**Science 7-12 Curricular Competency Continuum**

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| **Curricular Competency** | **7-8** | **9-12** |
| **Questioning and Predicting** | I can demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest I can make observations aimed at identifying my own questions, including increasingly abstract ones, about the natural worldI can formulate multiple hypotheses and predict multiple outcomes  | I can demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest I can make observations aimed at identifying my own questions, including increasingly abstract ones, about the natural worldI can formulate multiple hypotheses and predict multiple outcomes |
| **Planning and Conducting** | I can collaboratively and individually plan, select, and use appropriate investigation methods, including field work and lab experiments, to collect reliable data (qualitative and quantitative) I can assess risks and address ethical issues associated with my proposed methods I can select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data. | I can collaboratively and individually plan, select, and use appropriate investigation methods, including field work and lab experiments, to collect reliable data (qualitative and quantitative) I can assess risks and address ethical issues associated with my proposed methods I can select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data |
| **Processing and Analyzing Data and Information** | I can seek and analyze patterns, trends, and connections in data, including describing relationships between variables and identifying inconsistencies I can use knowledge of scientific concepts to draw conclusions that are consistent with evidenceI can analyze cause and effect relationships | I can experience and interpret the local environment I can seek and analyze patterns, trends, and connections in data, including describing relationships between variables and identifying inconsistencies I can use knowledge of scientific concepts to draw conclusions that are consistent with evidenceI can analyze cause and effect relationships |
| **Evaluating** | I can evaluate methods and experimental conditions, including identifying sources of error or uncertainty, confounding variables, and possible alternative explanations and conclusions I can describe specific ways to improve investigation methods and the quality of the data I can evaluate the validity of and limitations of a model or analogy in relation to the phenomenon modelled I can demonstrate an awareness of assumptions, question information given, and identify bias in my own work and secondary sourcesI can consider that knowledge has changed over time as tools and technologies have developedI can exercise a healthy, informed skepticism and use scientific knowledge and findings to form my own investigations and to evaluate claims in secondary sourcesI can consider social, ethical, and environmental implications of the findings from my own and others’ investigations I can critically analyze the validity of information in secondary sources and evaluate the approaches used to solve problems  | I can evaluate methods and experimental conditions, including identifying sources of error or uncertainty, confounding variables, and possible alternative explanations and conclusions I can describe specific ways to improve investigation methods and the quality of the data I can evaluate the validity of and limitations of a model or analogy in relation to the phenomenon modelled I can demonstrate an awareness of assumptions, question information given, and identify bias in my own work and secondary sourcesI can consider that knowledge has changed over time as tools and technologies have developedI can exercise a healthy, informed skepticism and use scientific knowledge and findings to form my own investigations and to evaluate claims in secondary sourcesI can consider social, ethical, and environmental implications of the findings from my own and others’ investigations I can critically analyze the validity of information in secondary sources and evaluate the approaches used to solve problems I can assess risks in the context of personal safety and social responsibility  |
| **Applying and Innovating** | I can contribute to care for self, others, community, and world through personal or collaborative approachesI can co-operatively design projects with local and/or global connections and applicationsI can transfer and apply learning to new situationsI can generate and introduce new or refined ideas when problem solvingI can contribute to finding solutions to problems at a local and/or global level through inquiry | I can contribute to care for self, others, community, and world through personal or collaborative approaches I can co-operatively design projects with local and/or global connections and applications I can transfer and apply learning to new situations I can generate and introduce new or refined ideas when problem solving I can contribute to finding solutions to problems at a local and/or global level through inquiry  |
| **Communicating** | I can formulate physical or mental theoretical models to describe a phenomenonI can communicate scientific ideas, information, and perhaps a suggested course of action for a specific purpose and audience, constructing evidence-based arguments and using appropriate scientific language, conventions, and representationsI can express and reflect on a variety of experiences, perspectives, and worldviews of place | I can formulate physical or mental theoretical models to describe a phenomenon.I can communicate scientific ideas, information, and perhaps a suggested course of action for a specific purpose and audience, constructing evidence-based arguments and using appropriate scientific language, conventions, and representations I can express and reflect on a variety of experiences, perspectives, and worldviews of **place**  |