PULCHRA
Participatory Urban Learning Community Hubs through Research and Activation

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Science in the City

Building Participatory Urban Learning Community Hubs through Research and Activation

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824466

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What is plastic?

- ***The word plastic is derived from the Greek (plastikos) meaning capable of being shaped or molded.***

- Plastics are organic polymers of high molecular mass and often contain other substances.
- They are usually synthetic, mainly derived from petrochemicals.
- Plastics are everywhere, in our home, school, work, playground, parks, and beaches.

- "Plastic does not bio-degrade but it can

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Why do we use so much of plastic products?

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Why do we use so much plastics?

- low cost
- Flexible
- Lightweight
- moisture resistant
- ease of manufacture
- Versatile

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Why should we avoid using plastics?

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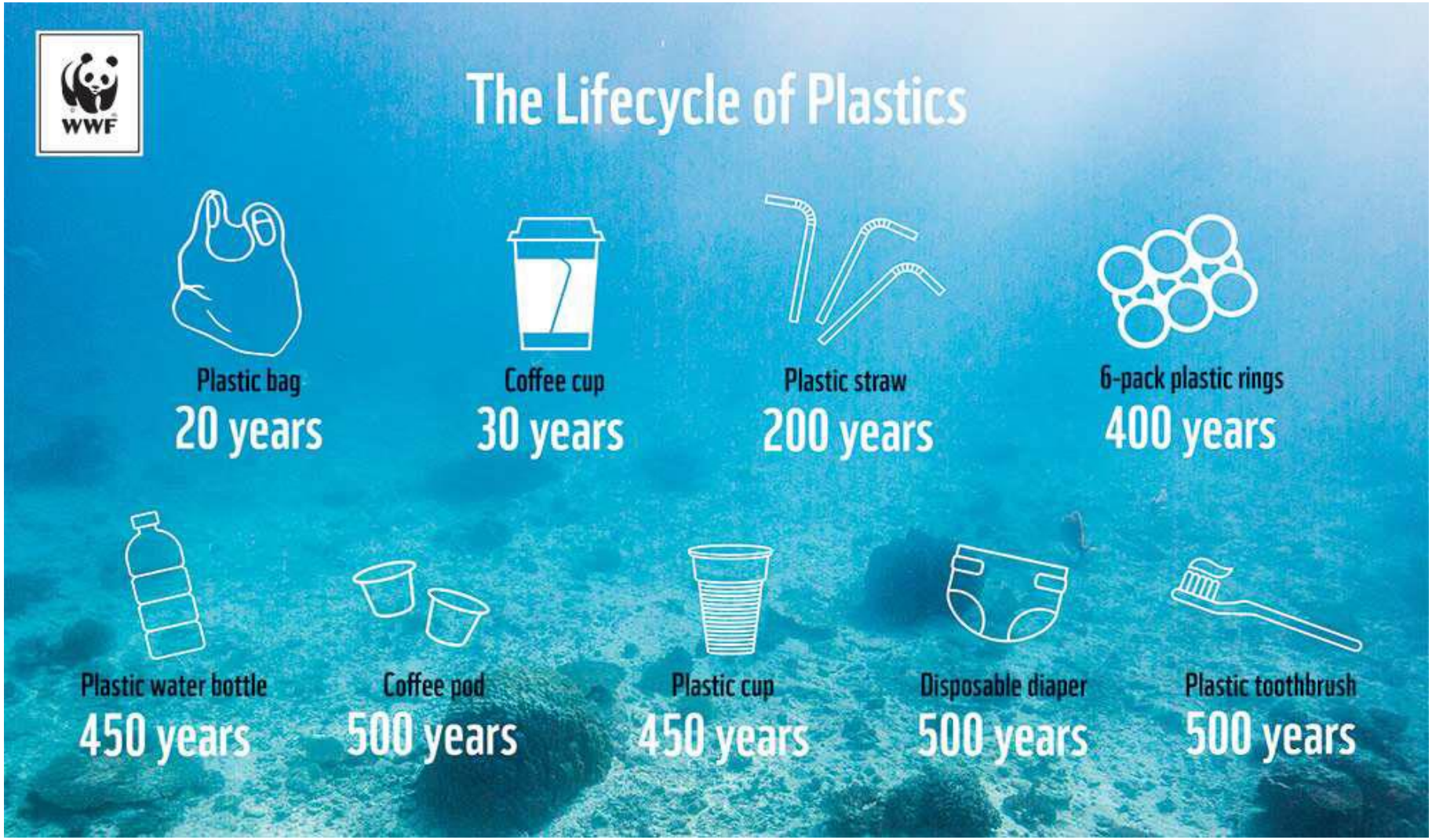

