

Activity #2 - Friction Ramps

In this activity, we will have some fun exploring the way that **friction** affects moving objects. This fun activity can be done in a variety of ways, so choose whatever works best for your family.

First, here are some important friction facts:

- Friction is a force that is created when two surfaces/objects rub against one another.
- Friction slows down and/or stops an object's movement.
- Smooth objects create less friction, and rough objects create more friction.

Are you ready to investigate friction? Let's get started!

Materials Needed

- A sliding board or a ramp*
- Items to test (a toy car, smooth and "nobby" balls, a pine cone, a rock, etc.)
- Optional: water, sandpaper, oil, bubble wrap, etc.
- Optional: ruler, stopwatch

**Use a cardboard box, a piece of plywood, or anything else you have at home*



You can now test how much friction different items produce when they move down your sliding board or ramp:

- Put each item at the top of the slide or ramp, and let it roll or fall down on its own.
- Measure how far it went, and/or use a stop watch to see how many seconds the item took to either stop moving or reach the bottom.
- What kind of items slide the best? Which slide the worst? What does this tell you about friction?

More Options:

Vary the amount of friction created by adding water, sandpaper, bubble wrap, vegetable oil, or other items to the surface of your slide/ramp. Then observe how these changes affect how far the items move and how fast they go!

Additional Resources:

<https://www.ducksters.com/science/friction.php>