

FANTASTIC PLASTIC

Make your own plastic using common household items!

What you need

- milk
- kitchen strainer
- small bowl
- paper towel
- vinegar
- plate
- measuring spoons

What to do

1. Mix 1 tablespoon of vinegar with 2 tablespoons of milk in the bowl.
2. Stir it slowly with the spoon until the milk curdles.
3. Spread a paper towel in the bottom of the strainer.
4. Holding the strainer over the sink, pour the milk and vinegar mixture into the strainer.
5. Let the liquid go through the strainer, until there is just a white solid substance left behind.
6. Use more paper towels to squeeze out as much liquid as you can from the solid left in the strainer.
7. Pick up the solid pieces that are left in the strainer.
8. Squeeze them into a ball with your hand.
9. Shape the solid into a flat disk, like a hockey puck, and put it onto the plate.
10. Allow it to dry for a few days.

Observation

- What happens to the milk after the vinegar is added?
- What does the solid ball feel like?
- What does the solid disk feel like when it is completely dry?

Why?

Milk has protein called casein. You have used the casein to make plastic. By adding vinegar to milk, the acid in the vinegar caused the casein to clump together, forming curds. The liquid you threw out was the whey. (Remember Miss Muffet's curds and whey?) The plastic became hard when the curds dried out. Casein plastic is used to make glue, paints and paper.

Did you know?

The first synthetic plastic was made in the 1860s to replace the use of materials such as ivory, which were becoming scarce. Today, the uses for plastic range from parts aboard the space shuttle to toys and shoes.

Plastic can be recycled. There are two types of plastic that are recycled more than others: those that make plastic pop, juice, water or milk bottles and the bottles for household chemicals and detergents.

For plastic to be recycled it must be collected, sorted by type and compacted. The sorted plastic is chopped, cleaned and left as plastic flakes, melted into plastic pellets or reprocessed chemically.

Recycled plastic can be found in ketchup bottles, carpets, clothes, videocassettes and disposable diapers. Plastic is everywhere – in toys, in clothes, in bags, in the containers that hold our foods.

