Malvern Parish – Science Long Term Plan 2024/2025

Understanding the World (See also RE Curriculum)						
The Natural World	**Baseline** Ask questions about aspects of their familiar world such as the place where they live or the natural world. Talking about some of the things they have observed such as plants, animals, natural. Talking about why things happen and how things work; • Starting to develop an understanding of growth, decay and changes over time; • Showing care and concern for living things and the environment.	**End of Autumn Term** • Talking about some of the things they have observed such as plants, animals, natural and found objects; • Having greater awareness of seasonal change; • Asking questions about aspects of their familiar world- the place where they live or the natural world; • Asking questions about the things they have observed such as plants and animals.	**End of Spring Term** • Talking about why things happen and how things work; • Understanding more about growth, decay and changes over time; • Identifying features of living things, such as animals with legs or those with wings; • Exploring the natural world around them; • Describing what they see, hear and feel whilst outside; • Recognising some environments that are different to the one in which they live; • Understanding the effect of changing seasons on the natural world around them. To be able to explore the natural world around them.		**End of Summer Term (ELG)** • Explore the natural world around them, making observations and drawing pictures of animals and plants; • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	
Topics	**Malvern and Me**	**Celebrations**	**Winter Wonderland**	**Take me to the Farm**	**Zoom to the Moon!**	**Down at the Bottom of the Garden**
	I AM A SCIENTIST **1: Push or pull?** **To explore ways to make objects move.** **Aut 1** **CHANGING SEASONS** **1: Autumn treasures** **To recognise changes outside in autumn.**	**I AM A SCIENTIST** **2: Loud or quiet?** **To explore different sounds. (taught before first music unit)** **CHANGING SEASONS** **2: Whatever the weather** **To recognise different types of weather. Teach this lesson at the end of Autumn 2.** **I AM A SCIENTIST** **4: Freeze or melt?** **To explore freezing and melting**	**CHANGING SEASONS** **3: Winter wildlife** To recognise how animals prepare for winter. **(HIBERNATION)** **I AM A SCIENTIST** **5: Light or dark?** **To explore how light makes shadows. (NOCTURNAL Owl Babies & habitats)** **I AM A SCIENTIST** **3: Float or sink?** **To explore whether objects float or sink.** (CC - DT boats, LOST AND FOUND STORY) **ANIMAL ADVENTURES** **4: Animal homes** **To sort animals based on where they live.**	**CHANGING SEASONS** **4: Springtime magic** **To recognise changes outside in spring. Teach this lesson at the end of Spring 2** **(Life Processes & Living Things: Growth)** **ANIMAL ADVENTURES** **1: Living and non-living** **To sort objects into living and non-living.** **3: On the farm** **To sort and describe farm animals.** **5: Zoo animals** **To compare my home with a zoo animal home.**	**CHANGING SEASONS** **5: Sandcastle science** **To investigate the mixture needed to build a sandcastle. Teach this lesson at the end of Summer 1.** **The World and Beyond** Can I talk about the Earth, the Sun and some of the planets in outer space? Can I talk about what it is like on other planets?	**CHANGING SEASONS** **6: Summer senses** **To recognise changes outside in summer.** **ANIMAL ADVENTURES** **2: Describing minibeasts** **To find and describe minibeasts.** **Growing runner beans and observing as they grow.**

