

## Nature of Science substrands

<p>Nature of Science substrands</p>	<p>Understanding about science</p> <ul style="list-style-type: none"> <li>Learn about science as a knowledge system: the features of scientific knowledge and the processes by which it is developed; and learn about the ways in which the work of scientists interacts with society.</li> </ul> <p><b><i>When the focus is on scientists' work</i></b></p>	<p>Investigating in science</p> <ul style="list-style-type: none"> <li>Carry out science investigations using a variety of approaches: classifying and identifying, pattern seeking, exploring, investigating models, fair testing, making things, or developing systems.</li> </ul> <p><b><i>When the focus is on student investigations</i></b></p>	<p>Communicating in science</p> <ul style="list-style-type: none"> <li>Develop knowledge of the vocabulary, numeric and symbol systems, and conventions of science and use this knowledge to communicate about their own and others' ideas.</li> </ul> <p><b><i>Making meaning of scientific representations</i></b></p>	<p>Participating and contributing</p> <ul style="list-style-type: none"> <li>Bring a scientific perspective to decisions and actions as appropriate.</li> </ul> <p><b><i>Is about taking action</i></b></p>
<p>Matching the science capabilities*</p>	<p>Gather and interpret data Use evidence Critique evidence</p>	<p>Gather and interpret data Use evidence Critique evidence</p>	<p>Interpret representations</p>	<p>Engage in science</p>
<p>Level 1 &amp; 2</p>	<ul style="list-style-type: none"> <li>Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation.</li> </ul>	<ul style="list-style-type: none"> <li>Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models.</li> </ul>	<ul style="list-style-type: none"> <li>Build their language and develop their understandings of the many ways the natural world can be represented.</li> </ul>	<ul style="list-style-type: none"> <li>Explore and act on issues and questions that link their science learning to their daily living.</li> </ul>
<p>Level 3 &amp; 4</p>	<ul style="list-style-type: none"> <li>Appreciate that science is a way of explaining the world and that science knowledge changes over time.</li> <li>Identify ways in which scientists work together and provide evidence to support their ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Build on prior experiences, working together to share and examine their own and others' knowledge.</li> <li>Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.</li> </ul>	<ul style="list-style-type: none"> <li>Begin to use a range of scientific symbols, conventions, and vocabulary.</li> <li>Engage with a range of science texts and begin to question the purposes for which these texts are constructed.</li> </ul>	<ul style="list-style-type: none"> <li>Use their growing science knowledge when considering issues of concern to them.</li> <li>Explore various aspects of an issue and make decisions about possible actions.</li> </ul>
<p>Level 5 &amp; 6</p>	<ul style="list-style-type: none"> <li>Understand that scientists' investigations are informed by current scientific theories and aim to collect evidence that will be interpreted through processes of logical argument.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and carry out more complex investigations, including using models.</li> <li>Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables.</li> <li>Begin to evaluate the suitability of the investigative methods chosen.</li> </ul>	<ul style="list-style-type: none"> <li>Use a wider range of science vocabulary, symbols, and conventions.</li> <li>Apply their understandings of science to evaluate both popular and scientific texts (including visual and numerical literacy).</li> </ul>	<ul style="list-style-type: none"> <li>Develop an understanding of socio-scientific issues by gathering relevant scientific information in order to draw evidence-based conclusions and to take action where appropriate.</li> </ul>
<p>Level 7 &amp; 8</p>	<ul style="list-style-type: none"> <li>Understand that scientists have an obligation to connect their new ideas to current and historical scientific knowledge and to present their findings for peer review and debate.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models.</li> </ul>	<ul style="list-style-type: none"> <li>Use accepted science knowledge, vocabulary, symbols, and conventions when evaluating accounts of the natural world and consider the wider implications of the methods of communication and/or representation employed.</li> </ul>	<ul style="list-style-type: none"> <li>Use relevant information to develop a coherent understanding of socio-scientific issues that concern them, to identify possible responses at both personal and societal levels.</li> </ul>

\*Note: science capabilities can be developed in all NOS substrands – these indicate where you most often explicitly develop these capabilities