



Plastic Pollution

West Carteret FBLA
Lifesmarts

WHAT IS POLLUTION?

Pollution is the introduction of harmful materials into the environment. These harmful materials are called pollutants. Pollutants can be natural, such as volcanic ash. They can also be created by human activity, such as trash or runoff produced by factories.

WHAT IS PLASTIC?

Plastics are a group of materials, either synthetic or naturally occurring, that may be shaped when soft and then hardened to retain the given shape. Plastics are polymers. A polymer is a substance made of many repeating units.



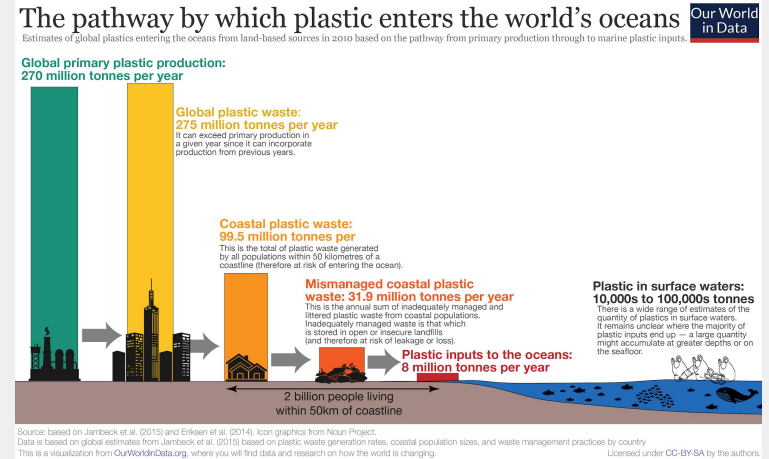
THE HISTORY OF PLASTICS

- Alexander Parkes created the first man-made plastic in 1855. It was called Parkesine.
- Parkesine was an organic material that came from dissolving cellulose nitrate in alcohol. The result was a product that could be easily molded when heated yet retained its shape and firmness when cold.
- Celluloid is derived from cellulose and alcoholized camphor. John Wesley Hyatt invented celluloid in 1868. He created celluloid in a strip format for movie film.
- By 1900, movie film was an exploding market for celluloid.



Pollution Statistics

- Annually, an estimated 16 billion pounds of plastic enter our oceans
- Only 30 percent is easily visible to humans- 15 floats and 15 lands on the beach. The other 70 percent sinks down into the oceans coral and ecosystems
- Plastics could make anywhere between 60-90 percent of the marine pollution found on our globe
- By the year 2050 our plastics could outnumber the pollution of fish
- In the past decade we have produced more plastic than we did the previous century
- As plastic decomposes, it does not go away, but it turns into micro pieces that go all over the planet



PLASTIC POLLUTION

- Plastic pollution is the accumulation of plastic objects and particles in the Earth's environment that adversely affects humans, wildlife and their habitat.
- Plastics that act as pollutants are categorized by size into micro-, meso-, or macro debris.
- Plastics are inexpensive and durable, making them very adaptable for different uses; as a result, manufacturers choose to use plastic over other materials.
- The chemical structure of most plastics renders them resistant to many natural processes of degradation and as a result they are slow to degrade.

