



# Curriculum Progression Map

## St Mary and St Joseph's RC Primary School Science Progression Grid – Year 6



### Biology

Life processes	Structure and function	Classification	Life cycles	Interdependence
<ul style="list-style-type: none"> <li>Some substances and lifestyle choices can have a negative impact on health</li> </ul>	<ul style="list-style-type: none"> <li>Oxygen is taken into the blood in the lungs; the blood is pumped by the heart to take oxygen and nutrients to the muscles</li> </ul>	<ul style="list-style-type: none"> <li>A wider range of living things including micro-organism can be identified</li> </ul>	<ul style="list-style-type: none"> <li>Living things produce offspring of the same kind, but not identical</li> </ul>	<ul style="list-style-type: none"> <li>Plants and animals are adapted to suit their environment</li> <li>Living things have changed over time</li> <li>Adaptation may lead to evolution</li> <li>Environmental change and human impact affects different habitats differently</li> </ul>

### Chemistry

Describing and using materials	Changing materials	Mixing and separating materials

### Physics

Light	Sound	Electricity	Forces	Earth in space
<ul style="list-style-type: none"> <li>Light travels in straight lines</li> <li>We see light from a source reflected off an object into our eyes</li> <li>Shadows have the same shape as the object that casts them</li> </ul>		<ul style="list-style-type: none"> <li>There are recognised symbols for circuits and their components</li> <li>An increase in voltage will cause an increase in current</li> <li>Some components can resist the current more than others.</li> </ul>		

### Working Scientifically

Approaches to enquiry	Asking questions	Planning
<p><b>Children should select the most appropriate ways to answer science questions using different types of scientific enquiry, including:</b></p> <ul style="list-style-type: none"> <li>observing changes over different periods of time</li> <li>noticing patterns</li> <li>grouping and classifying things</li> <li>carrying out fair tests</li> <li>finding things out using a wide range of secondary sources of information</li> </ul>	<p><b>Use results to raise further questions</b></p> <ul style="list-style-type: none"> <li>Independently ask questions and offer ideas for scientific enquiry</li> </ul> <p><b>Use test results to make predictions to set up further comparative and fair tests</b></p>	<p><b>Plan different types of scientific enquiries to answer questions</b></p> <ul style="list-style-type: none"> <li>Explain why an enquiry method is the most appropriate to answer a question</li> <li>Plan systematic collection of data and which equipment to use</li> <li>Plan collection of sufficient data</li> <li>Recognise when research using secondary sources will answer questions</li> <li>Decide which sources of information to use to answer questions</li> </ul> <p><b>Recognise and control variables where necessary</b></p> <ul style="list-style-type: none"> <li>Recognise when variables need to be controlled</li> </ul>

		and why <ul style="list-style-type: none"> <li>Recognise when variables cannot be controlled and a pattern seeking enquiry is appropriate</li> <li>Identify which variables have the greatest effect on the result</li> </ul>
<b>Collecting data</b>	<b>Presenting data</b>	<b>Concluding</b>
<p><b>Plan different types of scientific enquiries to answer questions</b></p> <ul style="list-style-type: none"> <li>Explain why an enquiry method is the most appropriate to answer a question</li> <li>Plan systematic collection of data and which equipment to use</li> <li>Plan collection of sufficient data</li> <li>Recognise when research using secondary sources will answer questions</li> <li>Decide which sources of information to use to answer questions</li> </ul> <p><b>Recognise and control variables where necessary</b></p> <ul style="list-style-type: none"> <li>Recognise when variables need to be controlled and why</li> <li>Recognise when variables cannot be controlled and a pattern seeking enquiry is appropriate</li> <li>Identify which variables have the greatest effect on the result</li> </ul>	<p><b>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs and models</b></p> <ul style="list-style-type: none"> <li>Decide how to record data accurately and appropriately</li> <li>Use appropriate scientific language in oral and written presentations</li> <li>Make keys and branching databases with 4 or more items</li> <li>Use more than one source of scientific evidence to identify and classify things</li> <li>Present data in line graphs, scatter graphs and frequency charts</li> </ul>	<p><b>Report and present findings from enquiries, including conclusions, causal relationships and explanations of results in written forms such as displays and other presentations</b></p> <ul style="list-style-type: none"> <li>Use scientific evidence to answer questions or support findings</li> <li>Draw valid conclusions about changes, similarities and differences, and causal relationships from data collected</li> <li>Draw valid conclusions that utilise more than one piece of supporting evidence</li> <li>Use scientific knowledge to explain findings</li> <li>Use simple models to help describe scientific ideas</li> <li>Explain differences in repeated observations or measurements, identifying reasons for any anomalies noticed</li> </ul> <p><b>Communicate findings in written form, displays, multi-media and other forms of presentation using scientific language</b></p>
<b>Evaluating</b>	<b>Key scientific vocabulary</b>	
<p><b>Identify scientific evidence that has been used to support or refute ideas or arguments</b></p> <ul style="list-style-type: none"> <li>Begin to separate opinion from fact</li> <li>Use scientific evidence to justify ideas</li> <li>Talk about how scientific ideas have developed over time</li> </ul> <p>Identify when further tests and observations might be needed</p> <p>Evaluate the effectiveness of their working methods, making practical suggestions for improving them</p>	<p>Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration</p> <p>Classification, Vertebrates, Invertebrates, Micro-organisms, Amphibians, Reptiles, Mammals, Insects</p> <p>Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics</p> <p>Refraction, Reflection, Light, Spectrum, Rainbow, Colour,</p> <p>Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell</p>	