



Watermoor C of E Primary School
Subject Progression 2024-2025
Subject: Science



EYFS: Pre-School	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are learning about:	Animals	Food	Forces	Health and safety	Insects and invertebrates	Machines
	Explore the natural world around them, making observations and drawing pictures of animals and plants	Our bodies - name healthy foods, explain what happens to our heart/body when we exercise and name general ways to keep ourselves healthy e.g. brushing our teeth	"Forces and motion - explore/explain in simple terms why magnets stick together and name some materials that are magnetic; Forces and motion - explain why objects go down a ramp and what makes them go slower/faster Sinking and floating - explain why things sink and float"	Identify safe strangers Explain where to go if I need help Electricity danger Identify where electrical appliances can be used	Understand which creatures are insects and invertebrates Describe the differences between spiders, flies and centipedes	Explain what each mechanism does Understand a machine is made of many moving parts Talk about different types of mechanisms
Development Matters: 3-4	<p>Understanding the world: Explore how things work Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice.</p>					
Key Vocabulary:	living tree Adult non living young	diet exercise tooth healthy fuel	Push pull press suck swing Sink sea Float boat force	trust uncomfortable police officer stranger danger stranger	fly beetle insect ant invertebrate	gear lever mechanism pulley wheel and axle



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EYFS: Reception	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are learning about:	Plants	Our body	Materials	Space	The senses	Weather and Seasons
Development Matters Reception:	<p>Understanding the world</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>	<p>PSED</p> <p>Manage their own needs - Personal hygiene</p> <p>Know and talk about the different factors that support their overall health and wellbeing:</p> <ul style="list-style-type: none"> • regular physical activity • healthy eating • toothbrushing • sensible amounts of 'screen time' • having a good sleep routine 	<p>CETL – thinking critically</p> <p>Sort materials. For example, at tidy-up time, children know how to put different construction materials in separate baskets.</p> <p>Understanding the World</p> <p>Explore the natural world around them.</p>	<p>Understanding the world</p> <p>Recognise some environments that are different from the one in which they live.</p>	<p>Understanding the world</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Understanding the world</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>
Sticky Knowledge 'I will know that...'	Growth, change and decay of plants - Name what plants need to grow	<p>Explain how I use my arms, legs, and chest Give examples to explain how I use my arms, legs, and chest Label parts of my body on a diagram</p> <p>Understand different body parts</p>	Solids and liquids - know that materials can change in different conditions e.g. when cooking they go from a liquid into a solid	Describe what different planets are like Know there are other planeters in our solar system	Identify key senses of the human body Describe what senses can help us to do	Name the season we are in and what the weather is typically like in this season; Concept of daytime & night time - name what activities we do in the day time and night time
Key Vocabulary:	plant seed nutrients soil water	arm leg chest jump move hand finger feet walk run	change solid liquid pan metal melt freeze cold set mould	planet Solar System gas planet rocky planet Sun	senses eyes sight taste touch sound	rain ice rainforest cloud river snow wind rainbow

Early Learning Goal/s:

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



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KS1: Y1	Autumn Term	Spring Term	Summer Term	
What are we learning about?	Seasonal Change across the year			
	Animals inc humans (Animals)	Everyday Materials	Animals incl Humans Human body and Senses	Plants
National Curriculum Statements	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	
	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 Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)	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 Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	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, including trees
Sticky Knowledge	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	