Topic Ideas	Create an autumn discovery table – conkers, acorns, pinecones, different coloured leaves. Make observations of our school grounds and forest school area. Talk about our pets and describe our homes and gardens. Autumn & winter nature walks and observations on the school journey. The Enormous Turnip, Handa's Surprise, Little Red Hen – Harvest service and songs.	Arctic/Antarctic animals and their habitat. Owl Babies – nocturnal animals & birds of prey. Winter walks, nocturnal and hibernating animals, freezing and melting. Lost and Found – floating and sinking/materials to make a boat.	Sort and compare farm animals and what environments they need to live in. Learn about crops grown on a farm. Spring nature walks and discovery table.	Learn about the different planets and what they look like, what they are made of, compare hot/cold/large/small etc.	Mini beasts and the lifecycle of a caterpillar. Create a mini beast hotel/environment and compare different creatures – numbers of legs, wings, antennae etc.
The Natural World ELG	**Explores the natural world around them making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read to them in class. Understand some important processes and changes in the natural world around them, including seasons and changing states of matter.**				
Vocabulary & knowledge progression to year 1 Science	**• Malvern and Me/Celebrations – topic - changing of the seasons; observation, senses; • Autumn discovery table; Winter Wonderland – change of state, ice, weather; • Zoom to the Moon – planets, hot, cold, large, small; • Farm, spring, animal classification, farm animals, mini beasts, habitats; • Pets, homes, Handa Surprise; • Forest School – out and about; • Vocabulary – differences, changes, large, small, routes, stem, leaf, flower, growing, weather, autumn, spring, summer, winter; hot, cold, melt, freezing, • Growing – sunflowers, runner beans/Jack and the Beanstalk, growing, textures, materials;• Down at the Bottom of the Garden – butterfly life cycle; Winter Wonderland, Down at the Bottom of the Garden – habitats; nocturnal animals**				
Key Stage one Year One (Science)	**• Know the name of parts of the human body that can be seen; • Know about the five senses and link them with parts of the body; • Know and name a variety of common wild and garden plants; • Know and classify animals by what they eat (carnivore, herbivore and omnivore); • Know how to sort by living and non-living things; • Know how to classify a range of animals by amphibian, reptile, mammal, fish and bird; • Know and name the petals, stem, leaves and roots of a plant; • Know and name the roots, trunk, branches and leaves of a tree.**				

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	**Aut 1** **I AM A SCIENTIST** **1: Push or pull?** **To explore ways to make objects move.** **Aut 1** **CHANGING SEASONS** **1: Autumn treasures** **To recognise changes outside in autumn.**	**Sensitive Bodies** (Transition to Science Unit) **Body parts** *Can I name parts of the body? ** **The senses** *Can I name the parts of the body used for each sense? ** **Taste and touch** *Can I name the body parts used for the sense of taste and touch?** **Sight and smell** *Can I identify the body parts used for the sense of smell and sight?* **Hearing** *Can I identify the body parts used for the sense of hearing?** **Senses in action** *Can I recognise the importance of senses in certain jobs? **SIA***	**Animals Life Cycles and Health** **Animal offspring** *Can I match animals to their offspring?* **Life cycles** *Can I explain the life cycle of animals?** **Growing up** *Can I order the stages of the human life cycle?** **Survival** *Can I suggest ways to improve human health?* **Exercise** *Can I explore the impact of exercise on the human body?* **Healthy Living** *Can I understand how to be hygienically healthy?* ***Plant bulbs ready for spring science.***	**Light and Shadows** **Sources of light** LC: Can I explain the role of light sources?* **What is reflection?** LC: Can I compare light reflecting on different surfaces? **Where do shadows come from?** LC: Can I recognise which materials cast a shadow?* **Shadows throughout the day** *LC: Can I summarise how shadows change throughout the day?** **Investigating shadows** *LC: Can I investigate how the distance of the light source affects the size of its shadow?** **Dangers of Light** *LC: Can I explain how light from the sun can be dangerous and suggest ways of protection? **SIA***	**Electricity** **Using electricity** *Can I recognise how electrical appliances are powered?** **Building circuits** *Can I construct an electrical circuit and name its parts?** **Switching on and off** *Can I explain the use of switches in a circuit?* **Investigating electrical conductors and insulators** *Can I explain the use of materials as electrical conductors or insulators?** **Investigating bulb brightness** *Can I investigate what makes a lamp light in a simple circuit?* **Electrical safety** *Can I explain how to be safe around electricity? **SIA***	**Earth and Space** **Models of our Solar System** *Can I compare the contributions of Ptolemy, Alhazena nd Copernicus to models of the Solar System? ** **Our Solar System** *Can I describe the Sun, Earth and Moon as approximately spherical bodies?* **Our Solar System** *Can I describe the movement of the celestial bodies in our Solar System? ** **The Moon** *Can I describe the movement of the Moon relative to the Earth? ** **Day and Night** *Can I explain the causes of day and night and the seasons? ** **Time** *Can I devise a sundial to tell the time? ** **(Satellites and space junk as optional extra time allowing)**	**Living Things and their Habitat: Classifying Big and Small** **Carl Linneaus and classification** *Can I explain how organisms are classified using the Linnaean?* **Cold bloodied vertebrates** *Can I classify the cold bloodied vertebrate groups using the common characteristics?* **Warm-bloodied vertebrates** *Can I classify the warm-blooded vertebrate groups using their common characteristics?* **Invertebrates** *Can I classify invertebrates?* **Plants** Can I describe how the plant kingdom is organised? ** **Micro-organisms** *Can I describe and classify micro-organisms?*

