Why can't I recycle all plastics?
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Presented by Prof Mark Miodownik Materials scientist
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Every year we buy around 3.7 million tonnes of plastic products in the UK. Much of this plastic is packaging, with only 842,000 tonnes being recycled.

Much of the plastic we use ends up in landfill. This is either because it is currently not possible to recycle, individuals don't take it to be recycled or local authorities don't accept it.

Find out which types of plastic are currently not possible to recycle - and why - and which could be recycled if we wanted to.
Which is not possible to recycle?

Which one of these plastic items is currently not possible to recycle because of its chemical structure?
WHAT YOU CANNOT PLACE IN YOUR RECYCLING BIN

- Plastic bags and soft plastics
- Bagged recycling
- Batteries
- Electrical goods
- Polystyrene
- Food scraps
- Light globes
- Clothing
- Crockery and glassware
Non-recyclable

Thermoplastics

![Diagram of a bottle and its components, showing weak bonds between chains that melt when reheated, resulting in recyclable products.]

Thermosetting plastics

![Diagram of a different type of object with strong bonds between chains that burn at high temperatures, leading to non-recyclable products with carbon dioxide and other gases.]
Thermosetting plastics cannot be recycled by the normal method of heating because the molecular bonds that bind them together burn instead of melting. There are cutting-edge chemical processes that can be used, but they are a long way off being economically viable.
Logistically difficult

Although all thermoplastics are chemically possible to recycle, some are logistically difficult. Click on the image and labels below to see why some plastics might not be accepted by your local authority.
**Aluminum Cans**
Become new aluminum cans

**Plastic Containers**
Used in the manufacture of new plastic containers or plastic products

**Glass Containers**
Used in fibreglass insulation

**Refillable Glass Beer Containers**
Can be reused up to 15 times

**Polycoat, Juice and Milk Cartons**
Converted to paper pulp and cardboard

**Bi Metal Containers**
Used for scrap metal that becomes construction rebar
Where next?