

Mary Had a Little Lamb Assignment/Grading Rubric

Name _____

Date _____ Period _____

Score ____/4

CATEGORY	4	3	2	1
Question/Purpose Hypothesis ____/4	The purpose / hypothesis portion includes a research-based description of the reasoning the predicted relationship is based on.	The purpose of the lab or the question to be answered during the lab is clearly identified and stated. The hypothesis clearly identifies a testable relationship between the volume of water in the glass and the pitch.	The purpose of the lab or the question to be answered during the lab is identified, but is stated in a somewhat unclear manner. The hypothetical relationship between water volume and pitch is stated but not clear	The purpose of the lab or the question to be answered during the lab is erroneous or irrelevant. The hypothesis is vague with no reference to the relationship between water volume and pitch.
Materials Procedures Drawings/Diagrams ____/4	Exceptional detail.	All materials and setup used in the experiment are clearly and accurately described Procedures are listed in clear steps. Each step is numbered and is a complete sentence. Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately.	Almost all materials and the setup used in the experiment are clearly and accurately described. Procedures are listed in a logical order, but steps are not numbered and/or are not in complete sentences. Diagrams are included and are labeled. Attention to detail is lacking.	Many materials are described inaccurately Procedures do not accurately list the steps of the experiment and are difficult to follow Needed diagrams are missing important details and labels.
Results: Observations ____/4	Exceptional detail.	At least 5 additional observations are included which describe details of the lab which are not included in the data table.	3-4 additional observations are included which describe details of the lab which are not included in the data table.	1-2 additional observation is included which describe details of the lab which are not included in the data table.
Results: Data Table ____/4	Professional looking and accurate representation of the data in tables. Tables are labeled and titled. Ruler, colors, extra attention to detail	Accurate representation of the data in table. Tables are labeled and titled. A ruler was used	Accurate representations of the data in written form, but table lines are missing or not done with a ruler.	Data shown are inaccurate or tables are incomplete.
Results: Graph ____/4	Professional looking and accurate representation of the data in a graph. Axes are labeled and titled. Volume is the X axis and pitch/note is the Y axis. Ruler, colors, extra attention to detail	Accurate representation of the data in a graph. Graph is labeled and titled. Volume is the X axis and pitch/note is the Y axis. A ruler was used.	Accurate representations of the data in written form, but graph lines are missing or not done with a ruler. Volume and pitch are identified as the tested variables	Data shown are inaccurate or graph is incomplete.

Note Point Values→	8	6	4	2
Analysis: Paragraph 1: How this investigation helped you collect evidence of how pitch depended on volume of water it contained. Discuss the relationship between frequency and pitch. ____/8	The relationship between the variables (water volume and pitch) is discussed and trends/patterns logically analyzed. Compares/discusses the behavior of the glasses with other sources of sound. Evaluate possible sources of error (materials, procedure, data collection, other). Demonstrate “next level” thinking by identifying how this lab/data can be transferred to other applications.	The relationship between the variables (water volume and pitch) is discussed and trends/patterns logically analyzed.	The relationship between the variables (water volume and pitch) is discussed, but trends/patterns are not logically analyzed completely.	The relationship between the variables (water volume and pitch) is not discussed.
Analysis: Paragraph 2 Evidence of what causes sound and sound waves. How this investigation helped you collect evidence of how intensity, loudness, and pitch depended on the material, shape, and thickness of the instrument. Also include how the instrument was played/input force, etc. affected the intensity and loudness. ____/8	The relationship between the variables (intensity, loudness, and pitch depended on the material, shape, thickness, and how it is played/input force) is discussed and trends/patterns logically analyzed. Compares/discusses the behavior of the glasses with other sources of sound. Evaluate possible sources of error (materials, procedure, data collection, other). Demonstrate “next level” thinking by identifying how this lab/data can be transferred to other applications.	The relationship between the variables (intensity, loudness, and pitch depended on the material, shape, thickness, and how it is played/input force) is discussed and trends/patterns logically analyzed	The relationship between the variables (intensity, loudness, and pitch depended on the material, shape, thickness, and how it is played/input force) is discussed, but trends/patterns are not logically analyzed completely.	The relationship between the variables (intensity, loudness, and pitch depended on the material, shape, thickness, and how it is played/input force) is not discussed
Note Point Value	4	3	2	1
Conclusion ____/4	Conclusion also includes a logical extension (I wonder...) that explores related topics AND includes reasonable hypothetical responses to the “I wonder” question.	Conclusion includes whether the findings supported the hypothesis, a discussion of the hypothesis, and what was learned from the experiment.	Conclusion includes whether the findings supported the hypothesis and what was learned from the experiment.	Conclusion shows little effort and reflection.

$$\text{____}/40 \div 10 = \text{____}/4$$