

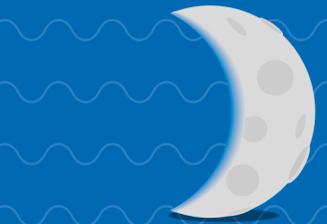
# The lifecycle of a plastic bottle

In the UK, we use 15 million plastic bottles EVERY day. Take a look around your school or home and you will see them everywhere, containing anything from squash to shampoo, and milk to washing liquid. But do you ever stop to think how that plastic bottle was made or where it ends up after you've used it?

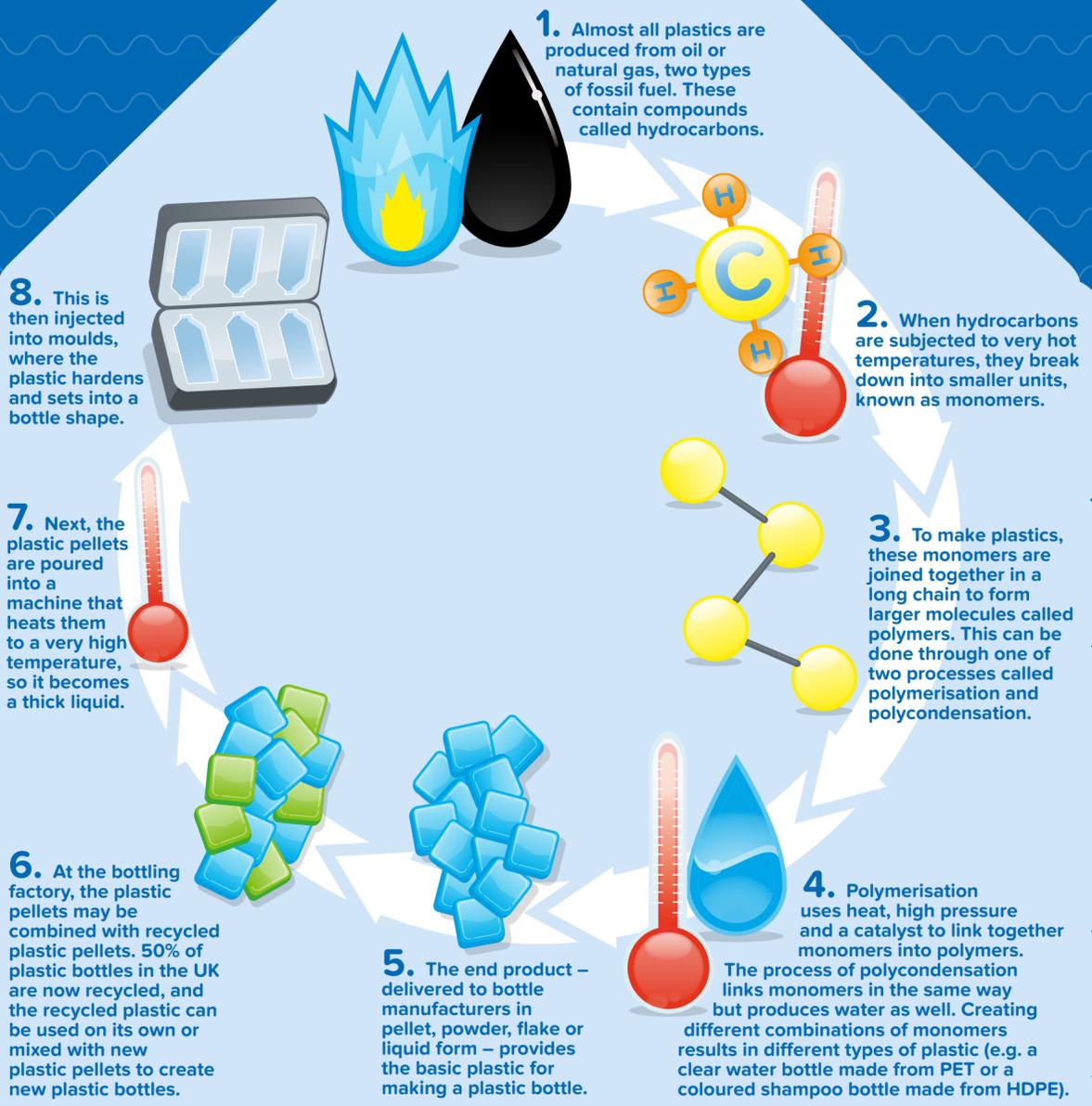
## 50%

of plastic bottles are recycled in the UK. That's good news, but it means 50% of bottles are still going to landfill.

## How are plastic bottles made?



If you laid end-to-end, all the bottles that Brits have recycled over the past 10 years, they'd stretch to the moon and back 10 times!



## Do you recycle your plastic bottle... ✓

In most cases, your household recycling is sent to a Materials Recovery Facility (MRF), where it's sorted by type (e.g. glass vs. plastics). Even different plastics are sorted into types (e.g. PET vs. HDPE) by clever machines that use light beams to tell them apart. These are then packed by plastic type ready for recycling.

At the recycling plant, the plastic bottles are shredded and often sorted further (into different colours, for example).

After this, the plastic pellets are melted down – and sometimes new pellets are added – so it becomes a thick liquid. This is then injected into moulds, where the plastic hardens and sets into a bottle shape. And the cycle begins again...

## ...Or do you bin it? ✗

Half of all plastic bottles are thrown in the bin and end up in general household waste. This rubbish is taken to a landfill site, essentially a big hole in the ground, where it is buried and takes a very, very long time to break down.

Machinery squashes down the rubbish to prevent air from getting trapped, and soil is usually scattered on top of the landfill to prevent bad smells.

Some household waste is burnt, rather than being sent to landfill, which can create energy. Any leftover ash, however, still ends up in landfill.

**PET**  
(Polyethylene Terephthalate)  
Most clear plastic bottles are made of this popular plastic, and it's also the easiest to recycle.



**HDPE**  
(High Density Polyethylene)  
Another popular plastic, often used for products like milk, it's usually coloured or opaque.



### Magic plastic

Plastic is one of chemistry's great success stories. It only became widespread from the mid-1930s onwards, but its malleable nature makes it extremely versatile, which is why you'll find it in most things around us: from your fleece jumper to toys, polystyrene cups and mobile phones. Just remember to reduce, reuse and recycle!



### Did you know...

Most plastic bottles are thermoplastics, which means they soften on heating and then harden again on cooling. In contrast, thermosets are processed using heat and pressure, which links together the polymers more tightly, so they never soften after they have been moulded (like the plastic used in your computer, for example).

