



Summer 2020 Lesson

Class: Innovation Club

Grade Band: Grades 2-6

Teacher: Mrs. Richey

Lesson: Cardboard Tube Flinger

Objective: Learn about potential and kinetic energy while flinging a marshmallow across the room! Pull the plunger back to harness potential energy, release it to create kinetic energy!!

Materials: 2 toilet paper tubes, (one needs to be decorated), single hole puncher, scissors, markers, pencil, 2 thin rubber bands, marshmallow or small fluffball

Process:

1. Cut a cardboard tube in half lengthwise and tape it back together so the diameter is reduced by half.
2. Punch one hole on either side of the small tube, about half an inch from one end, then push a pencil all the way through both holes.
3. Cut 2 small (about $\frac{1}{4}$ inch) slits, finger distance apart on either side of the larger tube that you decorated with marker. Hook one thin rubber band into each set of slits.
4. Slide the smaller tube into the larger tube, with the pencil sticking out at the bottom with the rubber bands on top.
5. Hook the rubber bands down and around on each side of the pencil.
6. Put a marshmallow, fluffball, or small ball into the opening at the top of the large tube.
7. Pull the pencil towards you and release it to let your marshmallow soar!!
8. Be sure not to aim your marshmallow towards anyone!!

Vocabulary: Plunger (small tube that moves inside a large tube to push something out), grip (a strong hold you will keep on your large tube), potential (stored) energy, kinetic (motion) energy, force (an interaction that will change the motion of an object).