Activity Guide 3

Friction block

Masses

Spring Force Meter

Table top or floor

* Take care the masses are not pulled too near to the edge of the table, or simply work on the floor.
* If lubrication materials are spilled, clear up immediately

Gather data to complete the table. Test each material with at least 6 masses. Continue results table over the page if necessary.

Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Materials | Load (Newtons) | Sliding Friction Force (Newtons) | | | |
| Test 1 | Test 2 | Test 3 | Average |
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Plot graphs of Friction force (y-axis) against contact force (x axis)

Determine the gradient and the confidence limits for the gradient. The gradient is the coefficient of friction.

How does the addition of a lubricant between the surfaces change the results?

By comparing your results with others, can you suggest which factors change the friction force?