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Who all are Affected?

Causes:

- Red, white, and light brown plastic particles floating on the surface are mistaken for plankton
- Light brown particles resemble fish eggs
- Toxic chemicals leach out of plastics and can be ingested by birds
- Birds' wings and necks may get caught up in pieces of plastic bags

Consequences:

Internal blockages, injuries, stop feeling hungry, stop hunting for food, and eventually starve to death, may develop ulcers

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Who are all Affected?

Causes:

- They may ingest the toxic chemicals leached from plastics
- When small fish eat plastic and a bigger fish eats many of these little (contaminated) fish, the big fish ends up with an accumulation of plastic in its system

Consequences:

- Ingestion of plastic causes intestinal injury and death
- Entangled fish cannot move to escape predators or to look for food
- Fish and marine mammals wounded by plastic rings or ropes may develop infections in their open wounds

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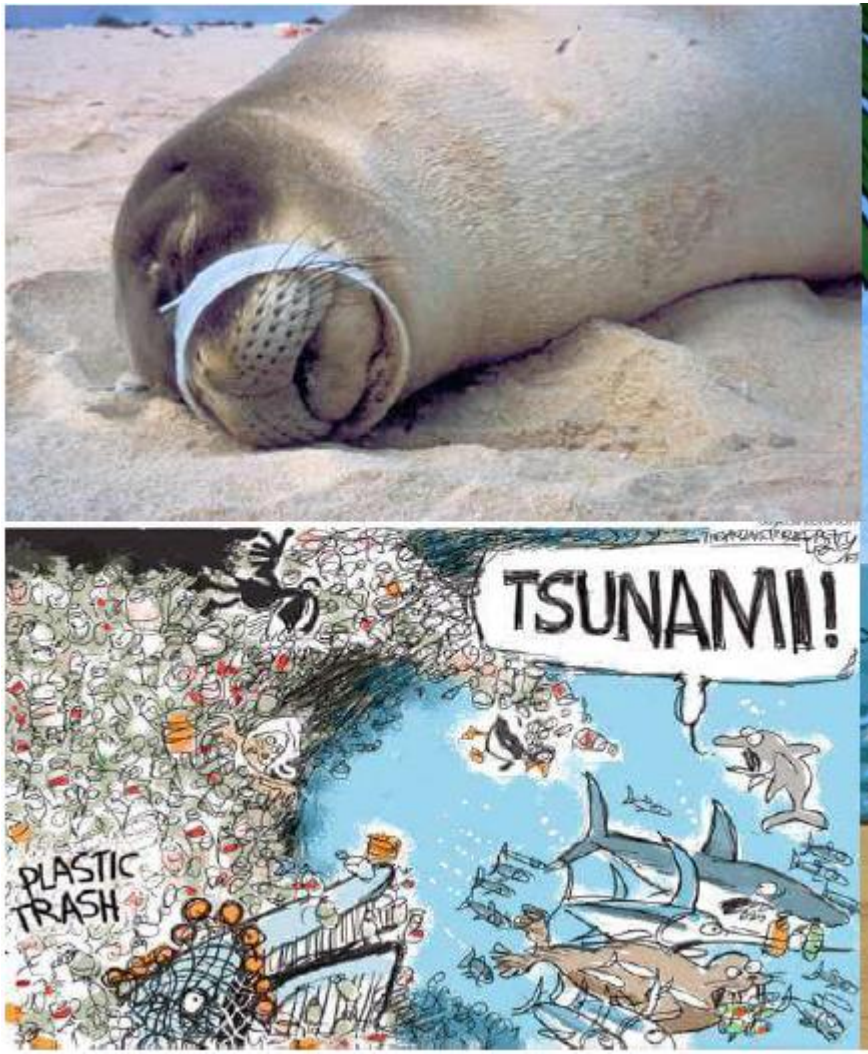