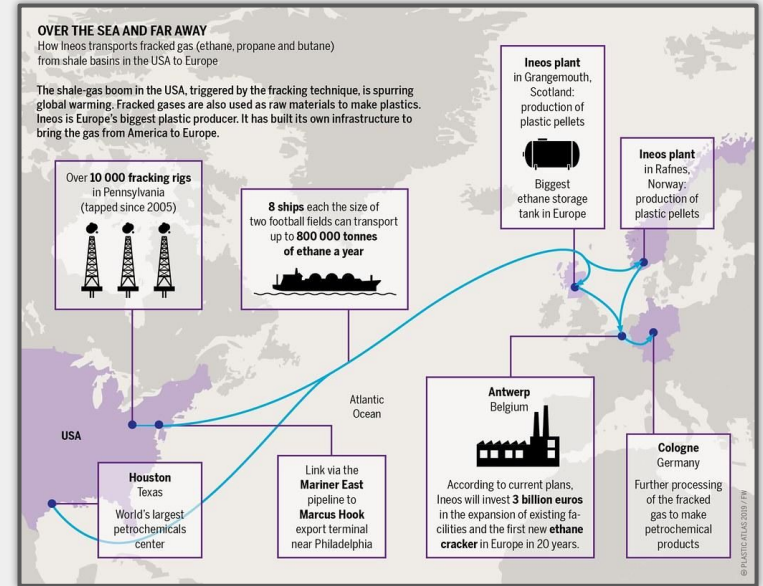
PLASTIC RESIN IDENTIFICATION CODES						
PETE	HDPE	PVC	LDPE	PP	PS	OTHER
Polyethylene Terephthalate	High Density Polyethylene	Polyvinyl Chloride	Low Density Polyethylene	Polypropylene	Polystyrene	Other
clear tough plastic	common white and coloured plastic	pipe rigid clear plastic	soft flexible plastic	hard but flexible plastic	rigid, brittle plastic	all other plastic, including acrylic and nylon
soft drink and water bottles, food packaging, fruit, juice containers and cooking oil, peanut butter jars, mouthwash bottles, shampoo bottles	milk, water juice jugs 5 gal buckets, yogurt pots, soap dispenser, cleaning products, detergent bottles, bleaching agents, grocery bags	pipe and window fittings, thermal insulation, car parts, shampoo and window cleaner bottles, trays for air-vents and fruit, bubble foil, food foil	frozen food bags, bread bags, food bags, shopping bags, magazine wrapping, squeeze bottles	yogurt and margarine tubs, ketchup bottles, microwave meal trays, fibres and filaments for carpet, wall covering, vehicle upholstery, luggage, toys, bumpers	some yogurt pots, take-away boxes, plastic cutlery, protective packaging, insulation, trays, refrigerator trays, cosmetic bags, CD cases, egg cartons, cups and plates	ketchup, 3 and 5 gallon water bottles, other plastics, including acrylic, polycarbonate, polyethylene glycol, nylon, fiberglass
Recyclable	Recyclable	Recyclable at specialist points	Recyclable at specialist points	Recyclable	Recyclable at specialist points	Not easily recyclable
next life: used to make many PET products	next life: garden furniture, pipes and more milk jugs	next life: used to make more PVC products	next life: bin liners, plastic furniture and floor tiles	next life: clothing fibers, food containers, speed humps	next life: as more packaging	next life: goes to landfill

* Check with your local recycling program to confirm which materials are accepted in the recycling bin or at a special drop-off or collection program.

CHEMICALS IN PLASTIC

The majority of plastics are composed of a mix of polymers containing carbon, hydrogen, sulfur, chlorine, or oxygen. The common types of plastic are...:

- **Polyethylene Terephthalate**
 - ◆ Beverage bottles, Food bottles/jars (salad dressing, peanut butter, honey, etc.) and polyester clothing or rope.
- **High-Density Polyethylene**
 - ◆ Milk cartons, detergent bottles, cereal box liners, toys, buckets, park benches and rigid pipes.
- **Polyvinyl Chloride**
 - ◆ Plumbing pipes, credit cards, human and pet toys, rain gutters, teething rings, IV fluid bags and medical tubing and oxygen masks.
- **Low-Density Polyethylene**
 - ◆ Plastic/cling wrap, sandwich and bread bags, bubble wrap, garbage bags, grocery bags and beverage cups.
- **Polypropylene**
 - ◆ Straws, bottle caps, prescription bottles, hot food containers, packaging tape, disposable diapers and DVD/CD boxes (remember those!).
- **Polystyrene**
 - ◆ Cups, takeout food containers, shipping and product packaging, egg cartons, cutlery and building insulation. 7) Other



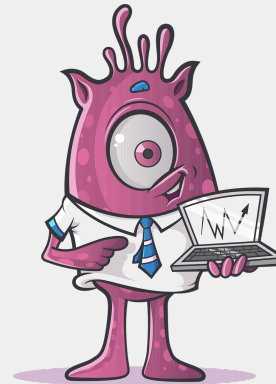
Causes of Plastic Pollution

- The littering of plastic waste is the leading cause of plastic pollution, this is harmful because it takes plastic a very long time to decompose and it often ends up in our oceans
- Plastic fishing nets or other equipment not only end up in the oceans when torn or lost, but release toxins into the water while being used, even if it's used properly
- The inability to recycle is harmful because the plastics not recycled end up getting burned at landfills, this releases toxic gases such as mercury, dioxins, and furans. These gases contribute to low air quality as well as global warming



What We Can do to Help

- Shop Friendly
 - ◆ Instead of using plastic bags, use reusable bags to carry your groceries.
- Get Rid of Bottle Water
 - ◆ Use a reusable water bottle instead of drinking plastic water bottles.
- Educate Businesses
 - ◆ Speak to local restaurants and businesses about options they can switch for packaging, storing, and bagging items.
- Get Involved
 - ◆ Encourage use of reusable items instead of plastics to lawmakers and government interest groups.
- Recycle Everything
 - ◆ Try to select items that can be recycled when they are done being used. Recyclable items are very commonly put in the trash.



References

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