

FANTASTIC PLASTIC: WHAT'S THAT POLYMER?

Different polymers have different properties. And sometimes one polymer can have different properties depending on how it is processed. It is important that the right properties are chosen so that the object performs properly – imagine a cup that melts when you pour tea or coffee into it!

For this activity you will need to observe the materials in two different groups of objects.

Task A

Different ways of using polystyrene

1. Look at each object in the first group in turn. Decide what it has to do and what properties the polymer has that makes it able to do the job.
2. Make a table that shows the job of the polymer and which properties are most important when choosing the polymer – for example melting point, hardness, brittleness, flexibility, insulation, density, cost, etc.

Task B

Properties and molecular chain length

To compare the properties of the materials, you will need to make each sample into a cylinder of approximately the same size.

3. Look at each object in the second group in turn. Decide how they are different from each other.
4. Try to use the idea of different molecular chain lengths to explain why these items have different properties.

