Churchside Federation Long Term Planning
Mundford
Science 2025-26

2025-2026	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery Development Matters	Children use all their senses in hands-on exploration of natural materials and explore collections of materials with similar or different properties Children begin to make sense of their own life-story and family's history Children show interest in different occupations Children explore how things work Children plant seeds and care for growing plants. They understand life cycle of a plant and animal. They begin to show respect and care for the natural environment and all living things Children explore and talk about the different forces they can feel Children continue developing positive attitudes about the differences between people Children know that there are different countries in the world and talk about the differences they have experienced					
Reception	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.					
	EP - Magnets Literacy Tree - Outside Inside	EP - Human Body Literacy Tree - Knowing Yourself	EP - Space Literacy Tree - Talents and Powers	EP - Plants Literacy Tree - Sowing a Seed	EP - Electricity/Light Literacy Tree - Strength of Mind	EP - Rocks Literacy Tree - Family and Friends
Year One	**National Curriculum Objectives:** Some space learning linked to our literacy tree books and History learning.	**National Curriculum Objectives:** <u>Human- our senses</u> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores	**National Curriculum Objectives:** <u>Materials</u> Distinguish between and object and the material from which it is made. Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock, Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials based on their simple properties	**National Curriculum Objectives:** <u>Seasonal Changes</u> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies.	**National Curriculum Objectives:** <u>Animals</u> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores	**National Curriculum Objectives:** <u>Plants</u> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants. Identify and name the roots, trunk, branches and leaves of trees.

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	SC1 Skills:	**SC1 Skills:** **Sc2** Explore using senses and record findings in simple ways	**SC1 Skills:** **Sc5** Identify and classify based on simple criteria	**SC1 Skills:** **Sc3** Collect evidence to try to answer a question	**SC1 Skills:** **Sc5** Identify and classify based on simple criteria	**SC1 Skills:** **Sc1** Suggest what might happen and perform simple tests **Sc4** Make simple comparisons through observation
	Assessment opportunities:	**Assessment opportunities:** How do humans use their senses?	**Assessment opportunities:** What are the things I use made from?	**Assessment opportunities:** What is it like in Winter, Spring, Summer and Autumn?	**Assessment opportunities:** What are animals like?	**Assessment opportunities:** How many types of plant are there?
	Golden Thread:	**Golden Thread:** Identify and Clasify Research	**Golden Thread:** Comparative tests	**Golden Thread** Comparative tests Pattern Seeking **:**	**Golden Thread:** Identify and Clasify Research	**Golden Thread:** Identify and Clasify Observation over time.
Enhanced Provision: Labelling parts of a plant, labelling a body, sorting animals into groups, sorting objects to the correct materials, observation lists for the different seasons, sorting pictures into the correct seasons, using senses to explore activities (e.g. sniff book), research animals using books from the library, matching pics and words for plants. **Linked Texts:**						
Year Two	**Plants** **National Curriculum Objectives:** • **Observe and describe how seeds and bulbs grow into mature plants.** **Find out and describe how plants need water, light and warmth to grow and stay healthy.**	**Forces** **National Curriculum Objectives:** **There are no specified National Curriculum Objectives for forces at KS1**	**Animals** **National Curriculum Objectives:** • **Know that animals, including humans, have offspring which grow into adults** • **Know the basic stages in a life cycle for animals, includin g humans.** • **Find out and describe the basic needs of animals, including humans, for survival (water, food and air).** • **Describe**	**National Curriculum Objectives:**	**Habitats** **National Curriculum Objectives:** • **Explore and compare the difference between things that are living, dead and things that have never been alive.** • **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**	**Materials** **National Curriculum Objectives:** • **Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.** • **Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.**

