

## Lab Test Rubric

(modified from a rubric used by the Olathe East High School Science Department, Olathe, KS; which was modified from a rubric used by the Colorado Springs School district's science dept.)

### Standards: The levels at which students are expected to perform the task

Score	Advanced (5)	Proficient (3)	Needs Improvement (1)
_____	<p><b>Question</b></p> <ul style="list-style-type: none"> <li>Question is narrowly focused and suggests how an answer might be investigated. It is answerable.</li> </ul>	<ul style="list-style-type: none"> <li>Question is answerable but not narrowly focused.</li> </ul>	<ul style="list-style-type: none"> <li>Question is too broad and not practically investigated.</li> </ul>
_____	<p><b>Identification of Variables</b></p> <ul style="list-style-type: none"> <li>Correctly identifies specific, measurable independent and dependent variables.</li> </ul>	<ul style="list-style-type: none"> <li>Identifies variable being tested &amp; variable being measured.</li> </ul>	<ul style="list-style-type: none"> <li>Variables and constants significantly incomplete &amp;/or inaccurate.</li> </ul>
_____	<p><b>Hypothesis</b></p> <ul style="list-style-type: none"> <li>Hypothesis is testable and clearly stated in "If... then..." format. Specifically predicts relationship between dependent and independent variables.</li> </ul>	<ul style="list-style-type: none"> <li>Hypothesis is clearly stated. It predicts the influence of one variable on another.</li> </ul>	<ul style="list-style-type: none"> <li>Hypothesis is poorly stated and doesn't directly mention the variables.</li> </ul>
_____	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Complete, detailed list of materials (size, conc., quantity) presented in vertical list format.</li> </ul>	<ul style="list-style-type: none"> <li>Most materials are listed and appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>Materials quite incomplete or inappropriate for experiment.</li> </ul>
_____	<p><b>Procedure</b></p> <ul style="list-style-type: none"> <li>Accurately tests the hypothesis</li> </ul>	<ul style="list-style-type: none"> <li>Attempts to test hypothesis</li> </ul>	<ul style="list-style-type: none"> <li>Does not address hypothesis.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Conducts or analyzes at least 3 trials.</li> </ul>	<ul style="list-style-type: none"> <li>Multiple trials attempted or need is recognized.</li> </ul>	<ul style="list-style-type: none"> <li>Single trial, poor understanding of use of multiple trials.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Procedure is in vertical list format, accurate, complete, easy-to-follow, and reproducible by another person. Includes diagrams to clarify procedures.</li> </ul>	<ul style="list-style-type: none"> <li>Step-by-step procedure, generally complete. Minor errors/omissions make it difficult to follow or not always repeatable.</li> </ul>	<ul style="list-style-type: none"> <li>Procedure difficult to follow. Major omissions or errors.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Includes all appropriate safety concerns.</li> </ul>	<ul style="list-style-type: none"> <li>Includes critical safety concerns.</li> </ul>	<ul style="list-style-type: none"> <li>Safety concerns trivial or inadequately addressed.</li> </ul>
_____	<p><b>Data Collection &amp; Presentation</b></p> <ul style="list-style-type: none"> <li>Data table contains accurate, precise raw data &amp; summary data reported in correct SI units with descriptive title.</li> </ul>	<ul style="list-style-type: none"> <li>Data table with accurate data, most units labeled or implied. Minor errors. Title absent or trivial.</li> </ul>	<ul style="list-style-type: none"> <li>Data table inaccurate, confusing, and/or incomplete. Missing units.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Data summarized in well-organized, easy-to-read graph &amp;/or figures. Descriptive title, appropriate labeling, keys, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Data displayed in well organized easy to read graph &amp;/or figures. Descriptive title, minor errors in use of units and labeling.</li> </ul>	<ul style="list-style-type: none"> <li>Graph/figures presented in a confusing and/or sloppy fashion.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Data summarized in a clear, concise, logical manner. Patterns identified &amp; described, but no conclusions drawn.</li> </ul>	<ul style="list-style-type: none"> <li>Reasonable, but somewhat unclear summary of data. Patterns in data not clearly identified.</li> </ul>	<ul style="list-style-type: none"> <li>Summary is unclear and illogical. Patterns in data not identified.</li> </ul>
_____	<p><b>Conclusion</b></p> <ul style="list-style-type: none"> <li>Scientifically valid, logical conclusion, well supported by the data collected. Clearly addresses problem and stated hypothesis.</li> </ul>	<ul style="list-style-type: none"> <li>Scientifically valid, logical conclusion, supported by data collected. Attempts to address problem and stated hypothesis.</li> </ul>	<ul style="list-style-type: none"> <li>Conclusion is incomplete or illogical. Does not address the problem and hypothesis.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Sources of error identified and explained. Appropriate recommendations made to eliminate errors.</li> </ul>	<ul style="list-style-type: none"> <li>Sources of error identified.</li> </ul>	<ul style="list-style-type: none"> <li>Weak/trivial attempt to identify sources of error.</li> </ul>
_____	<ul style="list-style-type: none"> <li>Student generates specific questions for future study.</li> </ul>	<ul style="list-style-type: none"> <li>Student makes attempt to generate questions for future study.</li> </ul>	<ul style="list-style-type: none"> <li>Student makes incomplete or inappropriate attempt to extend or apply knowledge.</li> </ul>