

Acceleration Lab

Purpose:

How does acceleration vary with force? with mass?

Hypothesis:

You need to provide your hypothesis. Avoid personal pronouns. *Notice how I write UNDER the subtitle, not beside them.*

Materials & Method: (experiment recipe)

List equipment used – bullet form like ingredients in a recipe

Write numbered steps for method.

- #1. Tell the reader what to do.
- #2. Each number is a new line. Avoid using personal pronouns.
- #3. These are written in 'command' form as you see now.
- #4. You could include a labelled diagram and then say 'Refer to diagram for set-up'

Results:

Include a labelled chart for collected data.

Graph your results – you should have an acceleration vs. force and an acceleration vs. mass graph. Remember, independent variable on the x axis.

Analysis:

1. Interpret your results. What is the shape of the graph? Is there a line-of-best fit? Or is it a curve? If you have a line of best fit, give the formula for this line (grade 9 math).
2. Draw 2 Free Body Diagrams: one for the cart moving **and** one for the 'mass' pulling the cart. For the 'cart' FBD only, describe in words the effect of each force on the movement of the cart.

Conclusion:

Specifically address your purpose. Write a summative statement. It is helpful to write an 'as...then..' statement here.

Name: _____

Partners: _____

Criteria	
<p>Communication A1.11 Communicate results in appropriate form ie: lab report.</p>	<p>Full marks = Prepares lab report with no errors in format. (including spelling & grammar). Included in this clear, understandable 'materials & method' section.</p> <p style="text-align: right;">/5</p>
<p>Knowledge & Understanding A1.13 use data to calculate accurately to the appropriate number of significant figures A1.6 compile accurate data from lab and organize ... including graphs</p>	<p>Significant digits: Full marks = properly done with no errors /1</p> <p>Data: Full marks = Observation chart compiled correctly & graphed correctly.</p> <p style="text-align: right;">/4</p>
<p>Knowledge & Understanding Question #2 C3.1 distinguish between different forces and describe the effect of force on an object</p>	<p>Full marks = Draws complete and correct FDB, interprets effect of forces on 'cart' FBD with no errors.</p> <p style="text-align: right;">/5</p>
<p>Inquiry Question #1 A1.8 analyse, interpret, quantitative data;</p>	<p>Full marks: Correctly describes & interprets graph. Provides mathematical relationship.</p> <p style="text-align: right;">/5</p>