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			the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.		**plants, and how they depend on each other.** • **Identify and name a variety of plants and animals in their habitats, including micro habitats.** **Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food.**	
	SC1 Skills: **Sc6** Explore and observe in order to collect data and describe and compare findings **Sc7** With help, suggest some ideas and questions and predict what might happen **Sc14** Say whether what happened was what was expected and draw simple conclusions to help answer questions	**SC1 Skills:** **Sc11** Use simple scientific language **Sc12** Perform simple tests **Sc13** Record findings in various formats using standard units, drawings, diagrams, photographs, simple prepared formats such as tables and charts, tally charts, and displays	**SC1 Skills:** **Sc8** Use first-hand observation, own experience and simple information sources to make comparisons and answer questions **Sc9** Observe closely using simple equipment **Sc10** Recognise ways in which evidence can be collected	**SC1 Skills:**	**SC1 Skills:** **Sc11** Use simple scientific language **Sc6** Explore and observe in order to collect data and describe and compare findings **Sc7** With help, suggest some ideas and questions and predict what might happen	**SC1 Skills:** **Sc13** Record findings in various formats using standard units, drawings, diagrams, photographs, simple prepared formats such as tables and charts, tally charts, and displays **Sc14** Say whether what happened was what was expected and draw simple

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		Sc14 Say whether what happened was what was expected and draw simple conclusions to help answer questions				conclusions to help answer questions
	Assessment opportunities: What should I do to grow a healthy plant? Guide to growing from seed	**Assessment opportunities:** How can we change how things move? Egg parachutes	**Assessment opportunities:** Do living things change or stay the same? Double page spread and animal diary	**Assessment opportunities:**	**Assessment opportunities:** **Why do different animals live in different places?**	**Assessment opportunities:** **How do we choose the best material?** **Great fire of London houses.**
	Golden Thread: **Comparative testing** **Observation over time**	**Golden Thread:** **comparative testing**	**Golden Thread:** **Observation over time and research**	**Golden Thread:**	**Golden Thread:** **identify and classify** **pattern seeking**	**Golden Thread:** **research** **comparative testing**
Enhanced Provision: Matching trees and leaves, plant growth cycle, matching plants to their environments, what materials float/sink? how does changing the force change the speed of a car? Matching animals to offspring, ordering a life cycle, minibeast hunting, matching animals to their habitats, classifying materials, make a bridge. **Linked Texts: Jack and the beanstalk, three little pigs, tadpoles promise, the gruffalo, the tin forest**						
Year Three	**National Curriculum Objectives:** **<u>Plants</u>** **Identify and describe the functions of different parts of the flowering plant: roots, stem/trunk/leaves and flowers** **Explore the part flowers play in a flowering plants life cycle, including pollination, seed formation and seed dispersal** **Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary between plants** **Know the way in which water is transported between plants**	**National Curriculum Objectives:** **<u>Animals and including Humans</u>** **Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get their nutrition from what they eat.** **Know how nutrients, water and oxygen are transported within animals and humans.** **Know about the importance of a nutritious, balanced diet.** **Identify that humans and some other animals have skeletons and muscles for support, protection and movement:**	**National Curriculum Objectives:** **<u>Forces</u>** **Compare how things move on different surfaces.** **Know how a simple pulley works and use making lifting an object simpler** **Notice that some forces need contact between two objects, but magnetic forces can act at a distance.** **Observe how magnets attract and repel each other and attract some materials and not others.** **Compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic**	**National Curriculum Objectives:** **<u>Energy and Light</u>** **Recognise that they need light in order to see things and that dark is the absence of light.** **Notice that light is reflected from surfaces.** **Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.** **Recognise that shadows are formed when the light from a light source is blocked by a solid object.** **Find patterns in the way that the sizes of shadows change.**	**National Curriculum Objectives:** **<u>Materials</u>** **Compare and group together different kinds of rocks based on their appearance and simple physical properties** **Describe in simple terms how fossils are formed when things that have lived are trapped within rock** **Recognise that soils are made from rocks and organic matter**	**National Curriculum Objectives:** **<u>Working Scientifically</u>**