Key Vocabulary	**Autumn** **Winter** **Summer** **Spring** **environment** **local** **explore** **shadow** **sunlight** **leaf** **conker** **acorn** **colours** **habitat** weather seasons	**senses** **growth** **body** **purpose** **sensitive** head shoulder knees feet arms face sight hearing smell touch taste	**life cycle** **hygiene** **offspring** **stages** **exercise** **reproduce** impact balance heart rate oxygen perspiration	**transparent** **translucent** **opaque** **shadow** **light source** light dark sunlight surface artificial shine	**conductor** **insulator** **connection** **electrical circuit** **qualitative data** electricity appliances cell wire buzzer circuit battery bulb switch	**celestial body** **universe** **rotate** **orbit** **spherical** Earth Sun Moon planet star solar system axis heliocentric geocentric eclipse Ptolemy Alhazen Copernicus	**bacteria** **microorganism** **species** **microbes** **taxonomist** key
Opportunities for **Working Scientifically**		**-Sorting body parts into groups** **-Spotting patterns in data** **-Using senses to make observations** **-Investigate how sound changes as you move further away**	**-First hand observations of growth and or a life cycle (butterflies)** **-Comparing peers from babies to now**	**-Plan and draw a results table** **-Ask questions and plan how to answer them** **-Evaluate a method** **-Find patterns in data** **-Form conclusions**	**-Record and classify qualitative data** **-Draw a scientific diagram** **-Write a method** **-Pose questions and plan ways to test them**	**-Pose testable questions** **-Develop a model that represents the solar system** **-Design and draw a table** **-Draw a diagram** **-Calibrate and use a sundial as a measure of time**	**-Produce a working classification key**

Autumn 2	**Autumn 2** **I AM A SCIENTIST** **2: Loud or quiet?** **To explore different sounds. (taught before first music unit)** **CHANGING SEASONS** **2: Whatever the weather** **To recognise different types of weather.** **Teach this lesson at the end of Autumn 2.** **I AM A SCIENTIST** **4: Freeze or melt?** **To explore freezing and melting**	**Seasonal changes** **Wonderful weather** *Can I identify how the weather changes across the 4 seasons?* **Seasonal activities** *Can I identify events and activities that take place in different seasons?* **How do trees change?** *Can I say how trees change across the 4 seasons?* **Daylight hours** *Can I recognise that daylight hours change across the 4 seasons?** **Weather reports** *Can I plan and carry out a weather report?* **Observe over time** *Can I contribute to the design of a class weather chart and help to monitor seasonal changes?**	**Materials: Uses of everyday materials** **Objects and materials** *Can I recognise that objects are made from materials that suit their uses?** **Which material is suitable?** *Can I choose a suitable material for a purpose?* **Stretch, twist, bend and squash it!** *Can I recognise that the shape of some solid objects can be changed?** **Testing stretchiness** *Can I gather data to compare the suitability of materials for particular uses?** **Testing strength** *Can I recognise that the strength of some materials can be changed?** **Eco-friendly materials** *Can I recognise that some materials are harmful to the environment?* ***SIA***	**Rocks** **Materials: Rocks and Soil** **Appearance** *LC: Can I observe the appearance of rocks and sort them into groups?** **Physical properties** *LC: Can I group rocks according to their physical properties?* **Fossil formation** *LC: Can I describe the process of fossil formation?** **Fossils and Palaeontology** *LC: Can I identify fossils and group rocks accordingly?** **Soil formation** *LC: Can I compare soils and how they were formed?** **Soil layers and earthworms** *LC: Can I describe a soil sample using sedimentation?**	**Sound** **Vibrations** *Can I describe and explain how sounds are made?** **Hearing** *Can I explain how different sounds travel from a medium to the ear?* **Pitch** *Can I find connections between pitch of sounds and features of what has made it?* **Volume Patterns** *Can I find patterns between the volume and the strength of the vibrations that produce it?* **Volume distance** *L.C: Can I explore when sounds get fainter?* **Making Music** *Can I make an instrument that can make different sounds?*	**Properties and changes of materials: mixtures and separation** **Mixtures** *Can I describe mixtures? ** **Sieving** *Can I explain the process of sieving? ** **Filtering** *Can I explain the process of filtering? ** **Solutions** *Can I describe solutions and how they can be identified? ** **Dissolving** *Can I identify which factors affect the time taken to dissolve? ** **Evaporating** *Can I describe the process of evaporation?*	**Evolution and Inheritance** **Variation** Can I explain why there are differences within a species?* **Inheritance** Can I recognise the inheritance of characteristics in plants and animals? **Adaptations** Can I explain why adaptation is necessary? **Modelling natural selection** Can I model how natural selection affects population size?* **Evolution** *Can I describe the theory of evolution?** **Evidence for Evolution** *Can I recognise evidence that can be used for evolution?*

