

Science Process Scoring Rubric

	1. Unsatisfactory	2. Partially Proficient	3. Proficient	4. Advanced
A. Identify Question / Hypotheses	<ul style="list-style-type: none"> • Unable to formulate a question from data or problem or question is not testable • Hypothesis is missing or unclear 	<ul style="list-style-type: none"> • Formulates testable questions from problems or data • Hypotheses is present but not related to question 	<ul style="list-style-type: none"> • Formulates testable questions from problems or data • Hypothesis is testable and directly related to question 	<ul style="list-style-type: none"> • Formulates testable questions and hypotheses that are specific and/or detailed, based on scientific concepts • Details of experimental design suggested by hypothesis
B. Data Collection/ Observations	<ul style="list-style-type: none"> • Collects and records invalid data • Uses inappropriate equipment, techniques, or measuring system. • Data collected contains inaccuracies in measurement which alter the results • Extensive teacher intervention or guidance necessary 	<ul style="list-style-type: none"> • Collects and records valid data • Incorrectly uses some equipment or techniques • Uses metric measurements • Requires some teacher intervention 	<ul style="list-style-type: none"> • Collects and records complete and valid data using metric measurements • Uses appropriate equipment and techniques • Requires minimal teacher intervention 	<ul style="list-style-type: none"> • Collects, organizes and records data which is complete, accurate, and objective • Selects and uses appropriate equipment and techniques • Requires minimal teacher guidance
C. Graphing	<ul style="list-style-type: none"> • Graph is missing or contains numerous errors 	<p>Graph is present but contains some of these errors:</p> <ul style="list-style-type: none"> • Wrong axis chosen for data • Range and scale incorrect • Data plotted incorrectly • Lines not drawn or labeled 	<p>Graph is present and:</p> <ul style="list-style-type: none"> • Independent variable data is on the X axis • Dependent variable is on the y axis • Range and scale appropriate • Data plotted correctly • Lines drawn and labeled • Title of graph present 	<p>Graph is present and meets all proficient criteria. In addition, one or more of these is present:</p> <ul style="list-style-type: none"> • Descriptive title • Range of averaged data indicated • Control data displayed
D. Conclusion/ Questions	<ul style="list-style-type: none"> • Unable to make inferences or draw conclusions from data 	<ul style="list-style-type: none"> • Makes faulty inferences based on patterns or previously held ideas • Draws faulty conclusions or fails to recognize relationships from graphs • Unable to relate conclusions to validity of hypothesis 	<ul style="list-style-type: none"> • Makes reasonable inferences based on observations or data. • Draws reasonable conclusions and/or recognize relationships from graphs • Communicates whether conclusions support or contradict hypothesis • Supports conclusions with evidence 	<ul style="list-style-type: none"> • Data is analyzed objectively • Draws logical inferences based on observed patterns and relationships. Claims are supported by evidence. • Understandings are applied to the hypothesis. • Suggests questions for future investigations • Apply conclusions to scientific concepts