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<p>'I will know that...'</p>	<p>Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds</p> <p>Know and classify animals by what they eat (carnivore, herbivore and omnivore)</p> <p>Know how to sort by living and non living things</p>	<p>Know the name of the materials an object is made from</p> <p>Know about the properties of everyday materials</p>	<p>Know the name of parts of the human body that can be seen</p>	<p>Know and name a variety of common wild and garden plants</p> <p>Know and name the petals, stem, leaves and root of a plant</p> <p>Know and name the roots, trunk, branches and leaves of a tree</p>
<p>Key Vocabulary:</p>	<p><u>Other:</u> human, animal, pet. Food air water <u>Animal diets:</u> carnivore, herbivore, omnivore <u>Names of animal groups:</u> fish, amphibians, reptiles, birds, mammals.</p> <p>Seasonal Change</p> <p><u>Seasons:</u> spring, summer, autumn, winter, seasonal change.</p>	<p><u>Names of materials:</u> wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric.</p> <p><u>Properties of materials:</u> hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff.</p> <p><u>Other:</u> object.</p> <p>Seasonal Change</p> <p><u>Weather:</u> e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast.</p>	<p><u>Human senses:</u> sight, hearing, touch, smell, taste.</p> <p><u>Human and animal body parts:</u> e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills</p> <p>Seasonal Change</p> <p><u>Measuring weather:</u> temperature, rainfall, wind direction, thermometer, rain gauge.</p> <p><u>Day length:</u> night, day, dayligh</p>	



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KS1: Y2	Autumn Term	Spring Term	Summer Term	
What are we learning about?	Animals including humans Reproduction/Healthy living/Basic Need	Everyday Materials Compare and name	All living things and habitats Alive or dead/ Habitats/ Adaptations /Food chains	Plants Plant and seed growth/Plant reproduction/Keeping plants healthy
National Curriculum Statements	Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	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 the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy



<p>Sticky Knowledge 'I will know that...'</p>	<p>Know the basic stages in a life cycle for animals, (including humans) Know why exercise, a balanced diet and good hygiene are important for humans</p>	<p>Know how materials can be changed by squashing, bending, twisting and stretching Know why a material might or might not be used for a specific job</p>	<p>Classify things by living, dead or never lived Know how a specific habitat provides for the basic needs of things living there (plants and animals) Match living things to their habitat Name some different sources of food for animals Know about and explain a simple food chain</p>	<p>Know and explain how seeds and bulbs grow into plants Know what plants need in order to grow and stay healthy (water, light & suitable temperature)</p>
<p>Key Vocabulary:</p>	<p>Habitats including microhabitats: depend, shelter, safety, survive, suited, space, minibeast, air. Life processes: movement, sensitivity, growth, reproduction, nutrition, excretion, respiration.</p>	<p>Materials Changing shape: squash, bend, twist, stretch. Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic. Other: suitability, recycle, pollution</p>	<p>Living or dead: living, dead, never living, not living, alive, never been alive, healthy. Food chains: food sources, food, producer, consumer, predator, prey. Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of material</p>	<p>Growth of plants: germination, shoot, seed dispersal, grow, food store, life cycle, die, wilt, seedling, sapling. Needs of plants: sunlight, nutrition, light, healthy, space, air. Name different types of plant: e.g. bean plant, cactus. Names of different habitats: e.g. rainforest, desert.</p>



KS2: Y3	Autumn Term		Spring Term		Summer Term	
What are we learning about?	Healthy Balanced Diet	Muscles, Skeletal and Teeth	Forces	Sound	States of matter: Compare and group matter. Reversible and Irreversible changes.	Electricity
National Curriculum Statements	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.	Identify that humans and some other animals have skeletons and muscles for support, protection and movement Identify the different types of teeth in humans and their simple function	Compare how things move on different surfaces. Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. 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. Describe magnets as having 2 poles. predict whether 2 magnets will attract or repel each other, depending on which poles are facing	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. 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. recognise that sounds get fainter as the distance from the sound source increases	Compare and group materials together, according to whether they are solids, liquids or gases. 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)	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 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. 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 some common conductors and insulators, and associate metals with being good conductors



