|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **K** | **1/2** | **3/4** | **5/6** | **7/8** | **9/10** |
| **Questioning and predicting** | * I demonstrate curiosity and a sense of wonder about the world * I can observe objects and events in familiar contexts * I can ask simple questions about familiar objects and events | * I demonstrate curiosity and a sense of wonder about the world * I can observe objects and events in familiar contexts * I can ask questions about familiar objects and events * I can make simple predictions about familiar objects and events | * I demonstrate curiosity about the natural world * I can observe objects and events in familiar contexts * I can identify questions about familiar objects and events that can be investigated scientifically * I can make predictions based on prior knowledge | * I demonstrate a sustained curiosity about a scientific topic or problem of personal interest * I can make observations in familiar or unfamiliar contexts * I can identify questions to answer or problems to solve through scientific inquiry * I can make predictions about the findings of their inquiry | * I demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest * I make observations aimed at identifying my own questions about the natural world * I can identify a question to answer or a problem to solve through scientific inquiry * I can formulate alternative “If…then…” hypotheses based on their questions * I can make predictions about the findings of their inquiry | * I demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest * I make observations aimed at identifying their own questions, including increasingly abstract ones, about the natural world * I can formulate multiple hypotheses and predict multiple outcomes |
| **Planning and conducting** | * I can make exploratory observations using their senses * I can safely manipulate materials * I can make simple measurements using non-standard units | * I can make and record observations * I can safely manipulate materials to test ideas and predictions * I can make and record simple measurements using informal or non-standard methods | * I can suggest ways to plan and conduct an inquiry to find answers to my questions * I consider ethical responsibilities when deciding how to conduct an experiment * I can safely use appropriate tools to make observations and measurements, using formal measurements   and digital technology as appropriate   * I can make observations about living and non-living things in the local environment * I can collect simple data | * I explore and pose questions that lead to investigations * With support, I can plan appropriate investigations to answer my questions or solve problems I have identified * I can decide which variable should be changed and measured for a fair test * I can choose appropriate data to collect to answer their questions * I can observe, measure, and record data, using appropriate tools, including digital technologies * I can use equipment and materials safely, identifying potential risks | * I can collaboratively plan a range of investigation types, including field work and experiments, to answer their questions or solve problems they have identified * I can measure and control variables through fair tests * I can observe, measure, and record data (qualitative and quantitative), using equipment, including digital technologies, with accuracy appropriate to the task * I ensure that safety and ethical guidelines are followed in my investigations | * I can collaboratively and personally plan, select, and use appropriate investigation methods, including field work and lab experiments, to collect reliable data (qualitative and quantitative) * I 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 discuss my observations * I can represent my observations and ideas by drawing * I can experience and interpret the local environment | * I can experience and interpret the local environment * I can sort and classify data and information using drawings or provided tables * I can compare my observations with my predictions through discussion * I can identify simple patterns and connections | * I can experience and interpret the local environment * I can sort and classify data and information using drawings or provided tables * I can use tables, simple bar graphs, or other formats to represent data and show simple patterns and trends * I can compare my results with my predictions, suggesting possible reasons for my findings | * I can experience and interpret the local environment * I can construct and use a variety of methods, including tables, graphs, and digital technologies, as appropriate, to represent patterns or relationships in data * I can identify patterns and connections in data * I can compare data with predictions and develop explanations for results * I demonstrate an openness to new ideas and consideration of alternatives | * I can experience and interpret the local environment * I can construct and use a range of methods to represent patterns or relationships in data, including tables, graphs, key, scale models, and digital technologies as appropriate * I seek patterns and connections in data from my own investigations and secondary sources * I use scientific understandings to identify relationships and draw conclusions | * I can experience and interpret the local environment * I 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 evidence * I can analyze cause-and-effect relationships |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **K** | **1/2** | **3/4** | **5/6** | **7/8** | **9/10** |
| **Evaluating** |  | * I can compare my observations with those of others * I can consider some environmental consequences of my actions | * I can make simple inferences based on their results and prior knowledge * I can reflect on whether an investigation was a fair test * I demonstrate an understanding and appreciation of evidence * I can identify some simple environmental implications of my own and others’ actions | * I can evaluate whether my investigations were fair tests * I can identify possible sources of error * I can suggest improvements to my investigation methods * I can identify some of the assumptions and given information in secondary sources * I demonstrate an understanding and appreciation of evidence * I can identify some of the social, ethical, and environmental implications of the findings from my own and others’ investigations | * I reflect on their investigation methods, including the adequacy of controls on variables and the quality of the data collected * I can identify possible sources of error and suggest improvements to my investigation methods * I demonstrate an awareness of assumptions and can identify information given and bias in my own work and secondary sources * I demonstrate an understanding and appreciation of evidence (qualitative and quantitative) * I exercise a healthy, informed skepticism and use scientific knowledge and findings for their own investigations to evaluate claims in secondary sources * I consider social, ethical, and environmental implications of the findings from my own and others’ investigations | * I can evaluate my 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 my 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 demonstrate an awareness of assumptions, question information given, and can identify bias in my own work and secondary sources * I can consider the changes in knowledge over time as tools and technologies have developed * I exercise a healthy, informed skepticism and use scientific knowledge and findings to form their own investigations to evaluate claims in secondary sources * Consider social, ethical, and environmental implications of the findings from their own and others’ investigations * Critically analyze the validity of information in secondary sources and evaluate the approaches used to solve problems |
| **Applying and innovating** | * I can take part in caring for myself, family, classroom and school through personal approaches * I can transfer and apply learning to new situations * I can generate and introduce new or refined ideas when problem solving | * I can take part in caring for myself, family, classroom and school through personal approaches * 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 care for myself, others, school, and neighbourhood through personal or collaborative approaches * I can co-operatively design projects * 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 care for myself, others, and community through personal or collaborative approaches * I can co-operatively design projects * 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 care for myself, others, community, and world through personal or collaborative approaches * I can co-operatively design projects * 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 care for myself, 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 share observations and ideas orally * I can express and reflect on personal experiences of place | * I can communicate observations and ideas using oral or written language, drawing, or role-play * I can express and reflect on personal experiences of place | * I can represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate * I can express and reflect on personal or shared experiences of place | * I can communicate ideas, explanations, and processes in a variety of ways * I can express and reflect on personal, shared, or others’ experiences of place | * I can communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate * I can express and reflect on a variety of experiences and perspectives 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 |