



# Saint William's Catholic Primary School



## Science skills progression 1

	<b>EXPLORING / OBSERVING</b> <b>KS1 - Observing closely</b> <i>Using their observations and ideas to suggest answers to questions.</i> <b>LKS2 - Developing their own ideas and their understanding of the world around them.</b> <b>UKS2 - Developing a deeper understanding of a wide range of scientific ideas and encountering more abstract ideas.</b>	<b>GROUPING AND CLASSIFYING</b> <b>KS1 - Compare and contrast a variety of examples linked to KS1 PoS.</b> <b>LKS2 - Compare and contrast a variety of examples linked to LKS2 PoS.</b> <b>UKS2 - Compare and contrast a variety of examples linked to UKS2 PoS.</b>	<b>QUESTIONING</b> <b>KS1 - Asking simple questions.</b> <b>LKS2 - Asking relevant questions.</b> <b>UKS2 - Asking their own questions about scientific phenomena.</b>	<b>RESEARCH</b> <b>KS1 - Finding things out using secondary sources of information.</b> <b>LKS2 - Finding things out using a wide range of secondary sources of information.</b> <b>UKS2 - Summarise research from a wide variety of sources and recognising that scientific ideas change and develop over time.</b>
<b>Year 1</b>	Begin to use simple scientific language (from Y1 PoS) to talk about or <b>record</b> what they have noticed. Use observations to make suggestions and / or ask questions. Look / <b>observe</b> closely and communicate changes over time. Look / <b>observe</b> closely and communicate the features or properties of things in the real world. <b>Observe</b> closely using their senses.	<b>Name</b> / identify common examples and some common features. With help, decide how to sort and <b>group</b> objects, materials or living things. <b>Name</b> basic features of objects, materials and living things. Say how things are similar or different. <b>Compare</b> and contrast simple observable features / characteristics of objects, materials and living things.	Ask simple questions about what they notice about the world around them. Demonstrate curiosity by the questions they ask.	Ask people questions (e.g. an expert or hot-seating). Use simple primary and secondary sources (such as objects, books and photographs) to find things out.
<b>Year 2</b>	Use simple scientific language from the Y2 PoS to talk about / <b>record</b> what they have noticed. Use observations to make suggestions and / or ask questions. <b>Observe</b> and describe simple processes / cycles / changes with several steps (e.g. <i>growth cycle, simple food chain, saying how living things depend on one another</i> ). <b>Observe</b> closely and communicate with increasing accuracy the features or properties of things in the real world.	<b>Name / identify</b> common examples, some common features or different uses. <b>Sort and group</b> objects, materials or living things by observable and/or behavioural features. <b>Compare</b> and contrast... a variety of things [objects, materials or living things] - focusing on the similarities as well as the differences.	Raise their own logical questions based on or linked to things they have observed. With help / scaffolds, begin to ask questions such as 'What will happen if...?'	Talk about how useful the information source was and express opinion about findings. Make suggestions about who to ask or where to look for information. Ask people questions to help them answer their questions. Use simple and appropriate secondary sources (such as books, photographs, videos and other technology) to find things out / find answers.
<b>Year 3</b>	Observe and record relationships between structure and function (linked to Y3 PoS). Observe and record changes /stages over time (linked to Y3 PoS). Explore / observe things in the local environment / real contexts and record observations (linked to Y3 PoS) – see 'Communicating' section also re links to vocabulary.	Decide ways and give reasons for sorting, grouping, classifying, identifying things / objects, living things, processes or events based on specific characteristics. Compare and contrast and begin to consider the relationships between different things (e.g. <i>structures of plants, functions of plant parts, diets, skeletons of humans and other animals, changes over time, etc.</i> ). Record similarities as well as differences (e.g. <i>what do all skeletons have? as well as the differences between skeletons</i> ).	Explore their own ideas about 'what if...?' scenarios e.g. humans did not have skeletons. Ask questions such as 'What if we tried....?' or 'What if we changed...?' Begin to understand that some questions can be tested in the classroom and some cannot. Within a group suggest questions that can be explored, observed, tested or investigated further. Within a group suggest relevant questions about what they observe and about the world around them.	Find things out using a range of secondary sources of information (e.g. <i>books, photographs, videos and other technology</i> ).
<b>Year 4</b>	Suggest their own ideas on a concept and compare these with what they observe / find out. Use observations to suggest what to do next. Discuss ideas and develop descriptions from their observations using relevant scientific language and vocabulary (from Y4 PoS). Observe and record relationships between structure and function or between different parts of a processes (linked to Y4 PoS). Observe and record changes / stages over time (linked to Y4 PoS).	Make a simple guide to local living things. Use guides or simple keys to classify / identify [animals, flowering plants and non-flowering plants]. Use their observations to identify and classify. Begin to give reasons for these similarities and differences. Record similarities as well as differences and / or changes related to simple scientific ideas or processes or more complex groups of objects / living things / events (e.g. <i>evaporation and condensation, different food chains, different electrical circuits</i> ).	Ask / raise their own relevant questions with increasing confidence and independence that can be explored, observed, tested or investigated further. Ask questions such as 'What will happen if...?' or 'What if we changed...?' (linked with Y4 PoS). Choose / select a relevant question that can be answered [by research or experiment / test].	Make decisions about which information to use from a wide range of sources and make decisions about how to present their research. Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.

