



St Mary & St Joseph's
RC Primary School

Curriculum Progression Map

St Mary and St Joseph's RC Primary School

Science Progression Grid – Year 5



| Biology | | | | |
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| Life processes | Structure and function | Classification | Life cycles | Interdependence |
| <ul style="list-style-type: none"> Plants and animals need to reproduce | | | <ul style="list-style-type: none"> Plants can reproduce asexually Life cycles differ for different species Human development has different stages between birth and death | |
| Chemistry | | | | |
| Describing and using materials | Changing materials | | Mixing and separating materials | |
| <ul style="list-style-type: none"> Different properties make materials suitable for different uses (properties that can be measured) Materials can be sorted into groups according to properties including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | <ul style="list-style-type: none"> Some materials will dissolve in a liquid Changes including baking, burning and the reaction of certain chemicals result in new materials Dissolving, mixing and changes of state are reversible changes Changes that result in new materials are not usually reversible | | <ul style="list-style-type: none"> Mixtures can be separated by filtering, sieving and evaporating | |
| Physics | | | | |
| Light | Sound | Electricity | Forces | Earth in space |
| | | | <ul style="list-style-type: none"> Drag forces resist movement The force of gravity caused by the Earth pulls objects towards its centre Some mechanisms allow a smaller force to have a greater effect | <ul style="list-style-type: none"> The Earth, Sun and Moon are approximately spherical The Earth is one of eight planets that orbit the Sun The Earth orbits the Sun once every year The Earth rotates on its own axis once every 24 hours The Moon orbits the Earth and looks different at different times of the month It is due to the rotation of the earth that we experience day and night |
| Working Scientifically | | | | |
| Approaches to enquiry | Asking questions | | Planning | |
| <p>Children should select the most appropriate ways to answer science questions using different types of scientific enquiry, including:</p> <ul style="list-style-type: none"> observing changes over different periods of time noticing patterns grouping and classifying things carrying out fair tests finding things out using a wide range of secondary | <p>Use results to raise further questions</p> <ul style="list-style-type: none"> Independently ask questions and offer ideas for scientific enquiry <p>Use test results to make predictions to set up further comparative and fair tests</p> | | <p>Plan different types of scientific enquiries to answer questions</p> <ul style="list-style-type: none"> Explain why an enquiry method is the most appropriate to answer a question Plan systematic collection of data and which equipment to use Plan collection of sufficient data Recognise when research using secondary sources | |

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| sources of information | | <p>will answer questions</p> <ul style="list-style-type: none"> Decide which sources of information to use to answer questions <p>Recognise and control variables where necessary</p> <ul style="list-style-type: none"> Recognise when variables need to be controlled and why Recognise when variables cannot be controlled and a pattern seeking enquiry is appropriate Identify which variables have the greatest effect on the result |
| Collecting data | Presenting data | Concluding |
| <p>Take measurements, using a range of scientific equipment with increasing accuracy and precision</p> <ul style="list-style-type: none"> Use a range of equipment accurately without support to collect observations and measurements Repeat sets of observations or measurements, where appropriate, selecting suitable ranges and intervals Use a series of tests to sort and classify materials Use relevant information and data from a range of secondary sources to answer questions | <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs and models</p> <ul style="list-style-type: none"> Decide how to record data accurately and appropriately Use appropriate scientific language in oral and written presentations Make keys and branching databases with 4 or more items Use more than one source of scientific evidence to identify and classify things Present data in line graphs, scatter graphs and frequency charts | <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of results in written forms such as displays and other presentations</p> <ul style="list-style-type: none"> Use scientific evidence to answer questions or support findings Draw valid conclusions about changes, similarities and differences, and causal relationships from data collected Draw valid conclusions that utilise more than one piece of supporting evidence Use scientific knowledge to explain findings Use simple models to help describe scientific ideas Explain differences in repeated observations or measurements, identifying reasons for any anomalies noticed <p>Communicate findings in written form, displays, multi-media and other forms of presentation using scientific language</p> |
| Evaluating | Key scientific vocabulary | |
| <p>Identify scientific evidence that has been used to support or refute ideas or arguments</p> <ul style="list-style-type: none"> Begin to separate opinion from fact Use scientific evidence to justify ideas Talk about how scientific ideas have developed over time <p>Identify when further tests and observations might be needed</p> <p>Evaluate the effectiveness of their working methods, making</p> | <p>Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty</p> <p>Mammal, Reproduction, Insect, Amphibian, Bird, Offspring</p> <p>Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing</p> <p>Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation</p> <p>Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys, force, design, brake</p> | |

practical suggestions for improving them

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