

# 3A Keeping clean



Do you like to smell good and feel clean? If so, you probably use soap!

Muslims have been creating sweetly-scented soaps, perfumes and deodorants for more than a thousand years. They made hair dye and curling lotion, too. Europeans began washing regularly with soap less than 300 years ago.

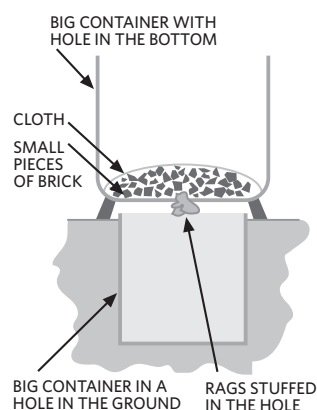


Soap is made in a chemical reaction of an alkali with a fat or oil. There are the remains of an eighth-century soap-making works in Syria. Al-Razi, who died in 925, gives a short recipe for making soap in one of his books. The Arabic word for soap is saboon.

The earliest detailed recipe for soap making is more than 700 years old. It was written down by a Yemeni king. The description is clear enough for someone to use today. The words and pictures summarise the recipe and explain the science behind each step.

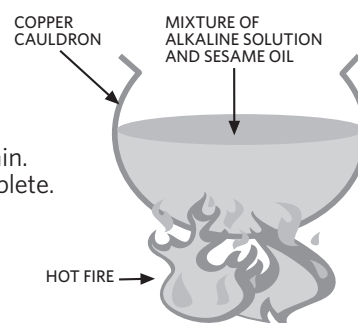
## Make an alkaline solution

- 1 Set up this apparatus.
- 2 Put wood ash, lime (calcium oxide) and water in the top container. Leave it overnight. The lime, and chemicals from the ash, dissolve to make an alkaline solution.
- 3 Take the rags out of the hole. The cloth filters the solution. The solution flows into the lower container.



## React the alkaline solution with sesame oil

- 4 Add half the solution from stage 3 to an equal volume of sesame oil.
- 5 Beat the mixture for one hour until it thickens. Leave it for 2-3 days.
- 6 Put the mixture in a copper cauldron. Heat it over a hot fire. Stir so that it doesn't burn.
- 7 When the mixture thickens, add more alkaline solution from stage 3. Heat it again. Repeat this stage until the soap is a very thick liquid. The chemical reaction is complete.

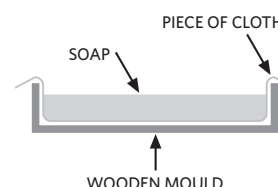


## Mix perfume with the soap

- 8 Add perfumes to the soap, and saffron to colour it yellow. This makes a mixture. There is no chemical reaction at this stage.

## Let the soap harden

- 9 Make a wooden mould. Put a piece of cloth in it.
- 10 Pour the soap into the cloth. Leave it to harden for a day and a night.
- 11 Cut the soap into pieces with a knife.



For many years, Muslim traders took soap to Europe, Asia and Africa. It was very valuable. As more people used soap, hygiene and health improved. Today, techniques similar to those of the early Muslims soap-makers are used all over the world.