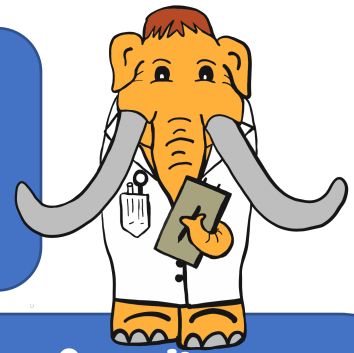


# Science Saturday @ Home

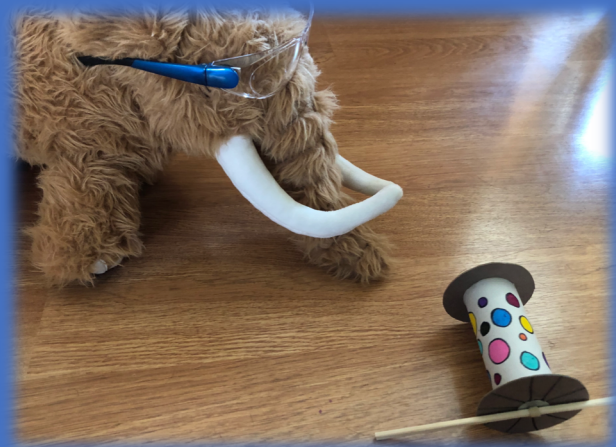
## Rubber Band Racer



### Gathering Supplies:

Cardboard Tube  
Piece of Cardboard  
Small Metal Washer  
Rubber Band (3-4 inches long)  
Roll of Tape  
Chopsticks or Pencil  
Scissors  
Sharpen Pencil  
Toothpick  
Craft Glue

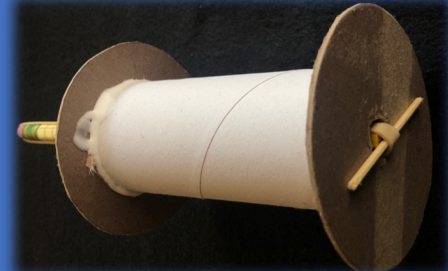
Let's use potential and kinetic energy to get this racer moving!



Now it's your turn!

## How To Steps:

- 1: To make the wheels, trace 2 circles onto a piece of cardboard using a roll of tape or a jar lid. Make sure the wheels are wider than the cardboard tube.
- 2: Have an adult help you cut a hole into the center of each wheel, about the size of a dime.
- 3: Glue a wheel onto each end of the cardboard tube. Let it set while the glue dries.
- 4: Have an adult help you break off both pointy ends of a toothpick.
- 5: Pull the rubber band around a pencil, like in the picture. Then put the pencil with the rubber band through both holes in the wheels. Put the toothpick through the loop at one end of the rubber band and tape it in place on the wheel.



6. On the other end, pull the rubber band away from the pencil and remove the pencil. Put the rubber band loop through the washer and then slide a chopstick or unsharpened pencil into the loop.
7. Decorate your racer if you would like. Now time to get racing! Twist the rubber band by spinning the chopstick. After about 20-30 twists set the racer down and see how it moves! Race your racer with other family members!

## Did You Know?

Energy is what makes everything work and move, from walking down some stairs to a ball bouncing. Energy cannot be created or destroyed but can be stored or transferred.

Two types of energy that work together are Potential energy and Kinetic energy. Potential energy is the amount of energy that an object has stored to work in the future. This is based on its position and condition. You have more potential energy when sitting at the top of a slide than sitting at the bottom. While an object is in motion it has Kinetic energy. This is the ability to cause change. So while you are on top of the slide you have potential energy but then the energy transfers to kinetic energy when you slide down the slide.

You can also think of the rubber band in your racer. While you twist the rubber band you are building up potential energy. The more twists the greater the energy stored. When you let the racer go, the rubber band's potential energy is transferred to kinetic energy as your racer moves across the floor.

Can you think of other examples of potential and kinetic energy?

