

JR-SCIENTISTS

MILK PLASTIC

Earth-friendly and kid-friendly science, make milk plastic!

INSTRUCTIONS:

STEP 1: Add 1 cup of milk to a microwave safe bowl and heat for 90 seconds.

STEP 2: Mix in 4 tablespoons of vinegar and stir for 60 seconds.

STEP 3: Pour into a strainer and press out all the milk.

STEP 4: Press paper towel into a strainer to remove any leftover milk.

STEP 5: Lay out a piece of paper towel, place a cookie cutter onto the paper towel and press your vinegar milk into the cookie cutter and let set for 48 hours.

STEP 6: Wait the 48 hours and color with a sharpie.

THE SCIENCE

Really, this milk and vinegar experiment does not produce real plastic. The new substance is casein plastic. If you want to explore real plastic polymers, try some homemade slime! [Click here to read all about making homemade slime for easy science.](#)

This plastic-like substance forms from a chemical reaction between the milk and vinegar. When the protein in the milk called casein comes in contact with the vinegar, the casein and vinegar do not mix but rather the molecules move around and join forces to make the casein plastic!

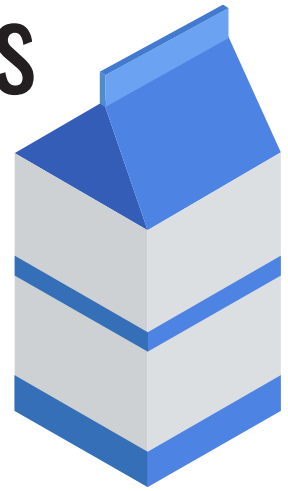
SUPPLIES

Milk
Vinegar
Sharpies
Cookie cutters
Strainer
Paper towels

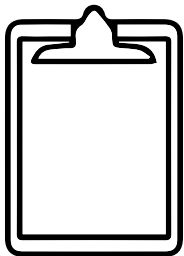


Plastic Milk Observations

Use this worksheet to process and evaluate your work.



What do you think will happen when you add vinegar and milk together?



RECORD

What did you observe ?

Try different types of milk: low fat, full fat, skim. How did they behave?

Try lemon juice instead of vinegar. What happened?