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<p>Sticky Knowledge ‘I will know that...’</p>	<p>Know about the importance of a nutritious, balanced diet. Know how nutrients, water and oxygen are transported within animals and humans.</p>	<p>Know about the skeletal and muscular system of a human. Identify and know the different types of human teeth. Know the functions of different human teeth.</p>	<p>Know about and describe how objects move on different surfaces. Know how a simple pulley works and use to on to lift an object. Know how some forces require contact and some do not, giving examples. Know about and explain how magnets attract and repel Predict whether magnets will attract or repel and give a reason.</p>	<p>Know how sound is made, associating some of them with vibrating. Know how sound travels from a source to our ears. Know the correlation between pitch and the object producing a sound Know the correlation between the volume of a sound and the strength of the vibrations that produced it. Know what happens to a sound as it travels away from its source.</p>	<p>Know the temperature at which materials change state. Know about and explore how some materials can change state.</p>	<p>Identify and name appliances that require electricity to function. Construct a series circuit. Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers). Predict and test whether a lamp will light within a circuit. Know the function of a switch. Know the difference between a conductor and an insulator; giving examples of each.</p>
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Key Vocabulary:	Diet Balance Nutrition Vitamins Fat Protein Carbohydrates Fibre Water Function Teeth Canine Incisor Molar	Skeletons Support Protection Skull Brain Ribs Heart Lungs Joint Muscles Movement Pull Contract Relax	Force Push Pull Open Surface Magnet Magnetic Attract Repel Magnetic Poles North South Metal Iron Steel Friction	Volume Vibration Wave Pitch Tone Speaker Distance Travels Highest Lowest Sound source Produce	Solid Liquid Gas Particles Vibration Temperature Freezing Heating Melting Materials Temperature Thermometer	Components Cells Wires Bulbs Switches Buzzers Battery Circuit Series Conductors Insulators Appliances
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KS2: Y4	Autumn Term		Spring Term		Summer Term	
	What are we learning about?	Animals inc Humans Digestion	Animals habitats Food chains	Rocks	Light	States of matter
National Curriculum Statements	describe the simple functions of the basic parts of the digestive system in humans	construct and interpret a variety of food chains, identifying producers, predators and prey	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties ☑ describe in simple terms how fossils are formed when things that have lived are trapped within rock ☑ recognise that soils are made from rocks and organic matter.	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 an opaque object ☑ find patterns in the way that the size of shadows change.	identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers ☑ 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 ☑ investigate the way in which water is transported within plants ☑ explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.



<p>Sticky Knowledge 'I will know that...'</p>	<p>Identify and name the parts of the human digestive system</p> <ul style="list-style-type: none"> • Know the functions of the organs in the human digestive system 	<p>Use and construct food chains to identify producers, predators and prey</p>	<p>Compare and group rocks based on their appearance and physical properties, giving reasons</p> <ul style="list-style-type: none"> • Know how soil is made and how fossils are formed • Know about and exp <p>Explain the difference between sedimentary, metamorphic and igneous rock</p>	<p>Know that dark is the absence of light</p> <ul style="list-style-type: none"> • Know that light is needed in order to see and is reflected from a surface • Know and demonstrate how a shadow is formed and explain how a shadow changes shape Know about the danger of direct sunlight and describe how to keep protected 	<p>Know the part played by evaporation and condensation in the water cycle</p>	<p>Know the function of different parts of flowering plants and trees</p> <p>Know how water is transported within plants Know the plant life cycle, especially the importance of flowers</p>
<p>Key Vocabulary:</p>	<p>Digestive system organs Salivary glands Oesophagus Stomach Small/large intestine Enzym acids</p>	<p>Food chains Herbivore Carnivore Predator Prey Consumer Producer</p>	<p>Rock Stone Pebble Boulder Soil Fossil Grains Crystals Hard/Soft Texture Absorbent Marble Chalk Granite Sandstone Slate Sandy soil Clay soil Chalky soil Peat Pumice</p>	<p>Light See Vision Dark Reflect Reflective Surface Natural Star Sun Moon Artificial Torch Candle Lamp Translucent Transparent Opaque</p>	<p>Solid Liquid Gas Evaporation Condensation Particles Vibration Temperature Freezing Heating Melting Water cycle</p>	<p>Structure – flowering plants, roots, stem/trunk, leaves, flowers,</p> <p>cycle – flowers, pollination, seed formation, seed dispersal</p>