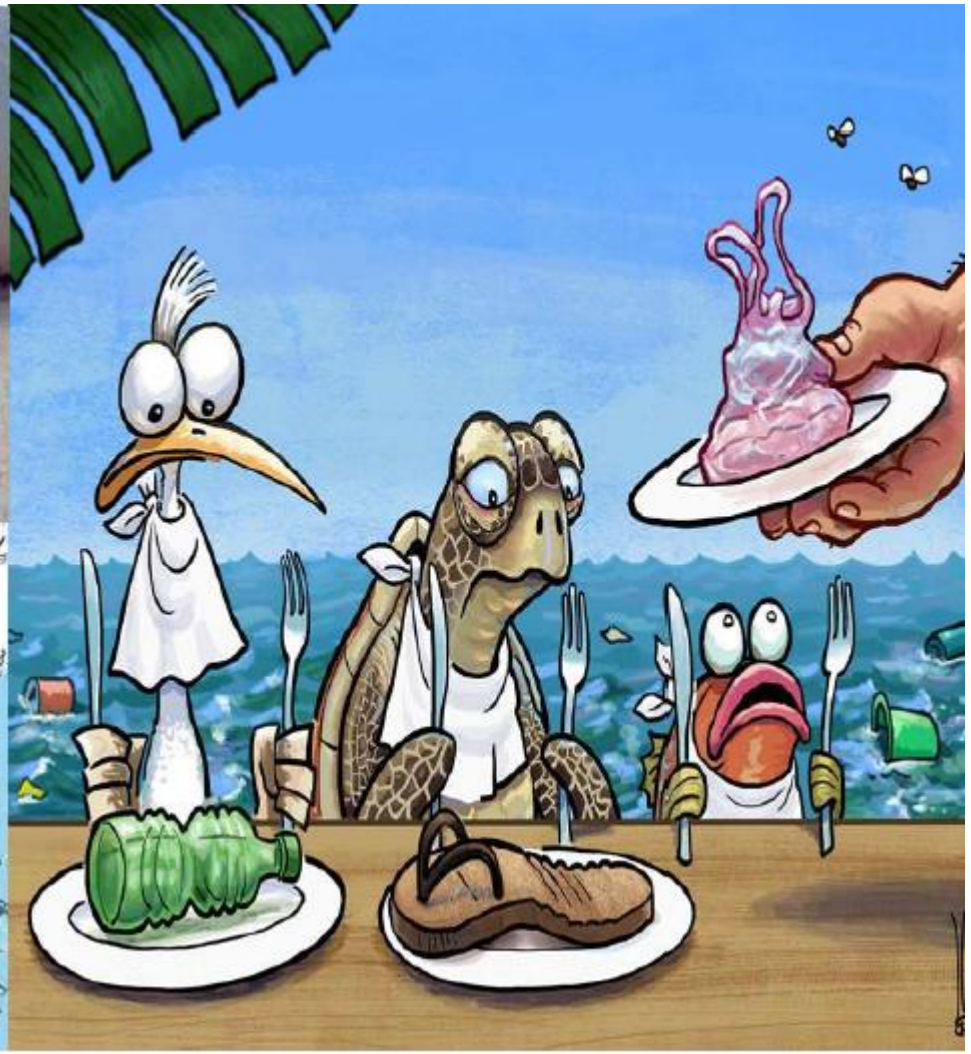

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Who are all Affected?

