

## Science Inquiry Criteria

Inquiry Component	Criteria
<b>Title</b>	<ul style="list-style-type: none"> <li>• Presents brief idea of what the investigation or inquiry is about.</li> </ul>
<b>Purpose</b> What is the question you will answer or problem you will solve through this inquiry?	<ul style="list-style-type: none"> <li>• <b>What</b> are you doing in this investigation?</li> <li>• <b>How</b> are you going to do it?</li> <li>• <b>Why</b> are you completing this investigation?</li> </ul>
<b>Prediction</b> What do you think will happen and why?  <b>Hypothesis</b> If ...then...because	<ul style="list-style-type: none"> <li>• <b>What</b> do you think will happen and <b>why</b> do you think this?</li> <li>• Describes the relationship between the manipulated and responding variables?</li> </ul> <p>Example            If we increase the temperature above 0°C then the ice will melt (change states) because the melting point of water is 0°C.</p>
<b>Materials</b> What materials will you be using?	<ul style="list-style-type: none"> <li>• Provide a list of materials appropriate and necessary to carry out the inquiry.</li> </ul>
<b>Procedure</b>   Identifies variables   Validity measures	<ul style="list-style-type: none"> <li>• Provides <b>logical steps</b> that another person could follow.</li> <li>• Includes a <b>color diagram</b> of lab setup with important parts <b>labeled</b>.</li> <li>• <b>Record</b> data.</li> <li>• <b>Controlled</b> (the <b>variables</b> that you are keeping the same)</li> <li>• <b>Manipulated</b> (the <b>one variable</b> you are changing)</li> <li>• <b>Responding</b> (the <b>one variable</b> that you are measuring)</li> <li>• Include <b>repeated trials</b> in your procedure.</li> </ul>
<b>Results</b> What qualitative (descriptive) and quantitative (numbers) information do you get from this investigation?	<ul style="list-style-type: none"> <li>• Data tables showing all measurements and calculations (include <b>units</b>).</li> <li>• Observations</li> <li>• <b>Analysis</b> (compare/contrast, examine, classify, debate/defend, characterize, related to, generalize, outline, similar/different)</li> <li>• Graphical analysis (title, units, key, proper scale, averages, explanation)</li> <li>• Reflection questions answered with supporting evidence.</li> </ul>
<b>Conclusion</b>	<ul style="list-style-type: none"> <li>• What can you conclude with supporting evidence from your results?</li> <li>• Was your prediction or hypothesis supported?</li> <li>• Answer investigative question with supporting evidence from results.</li> <li>• What is the “big science idea” you are learning in this investigation?</li> <li>• How have your original ideas changed after completing this investigation?</li> <li>• What sources of error might have affected your results (human, equipment)?</li> </ul>
<b>Application</b> Organize, imagine, test, demonstrate, solve, apply, construct, manipulate	<ul style="list-style-type: none"> <li>• How do the ideas in this investigation connect to real world issues?</li> <li>• How do the ideas in this investigation connect to the readings?</li> <li>• How would you apply your new learnings to a different situation?</li> <li>• What additional questions do you have that you would like to answer?</li> <li>• What experiments would you like to complete to further your learning?</li> </ul>

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