

Ask Me About Force and Motion!

Today, an instructor from the Discovery Museum in Acton visited my classroom and led a hands-on program about force and motion.

Ask me to tell you about some of the fun toys I experimented with such as the ramp walker or spinning top. How did I make them move? I also explored how to make moving things slow down, stop, or change direction. Ask me to tell you what I learned about friction while wearing socks on my hands!

Let's discover more about force and motion with the activity below.



Balls on the Move

What you need:

- a small ball or marble
- scissors
- masking tape
- cardboard tubes from toilet paper, paper towels, or wrapping paper
- "tracks" made from 2" x 6" strips of stiff paper or cereal boxes folded in half the long way*
- a kitchen chair or large cardboard box to serve as a base to which you can secure your tubes and ramps with tape
- an adult to assist

* You can vary the length of your tracks. Experiment with mixing shorter and longer tracks!

What you do:

Create an interesting path of tubes and ramps for a ball or marble to travel along from the top of your chair or box to the bottom.

1. Choose a location at the top to be your starting point and a point at the bottom to be the endpoint.
2. Using masking tape, position and secure the tubes and tracks in place between your start and endpoints, so that a ball released at the top of the box or chair will travel, possibly back and forth, eventually reaching the bottom endpoint. The path is up to you!
3. Secure your tubes and tracks one at a time, releasing the ball at the top each time you position a new track piece, to test the path it takes.
4. Adjust your tubes and tracks as needed to ensure a continuous ride from start to finish.

Part of the design and engineering process involves tweaking and adjusting your original plan. Perseverance is key to success. When you fail the first, second, and third time, keep on trying! If you succeed with one track design, challenge yourself to create another path! Maybe try adding a little uphill section too! See where your imagination and force and motion take you!