



St Joseph's Catholic Primary School

Science Long Term Planning

Year Group	Autumn		Spring		Summer	
F1	Biology Marvellous Me Animals including Humans Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world <i>(Working scientifically)</i> Observes the effect of exercise on their bodies. Understand the key features of the life cycle and an animal.	Physics Celebrations Light Recognise some environments that are different to the one in which they live. Describe what they see, hear and feel whilst outside. Look closely at similarities, differences, patterns and change Explore different materials and tools. Explore how things work. <i>(Working scientifically)</i>	Chemistry Helping hands People who help us Everyday materials Explore different materials and tools. Develop their own ideas and then decide which materials to use to express them. Explore how things work. Join different materials and explore different textures. <i>(Working scientifically)</i> (inventors)	Physics Nursery Rhymes Construction Bridges <i>(Working scientifically)</i> Explore different materials and tools. Develop their own ideas and then decide which materials to use to express them. Explore how things work.	Biology The Secret Garden Mini-beasts Plants Living things and their habitats <i>(Working scientifically)</i> Explore natural materials, indoors and outside. Explore and respond to different natural phenomena in their setting. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant.	Biology What can I find at the farm? Animals including Humans <i>(Working scientifically)</i> Explore and respond to different natural phenomena in their setting. Understand the key features of the life cycle and an animal.



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F2	Biology	Physics	Biology	Biology	Biology	Physics
	<p>Hopes & dreams</p> <p>Autumn Seasonal Changes</p> <p>Understand the effect of changing seasons on the natural world around them.</p> <p><i>(Working scientifically)</i></p>	<p>Our Wonderful World</p> <p>Sound</p> <p>Recognise some environments that are different to the one in which they live.</p> <p>Respond to what they have heard, expressing their thoughts and feelings.</p>	<p>Superheroes</p> <p>Spring Seasonal Changes</p> <p>Understand the effect of changing seasons on the natural world around them.</p> <p>Explore the natural world around them</p> <p><i>(Working scientifically)</i></p>	<p>Once Upon a time</p> <p>Plants</p> <p><i>(Working Scientifically)</i></p> <p>Recognise some environments that are different to the one in which they live.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Look closely at similarities, differences, patterns and change</p>	<p>All Creatures Great & Small</p> <p>Animals including Humans – Lifecycles</p> <p>Summer</p> <p>Seasonal Changes</p> <p>Understand the effect of changing seasons on the natural world around them.</p> <p>Living things and their habitats</p> <p>Recognise some environments that are different to the one in which they live.</p> <p>Explore the natural world around them.</p> <p>Ask questions to find out more and to check they understand what has been said to them.</p> <p><i>(Working scientifically)</i></p>	<p>Step into Science</p> <p>Floating & Sinking</p> <p><i>(Working scientifically)</i></p> <p>Describe what they see, hear and feel.</p> <p>Look closely at similarities, differences, patterns and change</p> <p>Explore the natural world around them</p> <p>Ask questions to find out more and to check they understand what has been said to them.</p>
	<p>Chemistry</p> <p><i>Making bread</i></p> <p>Explore the use materials</p> <p>Make comparisons between objects relating to size, length, weight and capacity.</p> <p>Make comparisons between objects relating to size, length, weight and capacity.</p>		<p>Physics</p> <p>Forces</p> <p>observe and describe movements they and objects make use construction kits</p>	<p>Chemistry</p> <p>Explore the use materials and test them</p> <p>to build a bridge for the Gingerbread Man</p> <p>design and build homes for the Three Little Pigs</p>		



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Year 1	Biology	Chemistry	Physics	Biology	Biology	Biology
	<p>Autumn Seasonal Changes <i>(Working scientifically)</i></p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies</p>	<p>Everyday materials <i>(Working scientifically)</i> <i>(inventors)</i></p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Describe the simple physical properties of a variety of materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p><i>Links to DT sliders and mechanisms</i></p> <p><i>Carry out simple tests with support.</i></p> <p>To discuss my ideas about how to find things out.</p>	<p>Spring Seasonal Changes</p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies</p> <p>Animals including Humans</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals, carnivores, omnivores, herbivores <i>(Working scientifically)</i></p>	<p>Summer Seasonal Changes <i>(Working scientifically)</i></p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies</p>	<p>Plants</p> <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p><i>Identify and describe the basic structure of a variety of common flowering plants, including trees</i></p> <p><i>(Working scientifically)</i></p>