Key Vocabulary	**temperature changes** **- hotter/colder** **freeze/melt**	**thermometer** **daylight hours** **temperature** **association** **monitor** **degrees Celsius** sun light dark weather sun safety seasons	**suitability** **flexible** **properties** **eco-friendly** **environment** uses harmful strength stretchiness	**sedimentary** **organic matter** **igneous** **metamorphic** **permeability** crystals fossil marble chalk granite sandstone slate peat layers	**sound** **vibration** **pitch** **absorption** sound proofing strength volume wave travel	**solubility** **filtering** **sieving** **dissolve** **irreversible** **reversible** solution separate mixing evaporation	**inheritance** **evolution** **natural selection** **adaptive traits** **inherited traits** variations characteristics
Opportunities for **working scientifically**		**-Record daylight hours in a pictogram** **-Set up a weekly/fortnightly weather record template with the class and monitor weather for seasonal changes**	**-Grouping materials** **-Record data in table** **-Gather data to answer a question** **-Record data in a block graph**	**-Observe using magnifying glasses** **-Make predictions, suggest improvements and explain observations over time** **-Present research information** **-Use a record to answer questions** **-Record draining rates for different soils in a bar chart** **-Draw and label diagrams**	**-Test sound through materials** **-Experiment with pitch and sound different instruments**	**-Research using secondary sources** **-Draw and annotate a diagram to explain a concept** **-Identify testable questions** **-Plan a fair test with consideration of variables and measurements**	**-Group factors** **-Evaluate the degree of trust and pose new questions for further enquiry**

