

Large molecules

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

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.

This list assumes a class of 30 learners.

Note, the effects of cross-links in polymers can be shown using the PVA polymer slime investigation. This experiment is easy to set up and can be done in 30 minutes. Find the method for this experiment at rsc.li/42nBbm1.

Acknowledgements

This resource was originally developed by Liverpool John Moores University 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: modelling polymerisation

Equipment

- 30 × 30 cm rulers

Preparation

- Print out enough carbon (C) cards from the 'Polymer letters' PowerPoint for one per learner. You could print these on thin card, cut and laminate for future use. Tie strings to the carbon cards so learners can loop these around their necks.

Activity 2: polymerisation

Equipment

- Mini whiteboard and marker pen for each learner.

Activity 3: thermosoftening polymers

Each pair/group of three learners will need:

- 10 g polymorph
- 250 ml beaker
- Very hot water – from boiled kettle
- Glass stirring rod
- Safety glasses (per learner)
- Heatproof gloves (per learner)