Reducing Friction

Aim: To reduce the force of friction between a lego car and a block of wood.

Hypothesis:

Which material will have the most friction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which material will have the least friction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Will you expect the same results for sandpaper for both sides of your lego car? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Results:

|  |  |
| --- | --- |
| Surface | Angle (◦) |
| Lego Side | Wheel side |
| Wood | 15◦ | 2◦ |
| Grip mat | 35◦ | 5◦ |
| Sandpaper | 60◦ | 7◦ |
| Material | 35◦ | 4◦ |
| Carpet | 25◦ | 8◦ |
| Wax paper | 10◦ | 2◦ |
| Transparent sheet | 23◦ | 3◦ |

Draw a bar graph showing the results from the table above.

Discussion:

1. List the following variables:
2. Controlled

(b) Independent

(c) Dependent

1. Draw arrows and labels of the forces acting on the lego car



1. Which surface had the most friction acting on the lego car? Explain why.
2. Which surface had the least amount of friction acting on the lego car? Explain why?
3. Why were your results different for lego side and wheel side of the car? Which side has the least amount of friction?

Conclusion: Summary paragraph relating friction to surface