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			materials. Describe magnets as having two poles. Predict whether two magnets with attract or repel each other, depending on which poles are facing.			
	SC1 Skills:	**SC1 Skills:**	**SC1 Skills:**	**SC1 Skills:**	**SC1 Skills:**	**SC1 Skills:** Sc21 Make measurements using standard units Sc22 Discuss and describe findings Sc23 Communicate findings using simple scientific language in written explanations, drawings, labelled diagrams, keys, bar

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	Assessment opportunities: Why do plants have flowers?	**Assessment opportunities:** Why do animals have skeletons? What is a healthy diet and why is it important?	**Assessment opportunities:** How can we move magnets?	**Assessment opportunities:** What is a shadow?	**Assessment opportunities:** What are rocks and soils like?	**Assessment opportunities:** **Exit Ticket:** **What is an independent, dependent and control variable?** **What is a fair test?** **Write up of an experiment**
	Golden Thread: **Observation over Time**	**Golden Thread:** **Observation over Time and identify and classify**	**Golden Thread:** **Research**	**Golden Thread:** **Research**	**Golden Thread:** **identify and classify**	**Golden Thread:** **Comparative Test**
Enhanced Provision: **Linked Texts:**						
Year Four	**National Curriculum Objectives:** **Living things and their habitats.** 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. Recognise that environments can change and that this can sometimes pose danger to living things.:	**National Curriculum Objectives:** **Electricity** Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes the circuit and associate this with whether a lamp lights in a simple series circuit. Recognise some common	**National Curriculum Objectives:** **States of matter** Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when heated or cooled, and measure and research the temperature at which this happens in degrees Celsius. Identify the part played by evaporation and condensation in the water cycle and associate the rate of	**National Curriculum Objectives:** **Animals including humans - The digestive system.** **NC Objectives:** Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.	**National Curriculum Objectives:** **Living things and their habitats** 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. Recognise that environments can change and that this can sometimes pose danger to living things.	**National Curriculum Objectives** **Sound** Know how sound is made associating some of them with vibrating. Know what happens to a sound as it travels from its source to our ears. Know the correlation between the volume of a sound and the strength of the vibrations that produced it. Know how sound travels from a source to our ears. Know the correlation between pitch and the object producing a sound.:

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		conductors and insulators, and associate metals with being good conductors. Know the difference between a conductor and an insulator, giving examples of each. Safety when using electricity.	evaporation with temperature.			
	SC1 Skills: **Sc28** Observe patterns and suggest explanations **Sc29** Collect data **Sc31** Identify simple trends to answer questions **Sc35** Gather and record findings through drawings, photographs, labelled diagrams, keys, models, presentations, tables, graphs and displays, using scientific language **Sc36** Report on what the evidence shows through written explanations of results and conclusions and reports **Sc37** Use results to draw simple conclusions, suggest improvements and raise further questions	**SC1 Skills:** **Sc25** Set up and carry out simple practical enquiries, comparative and fair tests **Sc26** Put forward ideas about testing and make predictions. **Sc28** Observe patterns and suggest explanations **Sc35** Gather and record findings through drawings, photographs, labelled diagrams, keys, models, presentations, tables, graphs and displays, using scientific language **Sc36** Report on what the evidence shows through written explanations of results and conclusions and reports **Sc37** Use results to draw simple conclusions, suggest improvements and raise further questions	**SC1 Skills:** **Sc25** Set up and carry out simple practical enquiries, comparative and fair tests **Sc26** Put forward ideas about testing and make predictions. **Sc27** Make close observations and comparisons **Sc28** Observe patterns and suggest explanations **Sc29** Collect data **Sc30** Recognise and explain why a test is fair or unfair **Sc31** Identify simple trends to answer questions **Sc32** Make accurate measurements using standard units and begin to think about why measurements should be repeated **Sc33** Use scientific evidence to answer questions	**SC1 Skills:** **Sc31** Identify simple trends to answer questions **Sc35** Gather and record findings through drawings, photographs, labelled diagrams, keys, models, presentations, tables, graphs and displays, using scientific language **Sc36** Report on what the evidence shows through written explanations of results and conclusions and reports	**SC1 Skills:** **Sc27** Make close observations and comparisons **Sc28** Observe patterns and suggest explanations **Sc31** Identify simple trends to answer questions **Sc33** Use scientific evidence to answer questions **Sc36** Report on what the evidence shows through written explanations of results and conclusions and reports **Sc37** Use results to draw simple conclusions, suggest improvements and raise further questions.	**SC1 Skills:** **Sc27** Make close observations and comparisons **Sc28** Observe patterns and suggest explanations **Sc31** Identify simple trends to answer questions **Sc33** Use scientific evidence to answer questions **Sc36** Report on what the evidence shows through written explanations of results and conclusions and reports **Sc37** Use results to draw simple conclusions, suggest improvements and raise further questions.

