

Nature of Science substrands

| Nature of Science substrands | Understanding about science | Investigating in science | Communicating in science | Participating and contributing |
|------------------------------------|---|--|--|--|
| | <ul style="list-style-type: none"> 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. <p><i>When the focus is on scientists' work</i></p> | <ul style="list-style-type: none"> Carry out science investigations using a variety of approaches: classifying and identifying, pattern seeking, exploring, investigating models, fair testing, making things, or developing systems. <p><i>When the focus is on student investigations</i></p> | <ul style="list-style-type: none"> 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. <p><i>Making meaning of scientific representations</i></p> | <ul style="list-style-type: none"> Bring a scientific perspective to decisions and actions as appropriate. <p><i>Is about taking action</i></p> |
| Matching the science capabilities* | Gather and interpret data Use evidence Critique evidence | Gather and interpret data Use evidence Critique evidence | Interpret representations | Engage in science |
| Level 1 & 2 | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models. | <ul style="list-style-type: none"> Build their language and develop their understandings of the many ways the natural world can be represented. | <ul style="list-style-type: none"> Explore and act on issues and questions that link their science learning to their daily living. |
| Level 3 & 4 | <ul style="list-style-type: none"> Appreciate that science is a way of explaining the world and that science knowledge changes over time. Identify ways in which scientists work together and provide evidence to support their ideas. | <ul style="list-style-type: none"> Build on prior experiences, working together to share and examine their own and others' knowledge. Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. | <ul style="list-style-type: none"> Begin to use a range of scientific symbols, conventions, and vocabulary. Engage with a range of science texts and begin to question the purposes for which these texts are constructed. | <ul style="list-style-type: none"> Use their growing science knowledge when considering issues of concern to them. Explore various aspects of an issue and make decisions about possible actions. |
| Level 5 & 6 | <ul style="list-style-type: none"> Understand that scientists' investigations are informed by current scientific theories and aim to collect evidence that will be interpreted through processes of logical argument. | <ul style="list-style-type: none"> Develop and carry out more complex investigations, including using models. Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables. Begin to evaluate the suitability of the investigative methods chosen. | <ul style="list-style-type: none"> Use a wider range of science vocabulary, symbols, and conventions. Apply their understandings of science to evaluate both popular and scientific texts (including visual and numerical literacy). | <ul style="list-style-type: none"> 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. |
| Level 7 & 8 | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. |

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