**Friction Lab**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.: \_\_\_\_\_\_\_\_\_**

**Claim:** “Two factors that affect the force of friction are the type of surfaces involved and how hard the surfaces are pushed together.” – Textbook, p. 37.

**Part A: Type of surface**

**Question:** How does the type of surface involved affect friction?

**Hypothesis:** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will require \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ force to overcome friction than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Data:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Trial 1****sandpaper down** | **Trial 2 sandpaper down** | **Trial 3 sandpaper down** | **Average force - sandpaper down** | **Trial 1****wood down** | **Trial 2****wood down** | **Trial 3****wood down** | **Average force - wood down** |
| **Surface 1: floor** |  |  |  |  |  |  |  |  |
| **Surface 2: paper** |  |  |  |  |  |  |  |  |
| **Surface 3: sand** |  |  |  |  |  |  |  |  |

Observations regarding pulling the block sandpaper side down vs. pulling the block wood side down:

**Part B: How hard the surfaces are pushed together.**

**Question:** How does how hard surfaces are pushed together affect friction?

**Hypothesis:** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will require \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ force to overcome friction than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Data:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Trial 1** | **Trial 2** | **Trial 3** | **Average force** |
| **Block alone** |  |  |  |  |
| **Block with one textbook on top** |  |  |  |  |
| **Block with two textbooks on top** |  |  |  |  |
| **Block with three textbooks on top** |  |  |  |  |
| **Block with four textbooks on top** |  |  |  |  |

**Data Analysis:** Use your average force data to create two bar graphs – one for part A, and one for part B. Be sure to include all of the necessary components of a good graph.