

## PreAP Physics Coefficient of Friction Lab

### Lab Write-Up:

1. Problem – Does the surface area of the sliding object affect the coefficient of friction of the surface it is sliding on?
2. Hypothesis – Make a guess. Explain your reasoning. It doesn't matter if you are wrong.
3. Procedure – Tell how you did the experiment so that someone else could repeat the experiment exactly as you did. Don't waste my time with a lot of words. A diagram could save a lot of words, too.
4. Data and Observations – Give your data in a table. Those things that don't change (like mass) can be placed above the table. Show one calculation to prove you know what you are doing. Do NOT give every equation – I don't care.
5. Give a force body diagram (FBD). It is just a dot with the forces acting on the dot.
6. Conclusion – it should include:
  - a. Sources of Error
    - i. If you could put “Human Error” you will lose points. “I measured wrong.” - doesn't work. You should have done it right.
    - ii. Give reasons why your experiment was hard to perform, why it was hard to measure, etc.
  - b. Tell me if your hypothesis was right or wrong and why.
    - i. Use CER – Claim with Evidence and Reasoning
    - ii. Prove your conclusion, quoting your evidence.
    - iii. Remember significant figures. How accurate was your timing, measuring, etc? So, how many significant figures can your answer have? If they are off in the hundredth or thousands positions, does that matter?