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| * Demonstrate a sustained intellectual curiosity about a scientific topic  or problem of personal interest | * Make observations aimed at identifying their own questions, including increasingly complex ones, about the natural world |
| * Formulate multiple hypotheses and predict multiple outcomes | Collaboratively and individually plan, select, and use appropriate investigation methods, including field work and lab experiments, to collect reliable data (qualitative and quantitative) |
| * Assess risks and address ethical, cultural, and/or environmental issues associated with their proposed methods and those of others | Ensure that safety and ethical guidelines are followed in their investigations |
| * Select and use appropriate equipment, including digital technologies,  to systematically and accurately collect and record data | * Experience and interpret the local environment |
| * Apply **First Peoples perspectives and knowledge**, other **ways  of knowing**, and local knowledge as sources of information | Seek and analyze patterns, trends, and connections in data, including describing relationships between variables (dependent and independent) and identifying inconsistencies |
| * Construct, analyze, and interpret graphs (including interpolation  and extrapolation), models, and/or diagrams | * Use knowledge of scientific concepts to draw conclusions that  are consistent with evidence |
| * Analyze cause-and-effect relationships | Evaluate their methods and experimental conditions, including identifying sources of error or uncertainty, confounding variables, and possible alternative explanations and conclusions |
| * Describe specific ways to improve their investigation methods and  the quality of the data | Evaluate the validity and limitations of a model or analogy in relation  to the phenomenon modelled |
| Demonstrate an awareness of assumptions, question information given, and identify bias in their own work and secondary sources | * Consider the changes in knowledge over time as tools and technologies have developed |
| * Connect scientific explorations to careers in science | Exercise a healthy, informed skepticism and use scientific knowledge and findings to form their own investigations and 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 |
| * Contribute to care for self, others, community, and world through  individual or collaborative approaches | * Transfer and apply learning to new situations |
| * Generate and introduce new or refined ideas when problem solving | * Contribute to finding solutions to problems at a local and/or global level through inquiry |
| * Consider the role of scientists in innovation | * Formulate physical or mental theoretical models to describe a phenomenon |
| Communicate scientific ideas, claims, 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 presentations | * Express and reflect on a variety of experiences, perspectives, and worldviews through **place** |
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