

Investigating the properties of poly(caprolactone) – teacher/technician notes

Education in Chemistry

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This experiment accompanies the above article 'Body, heal thyself'.

Background

Poly(caprolactone) is available to buy as instamorph/polymorph. It is often found in smart materials kits. It can be infinitely reused; simply place in boiling water to soften.

In this experiment pupils test the bounce of the polymer used by Julian's team, poly(caprolactone). The experiment is simple and gives excellent results for discussion

The aim of the kitchen roll tube apparatus is to provide a controlled space for the bounce so it can be measured.

Apparatus

- Poly(caprolactone)
- Kitchen roll tube
- A4 paper
- Ruler
- Scissors
- Glue stick
- Clamp and stand
- Thermometer
- Beaker of hot water / water bath
- Beaker of ice

Sample results

Mass of poly(caprolactone) = 5 g

Temperature (°C)	Bounce height (cm)		
60	7	7	6
40	6	8	6
25	12	13	12
10	14	15	10

