

Name \_\_\_\_\_  
AP Physics  
Period \_\_\_\_\_

Date \_\_\_\_\_  
Lab #1  
Mrs. Nadworny

Partners:

Due Date \_\_\_\_\_

## Acceleration on an Incline

**Lab Write-Up Required**  
use template from website

### Purpose

To determine the acceleration due to gravity using a method similar to the one which Galileo used.

### Research Question

(1)

What is the relationship between the acceleration of an object rolling down a hill and the steepness of the hill?

### Variables

(5)

- Independent Variable –
- Dependent Variable –
- Control Variable(s) –

### Derivation of Mathematical Model

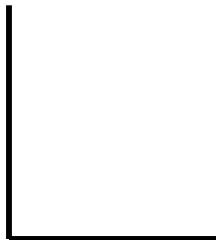
(10)

### Expected Graph

### Straightened Graph

*(if needed)*

(5)



Significance of Slope:

Expected y-intercept:

### Hypothesis

(3)

## Experimental Procedure

- **Materials**
- **Labeled Diagram** (2& 3)

- **Method** (5)

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### **Data Collection** (15)

Make a clearly labeled table for organizing the raw and processed data that you expect you will collect.

### **Data Processing** (25)

On separate paper, include an analysis of the data collected above, including sample calculations of processing the data, graphs of your data, the experimental relationship, calculations accompanying the comparisons to the math model, and a comparison to the literature value.

### **Conclusion** (10)

Write a conclusion using the general format provided on the *LAB HANDOUT* and website.

### **Evaluation** (5)

Discuss some relevant sources of uncertainty.

### **Improvement** (5)

For each source of uncertainty listed above, state a practical way to reduce it in a future investigation.

(4)  
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