Causes:

- Jellyfish are a turtle's favourite food!
- But, turtles can't tell the difference between a jellyfish and a floating plastic bag
- Turtles also ingest plastic ropes, Styrofoam, and other plastic fishing equipment

Consequences:

- Plastic ingestion causes blockage in the gut, ulceration, internal perforation, and death
- Turtles may feel full because of the plastic, causing them to starve to death
- Entangled turtles cannot move to escape predators or to look for food
- Turtles that get trapped in plastic rings eventually grow around them, causing their bodies to be deformed and their organs to not develop properly

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Who are all Affected?

Causes:

- Plastic pollution from the land gets carried into the sea and other water bodies
- Plastics may be carried into the sea through rivers, streams, and storm drains
- Ships may also be a source of pollution out at sea

Consequences:

- Pesticides from land carried on plastics affect coral reproduction and growth
- Sewage carried on plastics to the sea introduce pathogens into coral reefs
- Fishing gear (e.g. nets) become entangled on corals and organisms in coral reefs
- Plastic pollution blocks the sunlight that is essential for the survival of corals

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Who are all Affected?

Causes:

• Plastic may soak up toxic chemicals before even moving into the
sea

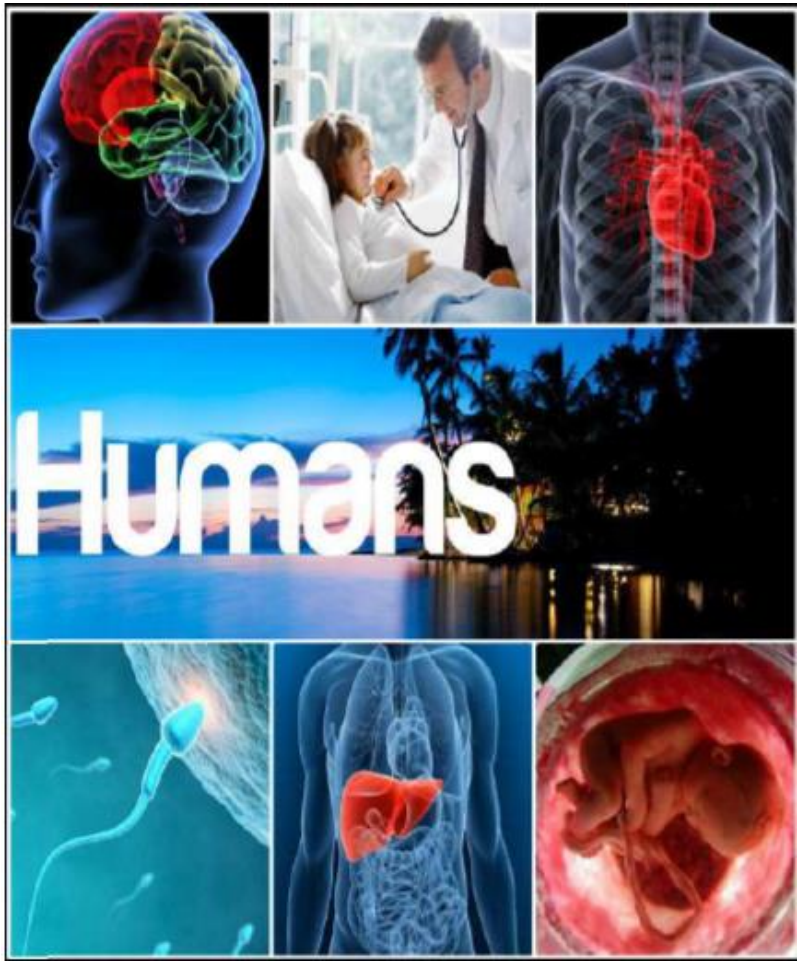
• When fish consume plastics and toxic chemicals leached by plastics,
we eat those contaminated fish

