Curiosity Guide #210
Mechanical Energy

Accompanies Curious Crew, Season 2, Episode 10 (#210)

Mini Marshmallow Launcher

Investigation #6

Description

Have a blast making this neat little launcher. How far will your marshmallows go?

Materials

- Plastic cups
- Scissors
- 9-inch round balloons
- Packing tape
- Mini marshmallows or pompons

Procedure

1) Knot the deflated balloon.
2) Cut the top off the balloon, saving the knotted base.
3) Cut off the bottom of the plastic cup.
4) Stretch the balloon over the cup cylinder. Make sure the knot is centered.
5) Securely tape the overlapping balloon around the sides of the cup.
6) Place a mini marshmallow in the cup.
7) Pull down on the balloon knot. The marshmallow should fall into that space.
8) Release the balloon and watch it fly.
9) How far can the marshmallow travel?

My Results

Explanation

Pulling back on the balloon membrane builds up **elastic potential energy**. When the balloon is released, it moves back into place with **kinetic energy**. The kinetic energy transfers to the marshmallow, causing it to fire out of the cup. The force applied to the marshmallow is an example of **mechanical energy**.

Something more to think about: Elastic potential energy is easy to see in a stretched balloon or rubber band, but we also see it when we hit a tennis ball with a racket. The ball changes shape when the racket strikes it. And for just a moment, the ball has elastic potential energy before it springs back as kinetic energy.

Springs are also used for elastic potential energy. When a jack-in-the-box is pushed into its box, it compresses a spring and stores up potential energy. When it's released…Pop!!... goes mechanical energy!

Parents and Educators: use #CuriousCrew #CuriosityGuide to share what your Curious Crew learned!