

Making soft plastic

Make weak plastic strands, similar to the strands made in plastic manufacturing, using vinegar and milk.

In the Classroom

What you need

A glass beaker, a bottle of vinegar (spirit vinegar is best because it is colourless), full-cream milk, a plastic pipette and a fine sieve or cheesecloth.

What you do

What do you know about plastic?

Fill the beaker with vinegar and hold it up.

Squirt some full-cream milk into it from the pipette.

Sieve the resulting mixture using the sieve or cheesecloth.

What happens

You make curious plastic fibres that are quite different from their constituent materials. The strands that are created have no great strength and can be easily shaped or moulded.

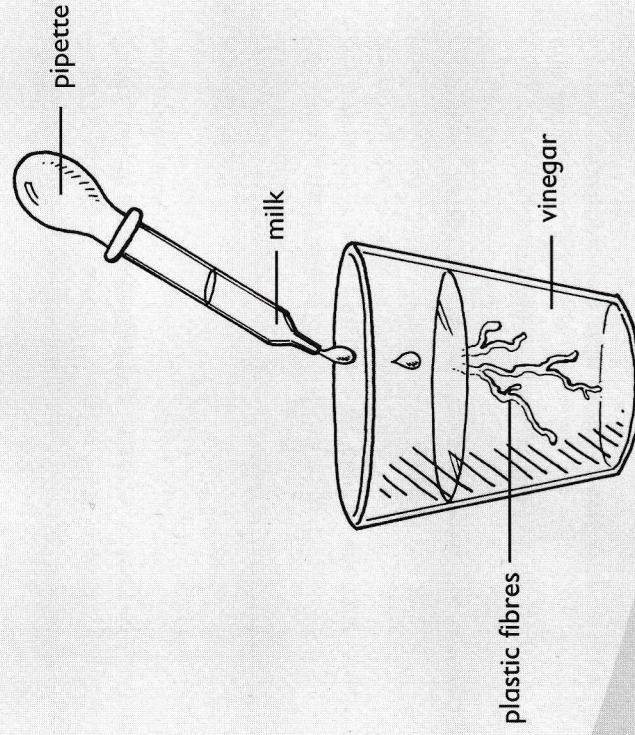
Background Information

Why it happens

The milk reacts with the vinegar, producing a simple 'plastic' material. The material is a protein from the milk called casein. It is separated out from the milk by the vinegar, which is a weak acid.

By the way

Casein is still used commercially in glues, cosmetics and to put a shiny surface on some papers.



Curriculum links

KS2 Sc3 2f. QCA SoW 5D Changing state, 6D Reversible and irreversible changes
Envl Sc/Science/E&S/CM/Level C/Target 1