Spring 1	**Spring 1** **CHANGING SEASONS** **3: Winter wildlife** To recognise how animals prepare for winter. **(HIBERNATION)** **I AM A SCIENTIST** **5: Light or dark?** **To explore how light makes shadows.** **(NOCTURNAL** **Owl Babies & habitats)** **I AM A SCIENTIST** **3: Float or sink?** **To explore whether objects float or sink.** (CC - DT boats, LOST AND FOUND STORY) **ANIMAL ADVENTURES** **4: Animal homes** **To sort animals based on where they live.**	**Animals including humans (Comparing animals)** **Animal groups** *Can I name animals from different groups?* **Animal group differences** *Can I explain why an animal is classified in a group?** **Comparing animals** *Can I compare the features of different animals?* **Animal diets** *Can I name animals that are carnivores, herbivores and omnivores?* **Pets** *Can I recognise animals that would make suitable pets?* *Can I gather and record data to help in answering questions?* **Jane Goodall** *Can I describe and compare the structure of animals?* *Can I talk about a famous scientist in history?*	**Living Things: Habitats** **Life processes** *Can I identify some characteristics of living things?* **Alive or not?** *Can recognise the difference between things that are alive and not?** **Introduction to habitats** *Can I identify plants and animals in different habitats?* **Woodland habitats** *Can I identify how a habitat provides animals and plants with what they need to survive?** **Rainforest and Ocean habitats** *Can I recognise how animals and plants depend on each other?* **Food chains** *Can I recall how animals source their food?*	**Forces and Magnets Push, pull and twist** *LC: Can I describe the effects of contact forces?** **Friction** *LC: Can I recognise the effects of using forces?** **Investigating friction** *LC: Can I interpret how and why things move differently on different surfaces?* **Magnets** *LC: Can I describe the effects of magnets?* **Investigating magnet strength** *LC: Can I compare the properties of different types of magnets?* **Uses of magnets** *LC: Can I explain the uses of magnets?*	**Animals including humans :Digestion** **The human digestive system** *Can I describe the function of the human digestive system?** **Human teeth** *Can I recognise the different types of human teeth and their roles in eating?* ***SIA*** **Investigating dental hygiene** *Can I explain how to care for our teeth?** **Teeth of carnivores, herbivores and omnivores** *Can I recognise that differences in teeth relate to an animal's diet?* **Producers, predators and prey in food chains** *Can I recognise producers, predators and prey in food chains?** **Poo clues** *Can I recognise that animal poo can give us clues about digestion, teeth and diet?**	**Properties and changes of materials: properties** **Hardness** *Can I determine the hardness of materials and link this to their uses?** **Transparency** *Can I determine the transparency of different materials and link this to their uses?** **Conductivity** *Can I determine the conductivity of different materials and link this to their uses?** **Reversible changes** *Can I demonstrate reversible changes?** **Irreversible changes: burning and rusting** *Can I determine irreversible changes?** **Irreversible changes: mixing** *Can I demonstrate irreversible changes?**	**Energy: Light and reflection** **The pathway of light** *Can I describe the pathway of light?** **See the light** *Can I describe how we see? ** **Measuring shadows** *Can I explain how shadows change?* **Reflecting Light** *Can I investigate what affects the angle of the reflected ray?** **Making a periscope** *Can I explain how a periscope works?* **Using Mirrors** *Can I explain how mirrors are helpful?* ***SIA***

Key Vocabulary	**heated** **cooled** **sink** **float** **material** freeze melt plastic wood belong nest tree waterproof absorbent - soggy	**diet** **features** **herbivore** **carnivore** **omnivore** fish amphibians reptiles birds mammals classify	**habitats** **micro – habitats** **food chain** **life processes** **shelter** ocean woodland rainforest seashore living dead never alive	**force** **magnetic poles** **magnet** **attraction** **repulsion** push pull twist contact/non-contact friction magnetic strength north south	**digest** **oesophagus** **small intestine** **large intestine** **rectum** mouth teeth saliva stomach anus teeth incisor canine molar premolar	**hardness** **transparency** **conductivity** **insulator** **electrical conductor** **irreversible** **reversible** thermal conductor rusting magnetic	**incident ray** **reflected ray** **refraction** **visible spectrum** **prism** the law of reflection light ray light source opaque translucent transparent shadow
Opportunities for **working scientifically**		**-Sorting animals into groups**	**-Classify objects into groups** **-Carry out research to find answers to questions**	**-Label a diagram using arrows and scientific vocabulary** **-Write a conclusion identifying cause and effect** **-Plan an investigation using variables** **-Write a method** **-Display data in a bar chart** **-Research the use of magnets**	**-Evaluate a model** **-Plan an enquiry considering which variables should be changed, measured and controlled** **-Analyse trends in line graphs and form conclusions** **-Construct a results table for recording observations**	**-Evaluate a test and determine the degree of trust in the results** **-Plan and draw a table of results** **-Write a detailed, organised method** **-Write a prediction using prior knowledge** **-Anaylse observations and use them to support a conclusion** **-Measure accurately**	**-Use evidence to form conclusions** **-Draw scientific diagrams** **-To pose questions** **-To record results in a line graph**