• Even if a fish is cleaned before cooking, we may still be
contaminated with toxic chemicals in its flesh

Consequences:

• Chemicals humans are exposed to due to plastic pollution (drinking
contaminated water or eating contaminated fish) are associated with:

• Cancers | Birth defects | Infertility | Immune system problems | Childhood development issues | Pregnancy complications | Heart, brain, and liver diseases | Diabetes | Lead, cadmium, and mercury poisoning



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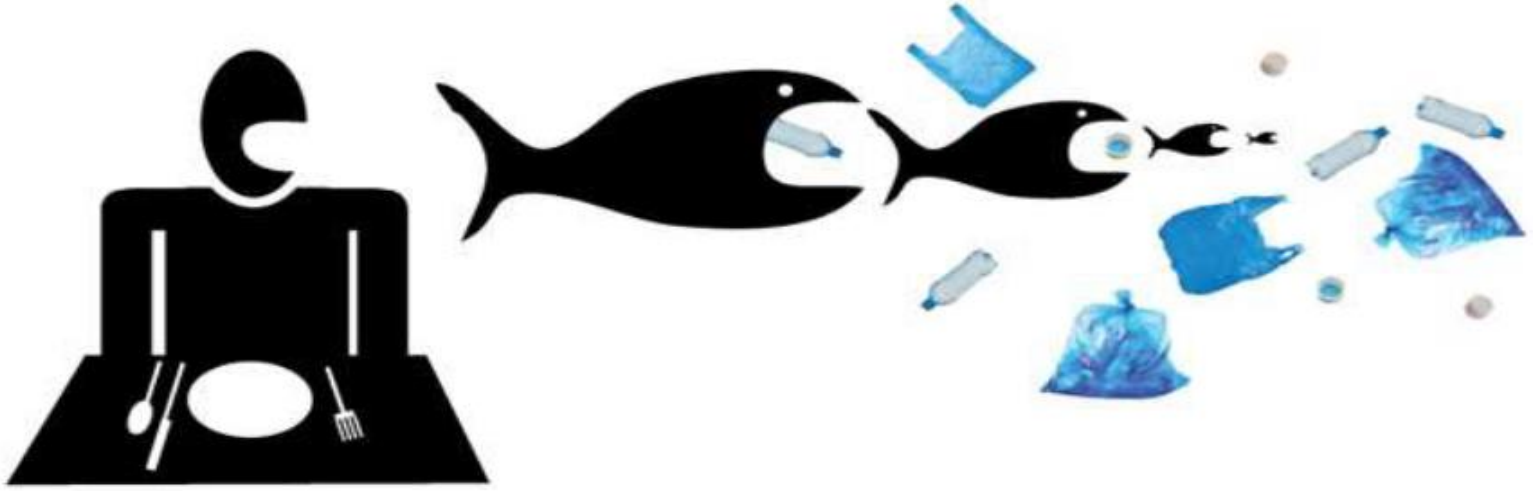
Integration of plastics into our food chain

The toxins are transferred in the food chain as they get absorbed in the animals' body after they eat the plastic pieces. Human beings consume these contaminated fish and mammals.



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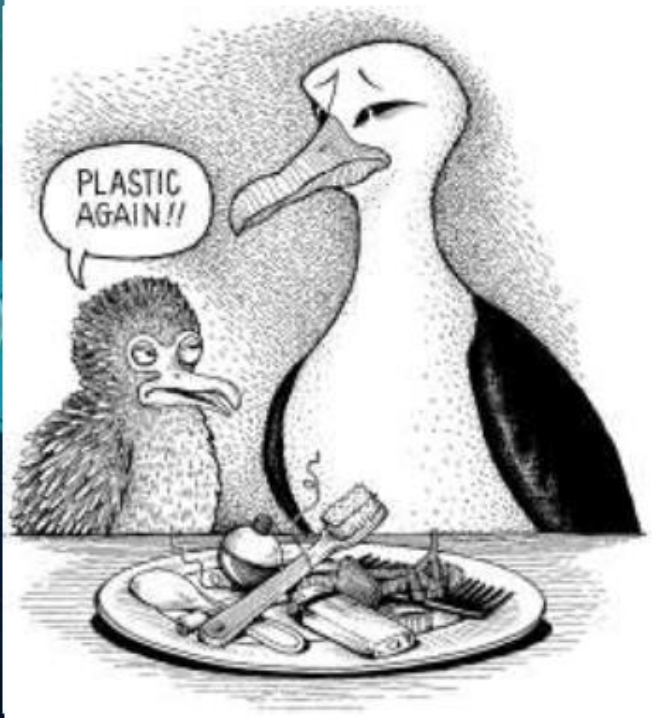

