Plastic

Did you know?

- Australians consume over 1.3 million tonnes of plastic every year - more than 71 kg for every person.
- There are over forty different plastics in use today.
- Recycling one tonne of plastics saves enough energy to run a refrigerator for a month or 84% of the energy it would take to make one tonne or plastic from raw materials.
- In March 2000, 63.7% of Western Australian households recycled plastic containers (ABS, 2000).
- Every year Australia produces: 50,000 tonnes of soft drink bottles, 30,000 tonnes of milk bottles and more than 10,000 tonnes of detergent and shampoo bottles.
- Over 24,000 tonnes of PET was recovered in Australia last year - that's over 575 million PET soft drink bottles! Around 18,000 tonnes of this were recycled in Australia, mainly into new soft drink bottles.

About plastic

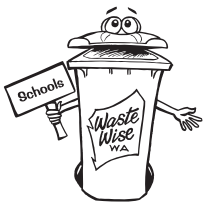
Alexander Parkes first invented plastics in 1860, however mass production has only occurred in the past few decades. Plastic production world wide now exceeds 80 million tonnes a year. In Australia, plastic production is about one million tonnes a year.

The ingredients of plastics are mainly crude oil, gas and coal. Plastics are polymers (long chains of molecules) made in large vessels with catalysts under special temperature and pressure conditions. Polymers are shaped into resin pellets or powder. The pellets or powder are heated until made soft then moulded into the required shape.

Moulding is done by injection (for cups, toys and plumbing fittings), extrusion (for plastic sheets, pipes and tubes), or blow moulding (for bottles and drums). When cooled the plastic retains the shape it was moulded into. And can be used for storing or packaging a wide variety of goods.

WMB Waste Management Board

GOVERNMENT OF WESTERN AUSTRALIA



Being waste wise with plastics

As plastics are made from petroleum products and break down very slowly in landfill, it is important that we are waste wise with plastic. There are three steps to follow:

Reduce

Reduce plastic waste by selecting products that contain the least amount of packaging. Ways to do this include:

- Buy products in bulk. For example multi packs of chips, lollies, biscuits and cereals require much more packaging than bulk packets.
- Avoid using plastic bags by taking your own reusable bags, or boxes to the shops.
- Reduce use of cling wrap by using lunch boxes or reusable containers for storage.
- Avoid using products that come in disposable containers.

Reuse

Plastic objects can be reused in many different ways. Plastic bags, ice-cream, margarine and yoghurt containers can all be reused for a range of purposes:

- Plastic bags can be reused for future shopping trips, as rubbish bags, dog poo bags or for storage.
- Ice cream, margarine, yoghurt containers can be reused for storing almost anything in homes, workshops or schools.
- Plastic drink bottles can be reused as drink bottles or even as pots for plants.
- Bottles with a handle can be cut open and used as a handy scoop.

Recycle

Only some types of plastics can be recycled, check with your local council to find out what is recyclable in your area. Usually, Code 1 and 2 plastics are the most commonly recycled plastics. This includes milk, juice, cordial and soft drink bottles. Some councils also recycle Code 3. Plastics of other codes are produced in very small quantities and less frequently recycled. When shopping, check the codes and choose those with containers made of 1,2 or 3.

Recyclable Plastics	Uses for Recycled Material
Code 1 	Soft drink bottles, detergent bottles, clear film for packaging, carpet fibres, fleecy jackets, fabrics for soil retention, filters.
Code 2 	Compost bins, detergent bottles, crates, mobile rubbish bins, agricultural pipes, pallets, kerbside recycling crates, plastic furniture.
Code 3 	Detergent bottles, tiles, plumbing pipe fittings, industrial flooring.

Remove lids, rinse and squash bottles before placing them in the recycling bin. Plastic shopping bags can be returned to Coles supermarkets for recyling.

