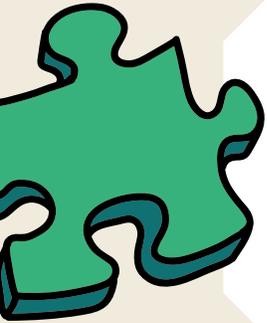




## MAKE MILK PLASTIC

### PHENOMENON:

Milk contains proteins that are sensitive to different materials that affect their behavior.



### CHALLENGE:

Turn the proteins in milk into a plastic-like material.

### INSTRUCTIONS:

- Add 1 cup of milk to a microwaveable bowl and microwave for 1.5 minutes.
- Stir in 4 tablespoons of white vinegar; stir for 1 minute. The milk will start to form clumps!
- Pour into a strainer. Use your spoon to push the liquid out.
- Transfer to a paper towel and continue to press out the liquid.
- Mold the plastic into a shape by hand or with a cookie cutter.
- Set the formed plastic aside and let it dry for 2 days.



### BEHIND THE SCENES:

This activity doesn't produce an actual plastic, but instead a substance called casein. Casein comes from the Latin word meaning "cheese" and is one of the several proteins that are found in milk. The acid from the vinegar does not mix with the casein in the milk, causing clumps to form. Basically your end product, the milk "plastic", is the casein proteins from the milk all clumped together.