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9 REASONS TO REFUSE SINGLE-USE PLASTIC

1 
Made from fossil fuels

2 
Huge carbon footprint

3 
Will still be here in hundreds of years

4 
Only a tiny percentage is recycled

5 
Leaches toxins into food & drink

6 
Causes hormone disruption & cancers

7 
Pollutes our oceans

8 
Kills marine animals and birds

9 
Enters our food chain

LESS PLASTIC.

WWW.LESSPLASTIC.CO.UK

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Planet or plastic?

"We made plastic. We depend on it. Now we're drowning in it"

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General Facts About Plastic Pollution

- It takes 500-1,000 years for plastic to degrade.
- Plastic makes up 10 per cent of all of the waste we generate in the world.
- 50 per cent of the plastic we use is single-use or disposable plastic which includes disposable spoons, cups, plates, and many more.
- 1 million plastic bottles are purchased every minute, most of which end up polluting water bodies.
- Nearly TWO MILLION single-use plastic bags are distributed worldwide every minute.
- 91% of plastic waste isn't recycled.
- We currently recover only five percent of the plastics we produce.
- 500 MILLION plastic straws are used EVERY DAY in America.

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Shocking Facts About Plastic Pollution in Ocean

- Billions of pounds of plastic can be found in oceans making up about 40 percent of the world's ocean surfaces. 80 percent of pollution enters the ocean from the land.
- If plastic production isn't curbed, plastic pollution will outweigh fish pound for pound by 2050.
- Plastic constitutes approximately 90 percent of all trash floating on the ocean's surface, with 46,000 pieces of plastic per square mile.
- One million sea birds and 100,000 marine mammals are killed annually from plastic in our oceans.
- 44 percent of all seabird species, 22 percent of cetaceans, all sea turtle species and a growing list of fish species have been documented with plastic in or around their bodies.

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ways to reduce your plastic consumption

- Say NO to plastic straws…
- Bring a reusable shopping bag with you
- Get rid of the plastic water bottle
- Pack your lunch in silver containers instead of plastic
- Give up gum. Gum is made of a synthetic rubber, aka plastic.
- The EPA estimates that 7.6 billion pounds of disposable diapers are discarded in the US each year. Use cloth diapers to reduce your baby's carbon footprint and save money.
- Avoid snacks/food with excess packaging
- Stop using plastic cutlery(Spoon, Fork…)
- Recycle. If you must use plastic, try to choose #1 (PETE) or #2 (HDPE), which are the most commonly recycled plastics. Avoid plastic bags and polystyrene foam as both typically have very low recycling rates.

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When you go shopping

Use this

Instead of this

Shilpsnutrilife
Better Health through Better Nutrition

When carrying water

Use this

Instead of this

Shilpsnutrilife
Better Health through Better Nutrition

While eating

Use this

Edible Cutlery

Instead of this

Disposable cutlery

Shilpsnutrilife
Better Health through Better Nutrition

When using straw

Use this

Bamboo straw

Instead of this

Shilpsnutrilife
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Look out for packaging

