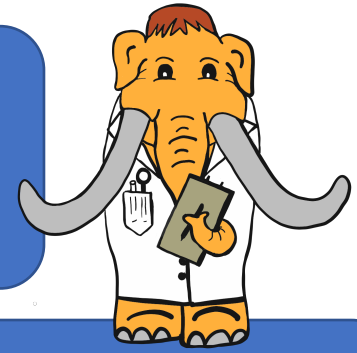


Science Saturday @ Home

Building a Balloon Car



Gathering Supplies:

Cardboard Tube

Straw

Tape

Balloon

Thumb Tack

3.5-4 inch Toothpicks or Skewers

Scissors

Rubber Band

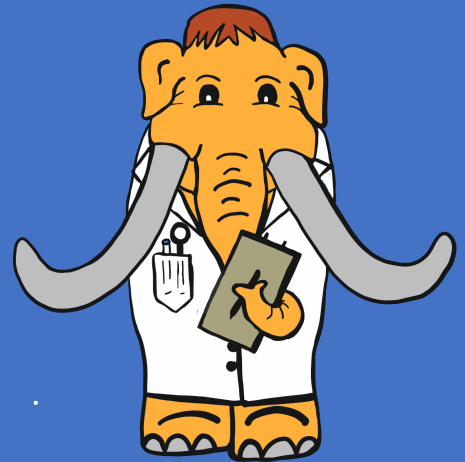
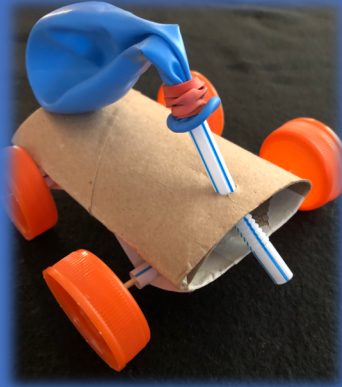
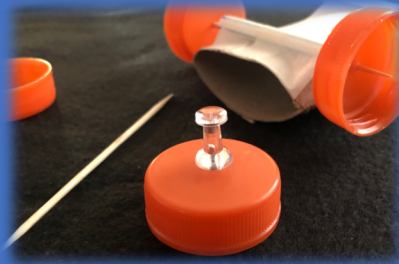
4 - Bottle Caps

Hole Punch (Optional)

How To Steps:

1. Flatten your cardboard tube, and cut the straw into 3 equal pieces.
2. Tape two of the straw pieces into one side of the cardboard tube.
3. Have an adult punch a hole into the center of each of the bottle caps using a thumb tack.
4. Gently push the end of one of the toothpicks into the hole in the bottle cap.
5. Slide the toothpick through the straw and push the other cap onto the other end of the toothpick. A little glue or clay can help hold the toothpick in place if needed. Make sure that the wheels spin freely from the cardboard tube.
6. Repeat the same steps for the other set of wheels.
7. Use the hole punch to make a hole in the top part of the cardboard tube on one end. Make sure it is big enough to fit the 3rd straw piece into.
8. Put the balloon over one end of the straw and hold in place with a rubber band.
9. Slide the straw with the balloon into the hole so that the other end of the straw is pointed towards to ground.
10. Blow up the balloon while holding on to the rubber band. Squeeze the balloon shut while placing the car on the ground. Let go and watch the car go! Decorate your balloon car and have fun racing it.

Max's Balloon Car Build!



Did You Know?

Newton's Third Law of Motion states that for every action there is an equal and opposite reaction. This is what we see in our balloon cars!

When we blow up the balloon we are transferring energy into it. When we let the balloon go, the energy that was stored in the balloon pushes the balloon car, generating thrust. The thrust propels the car across the floor.

The amount of energy you blow into the balloon equals the amount of thrust created when the air is released. An equal and opposite reaction, just like Newton said!

Can you adjust the amount of energy you transfer into the balloon to create more or less thrust? Do balloons with more energy move the car faster? When you are constructing the car, does the size of the wheels or placement of the wheels change how the car moves?