The recycling process

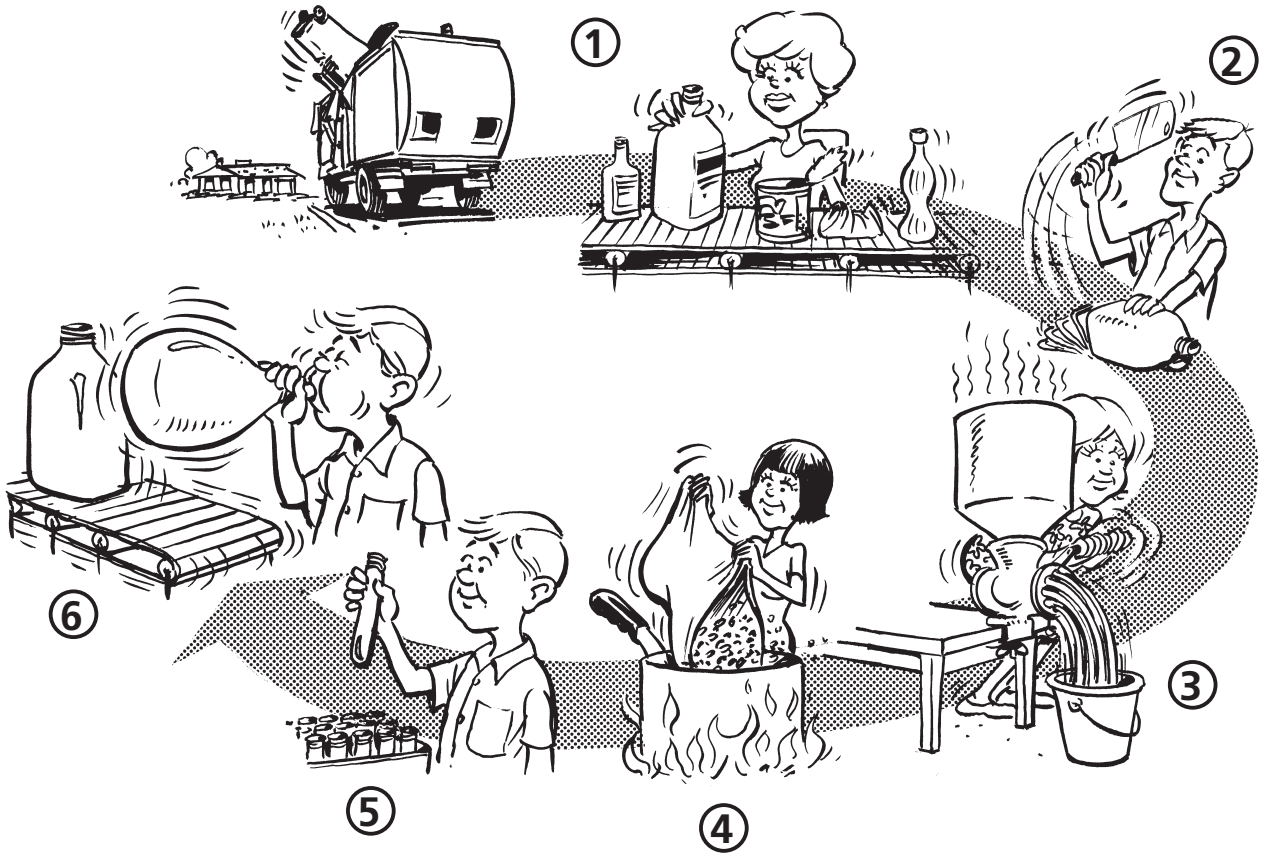
1. The recyclables are collected from homes and the plastics are hand sorted into different codes. Sorting is done in materials recovery facilities either by hand or mechanically.
2. The plastic is sliced into flakes; the flakes go through a washing process.
3. The clean plastic flakes are melted together, squeezed out through small holes, and chopped into pellets.
4. The bags of recycled plastic pellets are taken to factories where they are melted and made into new objects. There are lots of different ways of doing this.
5. In the case of soft drink bottles the recycled pellets are combined with virgin pellets. These are then melted and formed into preforms.
6. The preforms are blown to form the full size bottle this is often done at the bottling plant where they are filled and sealed.
7. Once consumed they are delivered back to the recycling plant after household recycling.

Resources:

Gould League. 1993. *Plastic Recycling Kit.*

Useful websites:

www.plasticsa.org.au/waste.htm
www.recycle.net/recycle/Plastic/



The Waste Wise Schools Program

The following program elements are funded by the Waste Management and Recycling Fund from money collected as a Waste Levy when waste is delivered to landfill. The Waste Wise Schools Program is helping to work towards Zero Waste in WA.

Waste Wise Schools Program

This program empowers schools to minimise their waste outputs and incorporate waste issues into the curriculum. The program provides teacher workshops, the Waste Wise Schools Kit, a network of Support Schools, Accreditation and Awards programs and ongoing support.

Waste Wise Schools Mobile Display

The Waste Wise Schools interactive Mobile Display about waste and recycling is available for *Participating* Waste Wise Schools, community groups, expos and shows. A Waste Education Coordinator will staff the display to conduct presentations, school waste audits and set up composting and worm farming systems upon request.

Waste Wise Schools Grants

These grants provide opportunities for *Participating* Waste Wise Schools and their related communities to undertake waste minimisation projects in their school. Grants are available, with applications assessed monthly.

Waste Wise Schools Website: www.wastewise.wa.gov.au

This website is your on-line link to the Waste Wise Schools Program. You will also find information on how to 'Shop Smart', recycle organic waste at home and recycle a variety of different waste items through the RecycleIT directory. The complete series of fact sheets are also available to download.
For further information on issues relating to waste minimisation in WA, visit www.zerowastewa.com.au

Contact

For further information, contact the Waste Wise Schools program at the Department of Environment and Conservation.
Phone: (08) 6467 5133 or (08) 6467 5141.
Email: wastewise@dec.wa.gov.au