Buy this

Instead of this

Shilpsnutrilife
Better Health through Better Nutrition

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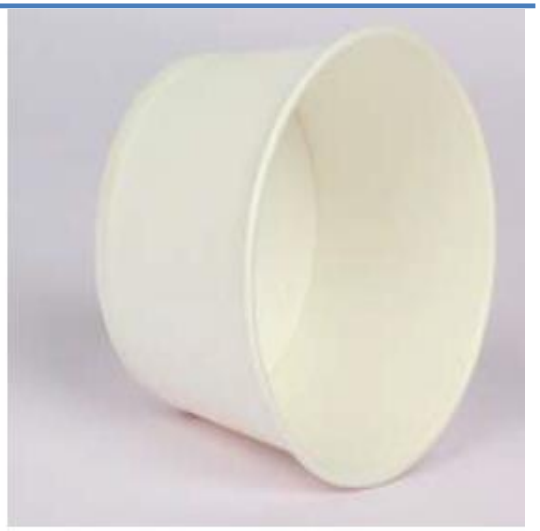
Alternatives



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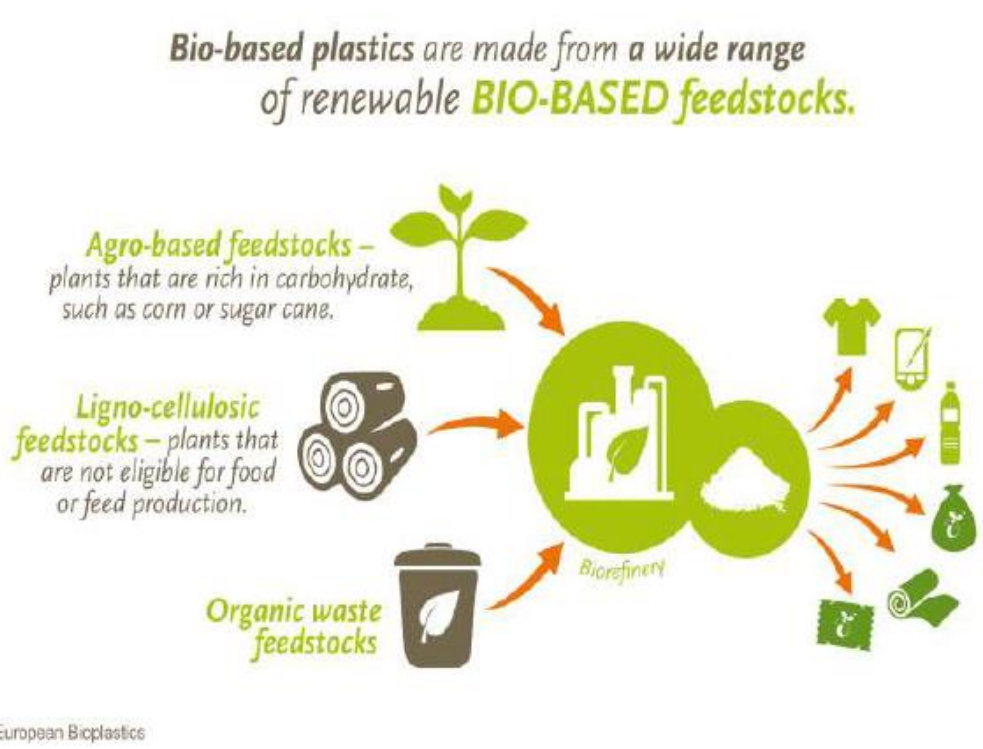
Biodegradable Plastics



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Things you can do to encourage others to join in

- Encourage your family and friends, workplace, school or group to get involved. Share what you've learned about reducing single-use plastics and encourage them to join with you.

- Encourage your local café or favourite restaurant to provide a discount for those bringing recyclable cups and containers

- Promote recycling at work or in your school by setting up or requesting recycling bins for organic (kitchen) waste, glass, paper, plastics, e-waste including batteries and phones.

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"Environmental degradation hurts the poor and vulnerable the most. It is the duty of each one of us to ensure that material prosperity does not compromise our environment."

-Narendra Modi

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