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			Sc34 Use a range of equipment, including data loggers and thermometers **Sc35** Gather and record findings through drawings, photographs, labelled diagrams, keys, models, presentations, tables, graphs and displays, using scientific language **Sc36** Report on what the evidence shows through written explanations of results and conclusions and reports **Sc37** Use results to draw simple conclusions, suggest improvements and raise further questions			
	Assessment opportunities: What food chains and webs are there in our local habitat?	**Assessment opportunities:** What can we do with electricity?	**Assessment opportunities:** Where do ice cubes go when they disappear?	**Assessment opportunities:** What do our bodies do with the food we eat?	**Assessment opportunities:** How does human activity affect our environment?	**Assessment opportunities:** How can we make different sounds?
	Golden Thread:	**Golden Thread:**	**Golden Thread:**	**Golden Thread:**	**Golden Thread:**	**Golden Thread:**
Enhanced Provision: **Linked Texts:**						
Year Five	**National Curriculum Objectives:** **Earth and Space** Describe the movement of the	**National Curriculum Objectives:** **Animals including Humans** Describe the changes as	**National Curriculum Objectives:** **Materials** Identify the part played by evaporation and	**National Curriculum Objectives:** **Forces** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between		

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	Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies Describe the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	humans develop to old age. Know the life cycle of different living things, e.g. Mammal, amphibian, insect bird. Know the process of reproduction in plants. Know the process of reproduction in animals.	condensation in the water cycle and associate the rate of evaporation with temperature. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. comparative and fair tests, for the uses of everyday materials, including wood, metals and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and this kind of change is usually not reversible, including changes associated with burning and the action of acid on bicarbonate of soda	the Earth and the falling object and the impact of gravity on our lives. Identify the effects of air resistance, water resistance and friction, which act between moving surfaces. Recognise that some mechanisms, including levers, pulleys, and gears, allow a smaller force to have a greater effect.
	SC1 Skills: Observation over time - observe the moon over time. Research - different planets and the solar system.	**SC1 Skills:** Classifying - different animals into species type. Predicting - how different animals develop. Questioning - why are animals different (monotremes).	**SC1 Skills:** Testing - different materials for magnetic properties Questioning - why materials react the way they do Predicting - What happens when you mix one material with another? Add heat?	**SC1 Skills:** Observing Predicting Testing Questioning Evaluating
	Assessment opportunities: Sun, Earth & Moon: What is moving and how do we know? MCQ and Double page spread.	**Assessment opportunities:** Do all plants and animals reproduce in the same way?	**Assessment opportunities:** How can we separate a mixture of water, iron filings, salt and sand? How can we change materials reversibly and irreversibly?	**Assessment opportunities:** Double page spread MCQ How and why do objects move? How do birds fly?
	Golden Thread: **Observation over time** **Research**	**Golden Thread:** **Identify and Classify**	**Golden Thread:** **Observation over time** **Comparative tests** **Pattern seeking**	**Golden Thread:** **Comparative tests** **Pattern seeking**

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Enhanced Provision: Can you observe and identify all the phases in the cycle of the Moon? Taking a photo each evening of the moon during one month - post-it notes. EP: Chromebook research a planet and note down facts on Post It notes. Globe and torches - what is the difference between day and night. How does salt water change over time? What happens to a sugar cube?

