Lab: Forces of Friction

365
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You will be completing a **Lab Report** for this activity!

Hypothesis: (done BEFORE you start the lab) _____

_____

_____

Pre-Lab:
What factors do you think affect the amount of friction?

Procedure:

1. Calculate the area of the brick in cm^2.
    - surface area of bottom of brick _____
    - surface area of side of brick _____
2. Attach a spring scale to a brick with a string and place it on the floor (carpet).
3. Slowly pull the brick with the felt side down on the carpet. FOR ALL READINGS, record the reading in NEWTONS of the scale at the point where the brick begins to move.
4. Slowly pull the brick with the wooden BOTTOM down. Record the spring scale reading.
    a. Repeat 2 more times
5. Lay the brick on the felt BOTTOM and pull it with the felt side down. Record your result.
    a. Repeat 2 more times
6. Lay the brick on its wooden SIDE, pull the block with the wooden side down. Record your result.
    a. Repeat 2 more times
7. Lay the brick on the felt SIDE, pull the block with the wooden side down. Record your result.
    a. Repeat 2 more times
8. Weigh and record the mass of 1 metal block and then place it on the block and repeat steps 4-7
9. Weigh and record the mass of a second metal block and then place it on the block (with the other metal block) and repeat steps 4-7

Results:

	Bottom		Side	
	Wooden (N)	**Felt (N)**	**Wooden (N)**	**Felt (N)**
No Mass				
1 block				
2 blocks				

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Analysis:

Answer these questions using complete sentences.

1. How does the surface area of the object affect friction?

2. How does the weight of an object affect friction?

3. How does the surface type (felt, wood, etc.) affect friction?

Other Requirements:

- Don't forget to include the mass of the blocks in your Lab Report
- Graph the following:
    - Force vs. Mass for ALL variables (there are 4 of them)
    - Force with 2 blocks vs. Bottom and Side (for both Wooden and Felt)