(Note: This lab gives students an option of differentiating based on interest and ability – STEM designates the more challenging option.)

Title of Experiment: _____

Wild Guess Statement: _____

Wild Guess Prediction: _____

Research Question:

_____

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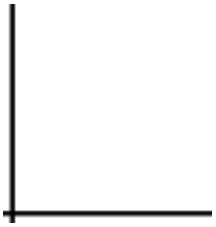
Hypothesis: Graph form:



In Words:

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IV: _____ DV:	Controls:

(STEM only) What was your rationale for making your hypothesis? Explain your thinking.

(STEM only) Using your background knowledge of physics, what possible situations could this research question be applied?

Procedure – Use pictures and words that enable another student to recreate your experiment exactly:

Data:

Value of Controls: Qualitative Data:

(STEM only) Show the calculations used to come up with the uncertainties for each data value.

(STEM only) Collect data, either yourself, or from other groups that further clarify the pattern found.

Equation: _____ = _____

(STEM only) – What R value do you have for these data, what does that represent about your confidence?

Graph:

(STEM only) – Why did you choose the above scale to display your pattern?

Be sure to include the following in your written conclusions:
1) Pattern between IV + DV
2) Mathematical Formula
3) Data Driven Prediction
4) Confidence/Reasoning
5) Limitations of this pattern
Steps 6 – 10 are for STEM only
6) What does the "A" value represent?
7) What further Research Question could you ask based on the pattern found?
8) How did data compare to other groups after the whiteboard meeting? What did you learn?
9) Explain how this lab relates to the theoretical physics concept dealt with in this lab.

10) What improvements could you make in this lab design for next time?

Conclusion:_____

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Self-Evaluation:

Completed question & hypothesis?	Units & uncertainties in data table?	Axes labeled with units?	Best-fit line goes through all error bars	Equation in terms of experimental variables?	Conclusion complete with all 5 parts?