

## Emulsifiers

Download the teacher notes, PowerPoint presentation and student workbook that accompany this resource from [rsc.li/3cpvP4k](https://rsc.li/3cpvP4k).

Read our health & safety guidance, available from [rsc.li/3IAmFA0](https://rsc.li/3IAmFA0), and carry out a risk assessment before running any live practical.

The safety equipment suggested is in line with CLEAPSS requirements. For non-hazardous substances, wearing lab coats can help to protect clothes. The safety rules might be different where you live, so it is worth checking local and school guidance.

Be aware of any allergies before carrying out the activities.

### **Demonstration: why does soap clean?**

#### **Equipment**

- Water
- One plastic bottle (with lid)
- One bottle of vegetable oil
- One bottle of liquid soap
- Food colouring

#### **Acknowledgements**

This resource was originally amended and adapted by the University of Reading to support outreach work delivered as part of the Chemistry for All project.

To find out more about the project, and get more resources to help widen participation, visit our Outreach resources hub: [rsc.li/3CJX7M3](https://rsc.li/3CJX7M3).

## Activity 1: making hand cream

This list assumes a class of 30 learners working in pairs/small groups of three.

### Equipment

- 30 × 250 ml/100 ml beakers
- Large plastic tub(s) to use as hot water bath big enough to fit all beakers inside
- 15 × stirrers
- Several kettles
- One bag of ice
- 15 × 50 ml measuring cylinders
- Three or four balances
- 15 × 4 g petroleum jelly
- 15 × 4 g coconut oil
- 1 litre of lecithin solution (4 g/100 ml)
- Five 'essential oils'
- 15 × large sample vials
- 15 × spatulas

## Activity 2: analysing hand cream using a microscope

This list assumes a class of 30 learners working in pairs.

### Equipment

- 15 × microscopes
- 15 × microscope slides
- 15 × cover slips
- 15 × spatulas