

## Making a composite

A composite material is made of two or more materials combined to produce a more useful or desirable set of properties. You are going to make a composite from fabric and a flour and water paste. The properties of the composite can be compared to the properties of the individual materials.

### You will need

- Strips of fabric, about 5 cm x 3 cm
- Flour
- Water
- Oil or Vaseline
- Mixing pot
- Spoon or spatula
- Plastic pot as mould for composite
- Two other plastic tubs as moulds
- Cling film
- Newspaper or old magazine

### What you do

Put some flour into the mixing pot and add a little water. Mix the flour and water, adding more water slowly until the mixture looks like thick cream.

Grease the outside of the tub you are going to use as the composite mould.

Dip a strip of fabric into the flour water mixture, get it well coated and then drape it over the composite mould. Continue adding strips of fabric until the mould is covered.

Add a second layer of flour-soaked fabric. Try to get the fabric strips lying in the opposite direction.

Add a third layer.

Place a piece of cling film on top of a newspaper or magazine and carefully transfer your composite to the cling film.

Take another tub. Don't grease it, but try to cover it with a thick layer of the flour paste. Some may slip off, but don't worry about that. Add this tub to the cling film – not touching the composite covered tub.

Leave the tubs to dry in a warm place for at least two days. If you can turn the composite tub over after a day or two it will help it to dry faster.

### When the composite has dried

Carefully remove the plastic tub from the dried composite. You may need to bend the tub inwards to separate it from the composite.

## To do

- 1) Make a table to compare the properties of the composite to the two separate materials: dried flour paste and fabric pieces.
- 2) Suggest some possible uses for the dried flour paste, the fabric pieces and for the composite.
- 3) Which do you think will have the most uses and why?