Spring 2	**CHANGING SEASONS** **4: Springtime magic** **To recognise changes outside in spring. Teach this lesson at the end of Spring 2** **ANIMAL ADVENTURES** **1: Living and non-living** **To sort objects into living and non-living.** **3: On the farm** **To sort and describe farm animals.** **5: Zoo animals** **To compare my home with a zoo animal home.**	**Everyday materials** **Naming materials** *Can I identify everyday materials?** **Material detectives** *Can I recognise the difference between objects and materials?* **Introduction to properties** *Can I describe the properties of materials?* **Is it absorbent?** *Can I group materials based on their properties (absorbency)?** **Is it waterproof?** *Can I group materials based on their properties (waterproofness)?** **Observe Seasonal Changes over time** *Can I explain how the weather has changed using our class data?*	**Living Things: Habitats** **Identifying and classifying minibeasts** *Can I classify a variety of minibeasts by working scientifically?** **Introduction to scientific enquiry** *Can I explain how scientists answer questions?** **Minibeast hunt** *Can I gather and record data to answer a question?** **Planning an experiment** *Can I plan how to carry out an experiment?** **Woodlice experiment** *Can I carry out an experiment and record data?** **What is a botanist?** *Can I identify a variety of flowering plants? **SIA*** ***Bulbs Growth – When ready look at the bulb and it's flower ready for summer 1 learning.***	**Animals: Movement and nutrition** **Skeletons** *LC: Can I explain the role of a skeleton?** **The bones in our body** *LC: Can I recognise the main bones in the body?** **Muscles and movement** *LC: Can I explain how muscles are used for movement? **SIA*** **Eating for survival** *LC: Can I explain how food is an essential energy source for animals?* **Nutrient groups** *LC: Can I identify the main nutrient groups and their simple functions?** **Balanced Diets** *LC: Can I explain what makes a balanced diet? **SIA***	**Living Things: Classification and Changing Habitats** **Grouping living things: vertebrates and invertebrates** *Can I group animals in various ways?** **Grouping living things: Plants** *Can I group plants in various ways?** **Classification Keys** *Can I make and use classification keys?* **Habitats and seasonal change** *Can I recognise and describe different habitats and their inhabitants?* **Human impacts on habitats** *Can I research the impact humans can have on habitats and the organisms that live in them?* **Natural changes to habitats** *Can I recognise the impact of natural disasters on habitats?*	**Forces** **Gravity** *Can I explore the effect gravity has on objects and how gravity was discovered?** **Friction** *Can I identify the effects of friction acting between moving surfaces?** **Air resistance** *Can I identify and explain the effects of air resistance?** **Water resistance** *Can I identify and explain the effects of water resistance?** **Levers and pulleys** *Can I recognise that levers and pulleys allow a smaller force to have a greater effect?** **Gears** *Can I recognise that gears allow a smaller force to have a greater effect?*	**Energy: Circuits, batteries and switches** **Electricity** *Can I explain the importance of major discoveries in electricity?* **Circuit symbols** *Can I understand and use recognised symbols when representing a simple circuit?* **Volts** *Can I observe and explain the effects of differing volts in a circuit?* **Electricity investigation (1)** *Can I compare and give reasons for variations in how components function?* **Electricity investigation (2)** *Can I conduct an investigation and record my data?* **Electricity investigation (3)** *Can I evaluate my findings and pose questions for further investigation?*

Key Vocabulary	mini-beast habitat plants trees - leaves, bark, trunk. grass farm/farmer soil growing	**waterproof** **absorbent** **tough** **record** **material** hard soft stretchy shiny dull rough bendy not bendy	**identifying** **classifying** **habitable**	**nutrition** **vertebrate** **invertebrate** **endoskeleton** **exoskeleton** minerals contract relax carbohydrates sugars protein vitamins fibre fat skeleton protection support skull spine ribs pelvis	**endangered** **positive human impact** **negative human impact** **classification key** organisms flowering plants non-flowering plants vertebrate invertebrate classify taxonomist seasonal change mammal amphibian reptile	**gravity** **air resistance** **water resistance** **friction** **force** accelerate decelerate effect mechanism pulley gear	**current** **amps** **voltage** **resistance** **electrons** cell Circuit
Opportunities for **working scientifically**		**-Sorting objects into groups they are made from** **-Make observations and record data from absorbency experiment** **-Plan a test of waterproofness and suggest what might happen** **-Answering questions based on results of test**	**-Classify minibeasts** **-Gather and record data to answer a question** **-Ask questions to plan how to carry out an experiment** **-Carry out an experiment and record data in table**	**-Group animals based on physical properties** **-Measure and sort data** **-Gather and compare data to answer questions** **-Record information using secondary sources**	**-Propose relevant questions** **-Draw simple conclusions from results** **-Accurately measure using equipment (thermometers)** **-Make predictions** **-Record and label diagrams** **-Research climate change and the water cycle**	**.-Plan a scientific enquiry to answer a question** **-Measure accurately** **-Identify scientific evidence that has been used to support or refute arguments** **-Design based on observations** **-Test with an understanding of variables**	**-plan an investigation and consider variables** **-Conduct an investigation and record data** **-Report investigation findings** **-Pose questions from data for further investigation**

