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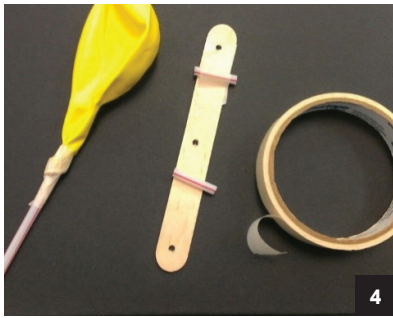
STEM CHALLENGE

BALLOON CARS

WHAT MAKES THIS STEM?

Balloons are elastic and store **potential energy** when they are filled with air. When the air is released, the potential energy is converted into the energy of motion, which is also known as **kinetic energy**. This is the energy you see when the car is propelled forward.

MATERIALS



- Tongue depressor
- 1 Straw
- 1 Boba Straw
- 2 Wooden Dowels
- 4 Wheels
- 1 Balloon
- Tape*
- Scissors*

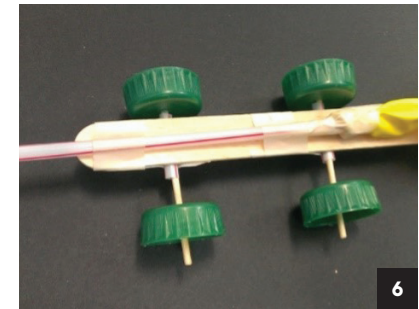
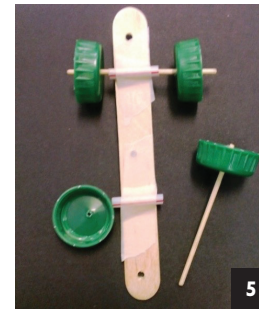
*These materials are not provided in the kit. If you would like to make your kit in the library, ask a librarian to use their craft materials.

HOW TO DO IT

Take one straw and cut 2 short pieces about the width of the tongue depressor.

1. Take the boba straw and cut two short pieces about the width of the tongue depressor. Save the rest of the boba straw if you have not yet made your Straw Rocket.
2. Tape one short piece of boba straw onto the tongue depressor about 1/3 of the way down its length.
3. Tape the other short piece of boba straw onto the tongue depressor about 2/3 of the way down its length.

4. Insert the uncut straw into the balloon and tape the open end of the balloon to the straw, making sure there are no holes for air to escape except through the straw.
 - a. Test this by blowing into the straw. The balloon should inflate.
5. Insert a wooden dowel through each of the short boba straw pieces and attach wheels to each of the 4 dowel ends.
6. Attach the balloon and straw to the top of the car with tape. Make sure the straw goes past the edge of the tongue depressor so there is enough room to blow into the straw.
7. Blow into the balloon, block the open end of the straw, set down your car, and let go. Watch as the car takes off!



CHALLENGES

- What happens when you blow the balloon bigger or smaller?
- How can you make the car travel further or take off faster?



For easy video instructions
and other challenges, visit
on.sfpl.org/stem-challenge.

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