About The Types Of Plastics

There are **two main categories** of plastics, namely **thermoplastics** and **thermoset plastics.**

Thermoset plastics are plastics known for their durability, resistance to high temperatures & chemicals, & very low impact resistance. These types of plastics once cured **cannot be recycled.** Examples of thermoset plastics are **silicone, epoxy or polyester resin, fibreglass.**

Thermoplastics are plastics known for their high-impact resistance, hard crystalline or rubbery surface options, remolding & reshaping capabilities, & aesthetically pleasing finishes. These types of plastics are **recyclable.**

Codes Of Plastics

Code 1: Polyethylene Terephthalate (PET)	Drink bottles, medicine jars, Carpet Fibre, Clothing
Code 2: High-Density Polyethylene (HDPE)	Milk, Shampoo's, Soap or Bleach bottles
Code 3: Polyvinyl Chloride (PVC)	Piping, Windows
Code 4: Low-Density Polyethylene (LDPE)	Cling film, Plastic bags, Squeezable bottles
Code 5: Polypropylene (PP)	Yoghurt containers, Margarine containers, Plastic bottle caps
Code 6: Polystyrene (PS)	Disposable coffee cups, Plastic cutlery, Packing foam
Code 7: Other	Baby bottles, Compact discs,Water cooler bottles

Codes Of Plastics With Examples

Understanding The Codes

1: PET/ PETE	is well known as **one** of the **most easily recycled plastics** on the market. Most **plastic water bottles** are made from **PET** and when recycled they can be **converted into items** such as fiber-filler for duvets, carpeting, insulation, new packaging trays, or more water bottles.
2: HDPE/ PE-HD	are used in **milk bottles and grocery bags** this plastic is also **considered safe for human use.**
3: V/ PVC	these **versatile plastics** are used in everything from plumbing pipelines to shrink wrap. Known to **contain DEHPs** these plastics are considered **toxic to humans.**
4: LDPE/ PE-LD	famously known for **bags, coffee cups, and "paper" milk cartons**, these plastics **do not contain BPAs** and so are considered **safer for human use.**
5: PP	these plastics also make up the **bulk of yogurt containers** and insulation for winter clothing. They are tough, light-weight, and generally considered **safe for human use.**
6: PS	**styrofoam**, used in many items from plates and cups to packaging materials, it is considered a **potential carcinogenic** in the **presence of heat.** Also not commonly recycled, these weak and ultralight items are often **culprits of ocean pollution.**

Understanding The Codes (cont)

7: OTHER	it **does not contain any one of the above six resins.** Code seven plastics are **exceptionally dangerous** to **human health** as many of them **contain BPAs, BPSs, or both.**

5 Simple Ways To Avoid Using Plastic

1. Say **Goodbye to single-use plastic** water bottles, **invest in an eco-friendly**, **reusable** water bottle.

2. Shop with reusable bags. Take your **own bags** when shopping!

3. **Ditch the straw!** Take your own metal reusable straw, or don't use a straw at all.

4. Try and **recycle everything.** Make the effort to **rinse out plastic packaging** to **avoid contamination,** place the correct waste in the correct bins and get them collected on time.

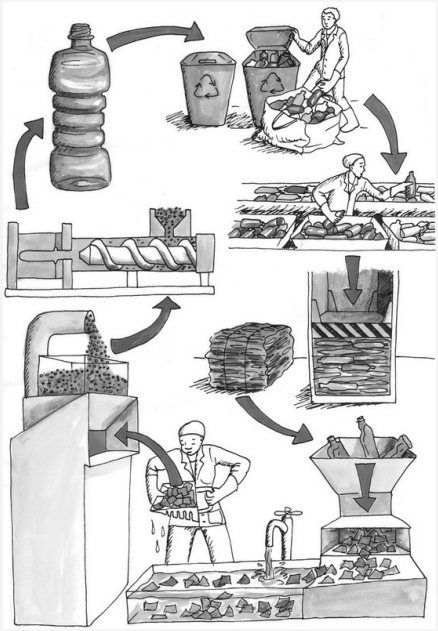
5. **Buy local and seasonal products.** Go to your **nearest supermarket or local food market** and buy your products there.

Why Recycle Plastic?

Recycling provides a **sustainable source of raw materials** to the industry.
It greatly **reduces the environmental (especially the CO2) impact** of plastic-rich products and **minimises** the amount of **plastic** being sent to **landfill sites.**
By recycling we **avoid the consumption of the Earth's oil stocks**, we consume less energy than producing new, virgin polymers.
Recycling is **essential to protecting our oceans and wildlife**. It also embeds the **right values and behaviour** to reduce human impact on the environment.

What Can You Do - Follow the 3 R's

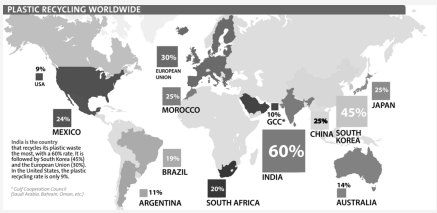
The Plastic Recycling Process



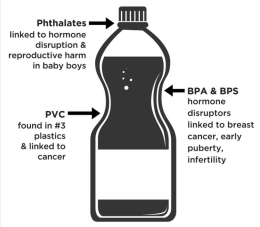
Types Of Recycling

There are **two types** of plastic recycling:
Traditional recycling (which suits thermoplastic materials) is a process whereby **old used plastic items are melted down** and **converted into new usable products.** This is usually done using an **injection molding method.**
The second type is **Advanced** recycling, this type of plastic recycling is a process whereby **old used plastics are broken down using chemicals.**
It includes **three techniques** all of which transform the old item into crude oil, gas, or monomers respectively. Whichever the method, recycling has the **same aim: to take the old and make it new.**

Worldwide Recycling Statistics



Toxic Chemicals In Plastics



The Waste Framework Directive

Sets out that **waste should be dealt with in accordance with the waste hierarchy,** with legislation aiming to **move waste management up the hierarchy.**

Prevention – Reducing resources used in manufacture, ensuring products last for a long time and using less material

Preparing for reuse – Repairing, cleaning, refurbishing and checking

Other recovery – Incineration to produce energy, anaerobic digestion, gasification and pyrolysis to produce either fuel, heat or electricity.

Disposal – Landfill or incineration without energy recovery

Waste Hierachy

Ocean Plastic Statistics

The world produces **381 million tonnes in plastic waste yearly** – this is set to **double by 2034.**

50% of this is single-use plastic & only **9%** has ever been **recycled.**

More than 1 million **plastic bags** end up in the trash **every minute.**

Plastic **microbeads** are estimated to be **one million times more toxic** than the seawater around it.

More than **1 million seabirds** and **100,000 marine animals die** from plastic pollution every year.

Marine plastic pollution has affected **100% of marine turtles**, **59% of whales**, **36% of seals** and **40% of seabirds** of those examined.

Ocean Plastic Statistics (cont)

More than **two-thirds** of the world's **fish stocks** are **suffering from plastic ingestion.**

If **coral** encounters plastic the **likelihood of it becoming diseased increases from 4% to 89%**, a disastrous effect as **coral is home to more than 25% of marine life.**