Ask Me About Simple Machines!

Sparking Discovery in the Classroom

TRAVELING SCIENCE WORKSHOPS

DISCOVERY MUSEUM

Today an instructor from the Discovery Museum in Acton visited my classroom and led a program about simple machines. One type of simple machine is a lever.

Ask me how the smallest child in the class lifted the teacher and how I was able to lift a heavy load using just the force of my little finger.

Let's identify household levers we use everyday, such as faucet handles and scissors, and I will show you the location of the load, effort, and fulcrum.

Together we can discover even more by building the catapult described below.

Build a Catapult

What you need:

- a wire coat hanger
- 2 thick rubber bands
- a plastic spoon
- a pair of pliers
- a small ball of paper

What you do:

1. Lay the hanger on a table and bend the "wings" of the hanger up vertically.
2. Squeeze the tip of each wing so it is thinner and bend them slightly out.
3. Slide a rubber band over the two wings, stretching it between them.
4. Slip the handle of a plastic spoon between the rubber band, and wind to twist the band.
5. When the band is wound tightly, slide another rubber band over the tips of the coat hanger so it hits the spoon where the bowl joins the handle.
6. Adjust the twisted band to about 1 ½" from the end of the spoon handle.
7. Place a small ball of paper in the bowl of the spoon. Pull back on the bowl, and release.

Notice how far the paper travels and in what direction. How can you adjust the catapult tochange these outcomes? Experiment with using a thicker or thinner rubber band or a different type or size of spoon.