

How to make slime



Age 11+
(adult supervision)



20 minutes

Details

What you need

- PVA glue
- Borax
- Cups
- Food colouring
- Stirrers
- Student Sheet 1c:
How to make slime

Safety and Guidance



Precautions

Borax is toxic and should not be consume or touched with bare hands.

Ensure students do not ingest mixture and that they wash their hands if they have come in contact.

Overview

In this activity students will discover how a change in the structure of a molecule can change the physical properties. Students will mix PVA (Polyvinyl Acetate) with borax. The borax creates cross links between the PVA molecules. This extends the PVA molecules and result in the new substance having a firmer texture.

Preparation

For faster results ask technicians to add the raw ingredients to the cup with a stirrer. This allows students to simply stir and observe the changes.

Running the activity

1. Add 125ml PVA to the beaker.
2. Add 2 teaspoons of borax.
3. Mix with a stirrer.
4. The mixture can become firm and hard, like the texture of fat. If the mixture becomes too thick, add up to two table spoons of water. This will give the desired slime texture, which can be stirred and poured easily.
5. Add food colouring (optional).

Guidance for discussion

- Explain to students that they will be mixing PVA (a polymer) with borax (a smaller molecule).
- Ask students when doing the practical that they observe changes in the physical properties.
- Remind students that oil, a liquid, is converted to plastic, a solid. This happens through increasing the chain length through polymerisation. Then ask them to predict what might be happening to the length of the molecules in the PVA and borax mixture.

Expected results

In this activity students create a polymer. They should observe that by adding borax to PVA the consistency changes. This is analogous to oil changing to plastic, as oil goes from being a liquid to being a solid. Students should recognise that by increasing the length of the molecule in both oil and our PVA-borax mixture we can change their properties.