

# SCIENCE & TECHNOLOGY

## Plastics

The first synthetic (entirely human-made) plastic was produced in the early 1900s. Today it is one of our most useful and adaptable materials. There are hundreds of different kinds of plastics, in all sorts of different colours, and with all sorts of different properties, from strong and hard to soft and flexible. Most plastics melt when they are heated, so they are easy to mould into any shape. This makes them useful for many different things.



When was the very first plastic made?

What happens to plastic when they are heated?

### PLASTICS EVERYWHERE

Plastics are extremely useful, and our lives would be very different without them.

Plastics are waterproof and do not rot away, making them great for storing liquids. They can be easily cleaned, making them safe and hygienic for preparing and storing food. They can be made into almost any shape, so can be used to make machines and toys. And they can take on bright colours in almost any shade.



What do you have that is plastic?



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## SOFT AND HARD PLASTICS

Plastics usually contain several other chemicals, called additives, to give them different properties. Some are mixed with hardeners so they are tough and resist scratching. Others have softener additives so they will squash and bend easily, then spring back to their original shape, like natural rubber.



Soft plastic toy



Industrial hard plastic pipes

Give me an example of a hard plastic?



## SEE-THROUGH PLASTIC

Lighter than glass, and much less fragile, transparent plastics are ideal for everything from windows to water bottles. We can see through these plastics because of the way their molecules are arranged. All plastics are made up from long chains called polymers. If these polymers all line up side-by-side, the plastic becomes see-through.

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