Linked Texts: Hidden Figures

Year Six	**National Curriculum Objectives: Journeys and migration** Animals including humans- linking movement to the circulatory system identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function describe the ways in which nutrients and water are transported within animals, including humans	**National Curriculum Objectives: Evolution and inheritance** Evolution and inheritance recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	**National Curriculum Objectives: Protest and activism** Living things and their habitat (creating a mythical creature that has adapted to the effects of global warming) 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 give reasons for classifying plants and animals based on specific characteristics	**National Curriculum Objectives: Utopia vs Dystopia:** Electricity (History of electricity and inventions through time). associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit 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 use recognised symbols when representing a simple circuit in a diagram	**National Curriculum Objectives:**	**National Curriculum Objectives: Crossing borders** Light- linking to timezones 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 use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
	SC1 Skills: **Sc50** Select and plan the most appropriate type of scientific enquiry to answer specific questions **Sc53** Recognise and control variables where appropriate during investigations **Sc55** Take measurements using a range of scientific equipment with accuracy and precision **Sc56** Decide when observations and	**SC1 Skills:** **Sc54** Identify scientific evidence that has been used to support or refute ideas **Sc59** Reporting findings from investigations, including written explanations of results, explanation involving causal relationships, and conclusions	**SC1 Skills:** **Sc57** Select information from a range of sources Record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models, making appropriate use of ICT **Sc60** Present reports of findings in written form, displays and presentation	**SC1 Skills:** **Sc51** Make predictions based on scientific knowledge and understanding **Sc52** Carry out a range of scientific investigations **Sc61** Use test results to make predictions and set up further comparative and fair tests	**SC1 Skills:**	**SC1 Skills:** **Sc50** Select and plan the most appropriate type of scientific enquiry to answer specific questions **Sc53** Recognise and control variables where appropriate during investigations **Sc55** Take measurements using a range of scientific equipment with accuracy and precision

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	measurements need to be checked, by repeating, to give more reliable data **Sc58** Record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models, making appropriate use of ICT **Sc60** Present reports of findings in written form, displays and presentations			**Sc58** Record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models, making appropriate use of ICT **Sc60** Present reports of findings in written form, displays and presentation		
	Assessment opportunities: How do our choices affect how our bodies work? Why does my heart beat?	**Assessment opportunities:** What is evolution, how does it happen and how do scientists know?	**Assessment opportunities:** In what ways can we sort living things?	**Assessment opportunities:** Can we vary the effects of electricity?	**Assessment opportunities:**	**Assessment opportunities:** Why does my shadow change length over the course of a day?
	Golden Thread: Comparative tests identify and classify observation over time	**Golden Thread:** **Research** **comparative tests** **observation over time** **identify and classify**	**Golden Thread:** **comparative tests** **identify and classify** **observation over time** **research**	**Golden Thread:** **Pattern seeking** **research** **comparative tests**	**Golden Thread:**	**Golden Thread:** **Research** **comparative tests** **identify and classify**
Enhanced Provision: Observation over time– watching what happens to bread in different conditions, order the journey of a blood cell, observing the temperature of a lightbulb over time, sorting animals into different groups. **Linked Texts: Can we save the tiger? The Last Bear, Blackout by John Rocco,A heart pumping adventure**						
Key events: • **Monday 22nd September: Recycle Week.** • **Sunday 4th October: World Science Week,** • **Monday 10th November: World Science day,** • **Friday 16th January: Energy Saving Week** • **Friday 23rd January: RSPB Birdwatch** • **Wednesday 11th February: International Day of Women and girls in science** • **Wednesday 3rd March: World wildlife Day** • **Friday 6th March-13th March: Science week.** • **Thursday 7th April: World Health Day** • **Wednesday 22nd April: Earth Day** • **Friday 5th June: World Environment Day** • **Monday 8th June: World Ocean Day**						

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- **Monday 22nd June: World Rainforest Day**