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Year 2	Chemistry	Chemistry	Biology	Biology	Biology	Biology
	<p>Uses of everyday materials</p> <p><i>(Working scientifically)</i></p> <p>(inventors)</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p>	<p>Uses of everyday materials</p> <p><i>(Working scientifically)</i></p> <p>(inventors)</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Animals including Humans</p> <p><i>(Working scientifically)</i></p> <p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Plants</p> <p><i>(Working scientifically)</i></p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Living things and their habitats</p> <p><i>(Working scientifically)</i></p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</p>	<p>Living things and their habitats</p> <p><i>(Working scientifically)</i></p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>
			<p>Physics</p>			
			<p><i>Links to DT pivots and levers</i></p> <p>Record and communicate their findings in a range of ways.</p> <p>To discuss my ideas about how to find things out.</p>			



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Year 3	Chemistry	Biology	Physics	Physics	Physics	Biology
	<p>Rocks</p> <p><i>(Working scientifically)</i></p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p>Animals including humans</p> <p><i>(Working scientifically)</i></p> <p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Forces and Magnets</p> <p><i>(Working scientifically)</i></p> <p>(inventors)</p> <p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p>	<p>Forces and Magnets</p> <p><i>(Working scientifically)</i></p> <p>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.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Light</p> <p><i>(Working scientifically)</i></p> <p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>Plants</p> <p><i>(Working scientifically)</i></p> <p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Plant requirements for growth</p> <p>Investigate the way water is transported.</p> <p>Life cycle of the flower.</p>



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Year 4	Chemistry	Chemistry	Physics	Physics	Biology	Biology
	<p>States of matter</p> <p>(Scientists)</p> <p><i>(Working scientifically)</i></p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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.</p>	<p>States of matter</p> <p>(Scientists)</p> <p><i>(Working scientifically)</i></p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Sound</p> <p>(Scientists)</p> <p><i>(Working scientifically)</i></p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>Electricity</p> <p>(inventors)</p> <p><i>(Working scientifically)</i></p> <p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Living things and their habitats</p> <p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><i>(Working scientifically)</i></p>	<p>Animals including Humans</p> <p><i>(Working scientifically)</i></p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>



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Year 5	Chemistry	Chemistry	Physics	Physics	Biology	Biology
	<p style="text-align: center;">Properties and changes of materials (inventors) <i>(Working scientifically)</i></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 style="text-align: center;">Properties and changes of materials (inventors) <i>(Working scientifically)</i></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 usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p style="text-align: center;">Earth and space</p> <p style="text-align: center;">Space</p> <p><i>(Working scientifically)</i></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 style="text-align: center;">Forces</p> <p><i>(Working scientifically)</i></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 style="text-align: center;">Living things and their habitats</p> <p><i>(Working scientifically)</i></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 style="text-align: center;">Animals including Humans</p> <p><i>(Working scientifically)</i></p> <p>Describe the changes as humans develop to old age.</p>



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Year 6	Biology	Physics	Biology	Biology	Physics	Biology
	<p>Living things and their habitats</p> <p><i>(Working scientifically)</i></p> <p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>	<p>Light</p> <p><i>(inventors)</i></p> <p><i>(Working scientifically)</i></p> <p>Recognise that light appears to travel in straight lines.</p> <p>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.</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</p>	<p>Animals including Humans</p> <p><i>(Working scientifically)</i></p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p>	<p>Animals including Humans</p> <p><i>(Working scientifically)</i></p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>Electricity</p> <p><i>(inventors)</i></p> <p><i>(Working scientifically)</i></p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Evolution & Inheritance</p> <p><i>(Scientists)</i></p> <p><i>(Working scientifically)</i></p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>