Separate mixtures by filtering, sieving and evaporating. Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use, including metals, wood and glass. **Properties and Changes of Materials**	Describe, using diagrams, how light behaves when reflected off a mirror (plane, convex or concave) and when passing through a lens (concave or convex). Covered **Light Theory**
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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features. Identify, compare, group and sort a variety of common animals, including fish, amphibians, reptiles, birds, invertebrates and mammals, based on observable features. **Human Senses** **Seasonal Changes** **Plant Parts** **Animal Parts**	Identify and name a variety of plants and animals in a range of habitats and microhabitats. Describe the basic life cycles of some familiar animals (egg, caterpillar, pupa, butterfly; egg, chick, chicken; spawn, tadpole, froglet, frog). **Habitats** **Plant Survival** **Animal Survival**	Identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton). **Animal Nutrition and the Skeletal System**	Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour. **Grouping and Classifying**	Group and sort plants by how they reproduce. **Sow, Grow and Farm (Geo)**	Use and construct classification systems to identify animals and plants from a range of habitats. Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences. **Evolution and Inheritance** **Frozen Kingdoms (Geo)**
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	Offer explanations for why things may happen, making use of recently introduced vocabulary	Label and describe the basic structure of a variety of common plants. Label and describe the basic structures of a variety of common animals, including fish, amphibians, reptiles, birds and mammals. **Human Senses** **Plant Parts** **Animal Parts**	Describe how plants need water, light and a suitable temperature to grow and stay healthy. **Plant Survival**	Name and describe the functions of the different parts of flowering plants (roots, stem, leaves and flowers). Investigate how water is transported within plants. **Plant Nutrition and Reproduction**	Identify the four different types of teeth in humans and other animals, and describe their functions. **Food and the Digestive System**	Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal). **Sow, Grow and Farm (Geo)**	Identify that living things produce offspring of the same kind, although the offspring are not identical to either parent. Describe how animals and plants can be bred to produce offspring with specific and desired characteristics (selective breeding). **Evolution and Inheritance**
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.	Listen attentively and respond to what they hear with relevant questions, comment and actions	Group and sort a variety of common animals based on the foods they eat. **Animal Parts**	Interpret and construct simple food chains to describe how living things depend on each other as a source of food. **Habitats** **Animal Survival**	Compare and contrast the diets of different animals. **Animal Nutrition and the Skeletal System**	Construct and interpret a variety of food chains and webs to show interdependence and how energy is passed on over time. **Food and the Digestive System**	Describe, using their knowledge of food chains and webs, what could happen if a habitat had a living thing removed or introduced. **Sow, Grow and Farm (Geo)**	Explain that the circulatory system in animals transports oxygen, water and nutrients around the body. **Circulatory System**

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.	Listen attentively and respond with relevant questions	Describe how to care for plants and animals, including pets **Animal Parts Plant Parts**	Explain how animals, including humans, need water, food, air and shelter to survive. **Human Survival** **Animal Survival**	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. **Plant Nutrition and Reproduction** **Greenhouse (DT)**	Explain how adaptations help living things to survive in their habitat. **Misty Mountain, Winding River (Geo)**	Describe the life process of reproduction in some plants and animals. **Sow, Grow and Farm (Geo)** **Human Reproduction and Ageing**	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. **Frozen Kingdoms (Geo)** **Evolution and Inheritance (Sci)**
Place and Space - 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.	Offer explanations for why things might happen, making use of recently introduced vocabulary	Observe the local environment throughout the year and ask and answer questions about living things and seasonal change. **Seasonal Changes** **Plant Parts**	Describe a range of local habitats and habitats beyond their locality (beaches, rainforests, deserts, oceans and mountains) and what all habitats provide for the things that live there. **Human Survival** **Animal Survival** **Habitats**	Describe how environments can change due to natural influences and how living things need to be able to adapt to these changes.	Describe how environments can change due to human and natural influences and the impact this can have on living things. **Misty Mountain, Winding River (Geo)** **Food and the Digestive System**	Research and describe different farming practices in the UK and how these can have positive and negative effects on natural habitats. **Sow, Grow and Farm (Geo)**	Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system. **Frozen Kingdoms (Geo)**
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.		Compare and group materials in a variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable. **Everyday Materials** **Shade and Shelter (DT)** **Chop, Slice and Mash (DT)**	Compare and group things that are living, dead or have never been alive. **Habitats**	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, while like poles repel each other. **Forces and Magnets**	Compare common household equipment and appliances that are and are not powered by electricity. **Electrical Circuits and Conductors**	Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird. **Sow, Grow and Farm (Geo)** **Human Reproduction and Ageing**	Compare the living things in two contrasting areas of a habitat (top vs bottom of a hill, full sun vs shade, exposed location vs sheltered location or well-trodden path vs unused area).
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.		Compare shadows made by different objects and materials. **Everyday Materials**	Compare the volume and pitch of sounds made by instruments, their voices or other objects.	Compare how objects move over surfaces made from different materials. **Forces and Magnets**	Compare how the volume of a sound changes at different distances from the source. **Sound**	Compare and describe, using a range of toys, models and natural objects, the effects of water resistance, air resistance and friction. **Forces and Mechanisms**	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). **Electrical Circuits and Components**
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.	Listen attentively and respond to what they hear with relevant questions	Describe, following observation, how plants and animals change over time. **Seasonal Changes** **Plant Parts**	Observe and describe how seeds and bulbs change over time as they grow into mature plants. **Plant Survival**	Draw and label the life cycle of a flowering plant. **Plant Nutrition and Reproduction**	Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes. **Food and the Digestive System**	Describe the changes as humans develop from birth to old age. **Human Reproduction and Ageing**	Explain that living things have changed over time, using specific examples and evidence. **Evolution and Inheritance**