

2. **Procedure:** Write or draw a procedure for your experiment. Consider:
- What you are changing?
 - How you are changing it?
 - What you are measuring?
 - How you will measure it?
 - How will your direct measurements be used to determine other valuable unknowns?

3. **Reason for Method:** Explain how this set-up will help you determine the relationship between F_f and F_N in 1-3 sentences.

4. **Data:**
- Completed table with appropriate labels and units for...
 - "Starting" the shoe's motion

	F_g (N)	F_N (N)	F_{applied} (N)	F_f
Shoe				
Shoe with _____ weight				
Shoe with _____ weight				
Shoe with _____ weight				

ii. "Keeping" the shoe moving

	F_g (N)	F_N (N)	F_{applied} (N)	F_f
Shoe				
Shoe with _____ weight				
Shoe with _____ weight				
Shoe with _____ weight				

b. How were Normal Force and Friction calculated (since those are not values that were DIRECTLY measured)?

5. Analysis:

- a. A graph (attach graph paper) of F_f vs. F_N with appropriate labels and units for...
 - i. "Starting" friction
 - ii. "Moving" friction
- b. A calculation of the two slopes of your F_f vs. F_N graphs

c. An explanation of what those slopes represent

6. EXTRA CREDIT: Repeat steps 4 and 5 for the same shoe pulled across the rug. Complete these steps on separate paper.

7. Conclusion:

a. How do the results of your experiment reveal how friction depends on Normal Force? (Describe a mathematical relationship)

b. Explain the difference between static and kinetic friction. What did your experiment reveal about these two different types of friction?

c. Extra Credit: How do the results of your experiment reveal how friction depends on material?