Summer 1	**CHANGING SEASONS** **5: Sandcastle science** **To investigate the mixture needed to build a sandcastle.** **Teach this lesson at the end of Summer 1.** **The World and Beyond** Can I talk about the Earth, the Sun and some of the planets in outer space? Can I talk about what it is like on other planets?	**Introduction to plants** **Parts of a plant** *Can I name basic parts of a plant?** **Garden and wild plants** *Can I name common garden and wild plants?* **Parts of trees** *Can I name the basic parts of a tree?** **Terffic trees** *Can I name common deciduous and evergreen trees?* **Comparing plants** *Can I make observations and compare plants?** **Observe Seasonal Changes over time** *Can I explain how the weather has changed using our class data?*	**Plant growth*** **What do plants need to grow?** *Can I explain what plants need to grow?* **What's inside a seed?** *Can I investigate the features of a seed?* **Life cycle of a plant** *Can I sequence the stages of a plant's growth?* **What do plants need to stay healthy?** *Can I investigate what plants need to grow healthily?* **How do plants grow in hot, dry or cold places?** *Can I perform a simple experiment to explain the best place for plant growth?*	**Plants: Reproduction** **Parts of plants** *Can I name the different parts of flowering plants and explain their jobs?* **What do plants need to go well?** *Can I explore the requirements for successful plant growth?** **Compare plant growth** *Can I make observations and record them?** **How does water travel through plants?** *Can I explain how water is transported through plants?** **Why are flowers fantastic?** *Can I order the stages of the life cycle of a flowering plant?* ***SIA***	**States of matter** **Solids** *Can I identify solids using their properties?** **Liquids and gases** *Can I identify liquids and gases using their properties?** **Melting and freezing** *Can I describe melting and freezing?** **Condensing and evaporating** *Can I describe condensing and evaporating?** **The water cycle** *Can I describe the different stages of the water cycle?** **Climate change and the water cycle** *Can I describe how temperature affects evaporation rates and the water cycle?**	**Animals including humans: changes** **Human life cycle** *Can I recognise the stages of growth and development of humans? ** **Gestation** *Can I know the stages in the gestation period of humans and compare them to other animals?* **Childhood** *Can I recognise the stages of development during childhood and understand the needs of children at those stages? ** **Puberty** *Can I understand the main changes inside and outside of the body during puberty?* **Adulthood and old age** *Can I understand how the body changes during adulthood and old age?*	**Animals Including Humans** **The heart** *Can I name the three main parts of the circulatory system and describe the job of the heart?* **Blood** *Can I describe the important jobs of the blood vessels and blood?* **Investigating heart rate** *Can I describe the importance of exercise and how it affects the heart?* **The Benefits of Exercise** *Can I recognise that regular exercise is important for a healthy body?* **Diet and exercise** *Can I explain how diet and exercise affect the body?* **Drugs and alcohol** *Can I recognise the impact of drugs and alcohol on the way bodies function?*

Key Vocabulary	space planets sun stars moon change grow shoots	**deciduous trees** **evergreen trees** **wild plants** **garden plants** **weed** stem leaf trunk branch root	**common** **suitable** **germination** **reproduction** **blossom** bulb seed bud petals fruit	**pollination** **fertilisation** **formation** **dispersal** **function** flowering plant requirements scientific language transportation	**states of matter** **precipitation** **condense** **water vapour** **evaporation** Solid liquid gas water cycle melting freezing temperature	**puberty** **reproduce** menstruation adulthood life expectancy gestation prenatal life cycle adolescent puberty	**circulatory system** **blood vessels** **drug** **alcohol** **oxygenated blood** deoxygenated blood arteries veins capillaries
Opportunities for **working scientifically**		**-observing plants closely using magnifying glasses** **-comparing and contrasting familiar plants** **-drawing diagrams showing the parts of different plants including trees**	**-planting seed to monitor growth** **-observe growth of living thing over time**	**-Set up an investigation** **-Record data** **-Present data** **-Observe a simple experiment**	**-Exploring methods to group living things** **-Classify animals** **-Generate questions to use in a classification key** **-Observe vertebrates in natural habitat** **-Gather, record, classify and present data in a variety of ways** **-Record findings using simple scientific language, diagrams and presentation methods** **-Present findings orally and in writing**	**-Plan a scientific enquiry to answer a question** **-Measure accurately** **-Identify scientific evidence that has been used to support or refute arguments**	**-Identify scientific evidence that has been used to support or refute arguments**

