

## Performance Indicators

Level 1: Achievement falls much below provincial standards.

Level 2: Achievement approaches provincial standards.

Level 3: Achievement meets provincial standards.

Level 4: Achievement surpasses provincial standards.

Performance Criteria	Level 1	Level 2	Level 3	Level 4
<b>Initiating and Planning</b> <ul style="list-style-type: none"> <li>formulates scientific questions and makes predictions</li> <li>selects appropriate instruments</li> <li>locates resources that are relevant to research study</li> </ul>	Student needs help stating the problem or the question, hypothesis, and predictions, is not able to select equipment and find resources.	Student states a problem or question and an hypothesis, but not clearly. Student has some ability to select equipment and find resources.	Student's problem statement and hypothesis are clearly stated; effectively selects equipment and finds resources.	Student's problem statement and hypothesis are very clear; selects equipment and finds the most appropriate resources consistently and effectively.
<b>Performing and Recording</b> <ul style="list-style-type: none"> <li>describes steps in clear order</li> <li>identifies variables</li> <li>keeps other factors constant</li> <li>follows safety rules</li> <li>suggests strategy for repeated trials</li> <li>records in clear, accurate diagrams</li> <li>summarizes observed data neatly</li> </ul>	Student does not have a clear idea of order or methods required, even with help from the teacher; follows safety rules with some reminders; has trouble with diagrams and summarizing data, unless guided by teacher.	Student applies lessons on each step of procedures with help from teacher or classmates; follows safety rules with few reminders; uses diagrams to support results; however, written data summaries are not clear.	Student applies most lessons on each step of procedures independently or with a few reminders from the teacher; usually follows safety rules; records data in clear diagrams and summarizes observed data.	Student works well with little advice from teacher or classmates; always acts safely and helps others follow rules; records data in writing and diagrams using correct form and high quality.

Performance Criteria	Level 1	Level 2	Level 3	Level 4
<p><b>Analyzing and Interpreting</b></p> <ul style="list-style-type: none"> <li>analyzes data to determine whether it supports prediction</li> <li>identifies possible sources of error</li> <li>draws conclusions based on results and research findings that demonstrate an understanding of the experiment</li> </ul>	<p>Student needs help to identify major findings and supporting details; does not analyze data, identify sources of error, or draw a conclusion.</p>	<p>Student can state major findings but needs help to support conclusions; analyzes some data and identifies some sources of error; conclusion shows some understanding of the experiment.</p>	<p>Student states major findings and gives support clearly; states the problem and hypothesis very clearly; analyzes data and identifies sources of error; draws accurate conclusions.</p>	<p>Student states clear conclusions with detailed support from a variety of sources; provides a detailed analysis of data and identifies all sources of error; conclusions display an in-depth understanding of the experiment.</p>
<p><b>Communication</b></p> <ul style="list-style-type: none"> <li>communicates procedures, results, and conclusions clearly using appropriate language</li> <li>gives references in proper form</li> <li>may use multi-media aids to support results</li> <li>uses and interprets appropriate graphs</li> <li>uses appropriate modes of representation (graphs and units of measurement)</li> <li>calculations are accurately and precisely represented</li> </ul>	<p>Student does not produce a meaningful report; information is not clearly represented; many errors are present; student does not create or interpret graphs.</p>	<p>Student produces a report in which some information is clearly represented; numerous errors are present; student creates and interprets graphs with support.</p>	<p>Student produces a meaningful report in which all information is clearly represented; some errors are present; graphs are appropriate and incorporated into report.</p>	<p>Student produces a thorough, interesting report in which all information is clearly represented with no errors; graphs are appropriate, and student interprets them fully.</p>