



## Milk Plastic

### You will need:

Saucepan, milk, white vinegar, measuring cup, desert spoon, Chux cloth, wooden spoon, paper towel, sandpaper

### What to do:

1. Measure out 100ml of milk and place in the saucepan
2. Heat the milk slowly but remove from the heat before any bubbles appear
3. Add 1 desert spoon of white vinegar and stir gently
4. Place the chux cloth over the measuring cup and pour the mixture through
5. Gently squeeze the cloth to remove excess liquid (whey)
6. Mould the curds in your hand and flatten it out in to any shape
7. Leave to dry on a folded paper towel in the sun for a few days
8. When dried out you can smooth and polish it with sandpaper



### Take it further:

You could make it into a really good investigation by finding out:

Will more vinegar make more casein?

Will you get the same results with different sorts of milk eg. Low fat, soy milk?

Would other acids like lemon or orange juice work?

### The Science:

Plastics are artificially made polymers, here you have made a plastic from milk by separating out the protein casein from the milk using an acid. Casein was one of the earliest plastics made and was used for things such as buttons and knitting needles.