Summer 2	**CHANGING SEASONS** **6: Summer senses** **To recognise changes outside in summer.** **ANIMAL ADVENTURES** **2: Describing minibeasts** **To find and describe minibeasts.** **The Natural World ELG** **End of Summer Term** • Explore the natural world around them, making observations and drawing pictures of animals and plants; • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	**Making connections** **Do taller trees have wider trunks?** Can I spot patterns in data and observe changes across the seasons? **Comparing woodland animals** Can I carry out research to find information? Can I describe and compare the features of animals? **Measuring animal footprints** Can I identify differences in animal features? **Building an animal home** Can I plan how to carry out a test to describe the properties of everyday materials? **Are birds carnivores, herbivores or omnivores?** Can I identify animals that are carnivores, herbivores and omnivores?	**Making connections* TBC**	**Making connections - Investigating grip Strength** **Planning** *Can I plan an investigation into grip strength?* **Gathering data** *Can I carry out my investigation?* **Analyse, evaluate and conclude** *Can I analyse and evaluate the results of my investigation?* **Extending** *Can I extend my investigation?* **Presenting** *Can I present my findings?*	**Making connections - How does the flow of liquids compare?** **Planning** *Can I plan an investigation into viscosity?* **Gathering data** *Can I investigate liquids and gather data?* **Analyse, evaluate and conclude** *Can I analyse, conclude and evaluate?* **Extending** *Can I apply my knowledge to solve problems?* **Presenting** *Can I present my findings?*	**Living things and their habitats** **Making new plants** *Can I describe how some plants reproduce?* **Asexual reproduction in plants** *LC: Can I describe the process of asexual reproduction in animals?* **Mammals** *Can I describe the life cycles of mammals in different habitats?* **Jane Goodall** *Can I explain the discoveries of Jane Goodall?* **Metamorphosis** *Can I compare the life cycles of amphibians and insects?** **Comparing Life cycles** *Can I compare the life cycles of living things including plants and animals?*	**Making connections* TBC**

Key Vocabulary	sound noise pitch volume - quiet/loud metal/wood/plastic	**data** **pattern** **difference** **Similarity** **Compare** object group		**property** **grip strength** **predict** **variable** **evaluate** **conclusion** bar chart trustworthy material	**viscosity** **variable** **predict** **evaluate** **conclusion** **trustworthy** pharmacology pharmacologist medicine bar chart	**asexual reproduction** **fertilise** **gestation** **life cycle** **metamorphosis** **pollination** **reproduce** **sexual reproduction**	
Opportunities for **working scientifically**						**-Identify scientific evidence that has been used to support or refute arguments.**	

Adaptations to the curriculum due to mid-year change

2023/2024

	Spring 2	**Summer 1**	**Summer 2**
Reception			
Year 1	Y1: Materials: Naming Materials Final session not to be taught this year as in future it will follow on from seasons being taught at a different point.	Y1: Seasonal Change: Wonderful Weather	Y1: Introduction to plants
Year 2	Y2: Materials: Uses of everyday materials: Objects and material		
Year 3	Y3: Animals: Movement and nutrition	Plants: reproduction	Y3: Rocks and Soil
Year 4	Y3: Animals: Movement and nutrition	Y4:Animals including humans: Digestion	Y3 Forces and Magnets Push, pull and twist
Year 5	Y5: Earth and Space	Y5: Forces	Y5: Living Things and their

	Models of our Solar System	Gravity	Habitats
Year 6	Y5: Properties and changes of materials: mixtures and separation	Y5: Properties and changes of materials	