



St Mary's Catholic Junior School

Year 5

Science Long Term Planner



Autumn I	Autumn II	Spring I	Spring II	Summer I	Summer II
Forces	Working Scientifically	Earth and Space	Animals Including Humans	Properties and changes of materials	Living things and their habitats

CURRICULUM DOCUMENT

Forces	Earth and Space	Animals including Humans	Properties and changes of materials	Living things and their habitats
<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>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>Describe the changes as humans develop to old age.</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 usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</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>

CURRICULUM ENTITLEMENT

	Key Scientific Knowledge	Vocabulary	Assessment Criteria – ‘Can I...? statements’
Forces	<ul style="list-style-type: none"> • Force • Gravity • Air resistance • Levers • Pulleys • Gears • Water resistance • Friction • surfaces 	sir isaac newton gravity resistance lever gears pulley mass friction	<ul style="list-style-type: none"> • Can I explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object? • Can I identify the effects of air resistance, water resistance and friction, that act between moving surfaces? • Can I recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect?
Earth and Space	<ul style="list-style-type: none"> • Movement of the Earth • Movement of the moon • Shape and position of Earth, moon and Sun • Earth rotation 	heliocentric geocentric solar system astronomy big bang theory gravitational force orbit hemisphere	<ul style="list-style-type: none"> • Can I describe the movement of the Earth, and other planets, relative to the Sun in the solar system? • Can I describe the movement of the Moon relative to the Earth? • Can I describe the Sun, Earth and Moon as approximately spherical bodies? • Can I use the idea of the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky?
Animals including Humans	<ul style="list-style-type: none"> • Human development 	reproduce puberty adolescence hormone memory childhood gestation fertilisation	<ul style="list-style-type: none"> • Can I describe the changes as humans develop to old age?
Properties and changes of materials	<ul style="list-style-type: none"> • Material properties • Dissolving liquid • Separation of liquids, solids and gases • Fair testing • Reversible and irreversible changes • Formation of new materials 	separate solution solute solvent irreversible compound physical change chemical change elasticity	<ul style="list-style-type: none"> • Can I 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? • Can I show that I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution?

		plasticity perforate extraction inexhaustible	<ul style="list-style-type: none"> • Can I use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating? • Can I give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic? • Can I demonstrate that dissolving, mixing and changes of state are reversible changes? • Can I 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?
Living things and their habitats	<ul style="list-style-type: none"> • Life cycle differences • Reproduction processes 	naturalist metamorphosis endangered asexual reproduction	<ul style="list-style-type: none"> • Can I describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird? • Can I describe the life process of reproduction in some plants and animals?