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KS2: Y5	Autumn Term		Spring Term	Summer Term	
	What are we learning about?	Animals inc human/ Human Changes	Living things and habitats Life Cycles	Earth and Space	Forces Gravity/Resitance



<p>National Curriculum Statements</p>	<p>Describe the changes as humans develop to old age</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>Describe the life process of reproduction in some plants and animals</p>	<p>Describe the movement of the Earth and other planets relative to the sun in the solar system</p> <p>Describe the movement of the moon relative to the Earth</p> <p>Describe the sun, Earth and moon as approximately spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p>	<p>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</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not</p>
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					usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda
Sticky Knowledge 'I will know that...'	Create a timeline to indicate stages of growth in humans	Know the life cycle of different living things e.g. mammal, amphibian, insect and bird • Know the differences between different life cycles • Know the process of reproduction in plants • Know the process of reproduction in animals	<ul style="list-style-type: none"> • Know about and explain the movement of the Earth and other planets relative to the Sun • Know about and explain the movement of the Moon relative to the Earth • Know and demonstrate how night and day are created • Describe the Sun, Earth and Moon (using the term spherical) 	Know what gravity is and its impact on our lives • Identify and know the effect of air and water resistance • Identify and know the effect of friction • Explain how levers, pulleys and gears allow a smaller force to have a greater effect	Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets • Know and explain how a material dissolves to form a solution <ul style="list-style-type: none"> • Know and show how to recover a substance from a solution • Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating) • Know and demonstrate that some changes are reversible and some are not • Know how some changes result in the formation of a new material and that this is usually irreversible



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Key Vocabulary:	Foetus	Mammal	Rotation	Resistance	Soluble
	Embryo	Reproduction	Spherical	Water resistance	Insoluble
	Womb	Insect	Axis	Friction	Transparent
	Gestation	Amphibian	Phases of the moon	Gravity	Conductivity
	Baby	Vertebrate	Time zone	Mechanism	Magnetic
	Elderly	Invertebrate	Constellation	Streamline	Filtration
	Development	Omnivore	Star	Brake	Evaporation
	Puberty	Herbivore	Planet	Opposing	Dissolving
		Carnivore	Season	Machine	Solution
			Northern hemisphere		Absorbent
		Southern hemisphere		Permeable	
				Malleable	



KS2: Y6	Autumn Term		Spring Term		Summer Term	
	What are we learning about?	Animals inc. humans	Evolution and inheritance term	Living things and habitat	Living things and habitat	Light
National Curriculum Statements	Identify and name the main parts of the human circulatory system	Know how the Earth and living things have changed over time	Know how living things have been classified	Know how living things have been classified	Know how light travels	Compare and give reasons for why components work and do not work in a circuit
Sticky Knowledge 'I will know that...'	How the circulatory system works I will know how water is transported I will know the impact of exercise on the body.	I will know how identical and non identical off-spring happens I will know what fossils are and how they are evidence of evolution I will know about adaptation and evolution	I will know the classification of living things and the reasons for it	I will know the classification of living things and the reasons for it	I will know how light travels and understand shadows	I will know about electrical components, simple circuits and fuses and voltage
Key Vocabulary:	Evolution Vertebrate Classification Adaptation Inheritance Offspring Mammal Reproduction Amphibian Species	Evolution Vertebrate Classification Adaptation Inheritance Offspring Mammal Reproduction Amphibian Species	Characteristics Bacteria Micro-organisms Microscope Classify Fungi Taxonomist Domain Scientist Kingdom	Characteristics Bacteria Micro-organisms Microscope Classify Fungi Taxonomist Domain Scientist Kingdom	Reflection voltage Shadow brightness Light Source switch Direction Light Ray	Reflection voltage Shadow brightness Light Source switch Direction Light Ray