

# Stay at Home Science



## Balloon Skewer

### What You Need

Balloons  
Sharpened wooden cooking skewers  
Dish soap or vegetable oil  
Eye protection

### What You Do

1. Inflate and tie off a balloon. Look closely at the top and base of the balloon. *Does the rubber at the top and bottom of the balloon look different from the sides?*
2. Coat the sharpened end of a wooden cooking skewer in dish soap or vegetable oil.  
**Safety First!** Protect your eyes with safety glasses when working with sharp objects and potentially popping balloons.
3. Hold the balloon by the sides, being careful not to jab your hand or the sides of the balloon with the skewer. Carefully pierce the skewer into the base of the balloon next to the knot.
4. Push the skewer all the way through the balloon, exiting through the top where the rubber is thicker.

### Questions to ask

- *Why do you think the balloon didn't pop?*
- *What do you think would happen if you pierced the sides of the balloon?*

### What's the Science?

Balloons are made of long strands of molecules called polymers. The elasticity of these polymers is what allows rubber and plastic to stretch and bend. By piercing the balloon at the top and bottom, where the polymers are the least stretched apart, the long strands of molecules are able to slide and stretch around the skewer without tearing the balloon.

### Try This

**Use science vocabulary:** Use related science words such as polymer and molecule as you talk and experiment together. Children learn new words when they hear grown-ups use them in context.

**Extend your experiments:** Can you find a way to push a skewer through the weaker sides of a balloon?

*Hint: Trying using clear tape!*

### Keep in Mind

- Children are natural scientists; let them lead the way in their experimentation! Encourage them to ask questions and make suggestions only when they are stuck/discouraged.
- The order suggested is not the only right or perfect way. Adjust the activity based on the age, ability, and interests of the children.

### Additional Resources

*Balloon Trees* by Danna Smith

*Scholastic Study Jams - Atoms:* <http://studyjams.scholastic.com/studyjams/jams/science/matter/atoms.htm>

