

Custard

Download the teacher notes, PowerPoint presentation and student workbook that accompany this resource at rsc.li/3zcwpLy.

Read our health & safety guidance, available from 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.

Acknowledgements

This resource was originally developed 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.

Activity 1: custard slime

The following equipment is needed for 30 learners working in pairs.

Safety goggles should be supplied for all learners.

Equipment

- 15 × 250 ml glass beakers
- 15 × metal spoons or spatulas
- 15 × 25 ml measuring cylinders
- 15 × trays in which to work and contain mess
- Blue paper roll
- Mass balances
- Tap water

Preparation

- 600 g custard powder

Provide a sufficient number of balances for learners to measure out 25 g of custard powder in a reasonable period of time.

At the end of the practical, learners should tidy and clean up.

Disposal

Where possible, dispose of the custard slime as a solid or wash it down sinks with plenty of water.

Activity 2: custard bomb demonstration

There are different ways in which this demonstration can be completed.

The video and guidance available at rsc.li/3PI1hQD will be helpful as they provide teacher guidance for each stage, including the safety considerations and how you can set up the equipment to achieve the best results.

Equipment

- 1 × clamp stand with clamp and boss
- 1 × custard bomb (tin with sealed tubing and candle)
- 1 × small sieve
- 1 × foot pump
- 1 × lighter
- 1 × blow torch
- 1 × plastic funnel

Preparation

- 300 g custard powder

Safety

Always practise this demonstration in advance and do not let learners conduct it.

CLEAPSS members should consult SRA002, available from bit.ly/3JCmiVU. The quantities and method used should be as outlined above and not deviated from.

Use safety screens to protect the demonstrator and audience. The safety screens should be positioned close to the can so that the lid is only able to escape vertically.

Eye protection must be worn by the demonstrator, and learners must be at least 2–3 metres away.

Disposal

As there is an inhalation risk associated with the powders that can be used in this demonstration, care must be taken to avoid disturbing any unreacted dust when disposing of the remains after the demonstration.