<b>Year</b> <b>5</b>	<p>Use their developing scientific knowledge and understanding and relevant scientific language and terminology to discuss, communicate and explain their observations (incl. more abstract ideas from Y5 PoS (e.g. friction, air resistance, forces, Earth and space, reversible and irreversible changes)).</p> <p>Evaluate their observations and suggest a further test, offer another question or make a <b>prediction</b>.</p> <p>Observe (including changes over time) and suggest a reason for what they notice.</p>	<p>Suggest reasons for similarities and differences.</p> <p>Compare and contrast things beyond their locality and use these similarities and differences to help to classify (<i>e.g. features of animals, life cycles of different living things, melting compared with dissolving, etc.</i>).</p> <p>Use secondary sources of information to identify and classify.</p> <p>Decide which sources of information (and / or equipment and / or test) to help identify and classify.</p>	<p>Recognise scientific questions that do not yet have definitive answers (linked to Y5 PoS).</p> <p>Refine a scientific question so that it can be tested e.g. 'What would happen to... if we changed...?'</p> <p>Decide whether their questions can be answered by researching or by testing.</p> <p>Independently ask their own scientific questions taking some ownership for finding out the answers.</p>	<p>Find out how scientific ideas have changed / developed over time (linked to Y5 PoS).</p> <p>Articulate and explain findings from their research using scientific knowledge and understanding.</p> <p>Make decisions about which information to use from a wide range of sources.</p>
<b>Year</b> <b>6</b>	<p>Use correct scientific knowledge and understanding and relevant scientific language to discuss their observations and explorations (linked to Y6 PoS).</p> <p>Identify changes that have occurred over a very long period of time (evolution) and discuss how changes have impacted the world.</p> <p>Explore more abstract systems / functions / changes / behaviours and record their understanding of these (<i>e.g. the relationship between diet, exercise, drugs, lifestyle and health; evolutionary changes; how light travels</i>).</p>	<p>Recognise the importance of classification to the scientific world and form a conclusion from their sorting and classifying.</p> <p>Compare and contrast more complex processes, systems, functions (e.g. sexual and asexual reproduction).</p> <p>Construct a classification key / branching database using more than two items.</p> <p>Compare and contrast things beyond their locality and discuss advantages / disadvantages, pros / cons of the similarities and differences.</p> <p>Use <i>research*</i> to identify and classify things.</p> <p>Use classification systems, keys and other information records [databases] to help classify or identify things.</p>	<p>Recognise scientific questions that do not yet have definitive answers (linked to Y6 PoS).</p> <p>Refine a scientific question to make it testable i.e. ask a testable question which includes the change and measure variables, <i>e.g. what would happen to...if we changed...?</i></p> <p><i>e.g. What effect would we have on ... if we...?</i></p> <p><i>e.g. How would exercise affect the pulse rate?</i></p> <p>Use observations to suggest a further (testable or research) question.</p> <p>Independently ask a variety of scientific questions and decide the type of enquiry needed to answer them.</p>	<p>Research how scientific ideas have developed over time and had an impact on our lives.</p> <p>Use evidence from a variety of sources to justify their ideas</p> <p>Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.</p> <p>Interview people to find out information</p>