Name _____
Chapter 4 Forces: Regents Physics Friction Lab

Goal: To experimentally determine the coefficient of friction between
an object (non-spherical) of unknown mass and the floor of the physics
classroom.

Materials
- Block of Unknown Mass
- Spring Scale

Procedure
How do you plan to accomplish this task? Explain below in 5 simple steps

1. _____

2. _____

3. _____

4. _____

5. _____

Data
- You will collect data from this experiment. List this data in the table below.

	Force Applied	Force of Friction	Mass	Coefficient of Kinetic Friction
Trial #1				
Trial #2				
Trial #3				

- Collect data from at least three trails and place this info in the table

Draw a Freebody diagram and label all forces

Solve for Coefficient of Kinetic Friction. Show all work below for each trial according to the following rubric.

- Original Equation – ½ pt
- Rearrange Equation and plug in numbers – ½ pt
- Units on all numbers ½ pt
- Correct final answer – 1 pt

Trial #1   **Trial #2**   **Trial #3**

Conclusion

1. Did you achieve reasonable results? **Explain reasonable.**

_____

_____

2. Would you have to change your methods if the block was accelerating? Write the equation below to account for acceleration and solve it for coefficient of friction.

3. What could you have changed about the experiment?

_____

_____

Post-Lab Question (Show all Work)

54 Using dimensional analysis, show that the expression v^2/d has the same units as acceleration. [Show all the steps used to arrive at your answer.] [2]