



Today's lesson is an overview of plastic pollution and the Toys for Turtles project. Students will learn about the timeline of plastic production, where plastic is used, and how it is getting into the marine environment.

WHAT IS TOYS FOR TURTLES?



MARINE PLASTIC DEBRIS



RECYCLING



NEW TOYS AND ITEMS

Toys for turtles a project which is helping to clean up the beaches around the North East Arnhem Land region.

Using special plastic recycling machines the project will create new toys and plastic recycled items for the community.

Turtles are one of the marine animals that are particularly impacted by marine plastics. So by helping to clean up the beaches around Arnhem Land we are saving the turtles from plastic pollution.

WHAT IS MARINE DEBRIS?



Marine debris is any human-made waste that ends up in oceans, seas, rivers, or other water bodies.

It includes a wide range of materials such as plastics, glass, metal, rubber, and more.

Common types of marine debris include plastic bottles, bags, fishing nets, cigarette butts, and food wrappers.

Can anyone think of any type of marine debris that they have seen?

PLASTIC PRODUCTION

- PLASTIC WAS FIRST PRODUCED COMMERCIALY IN THE EARLY 1950s
- SINCE THEN, PLASTIC PRODUCTION HAS GROWN
- NOW, WE PRODUCE MORE THAN 380 MILLION TONNES EACH YEAR

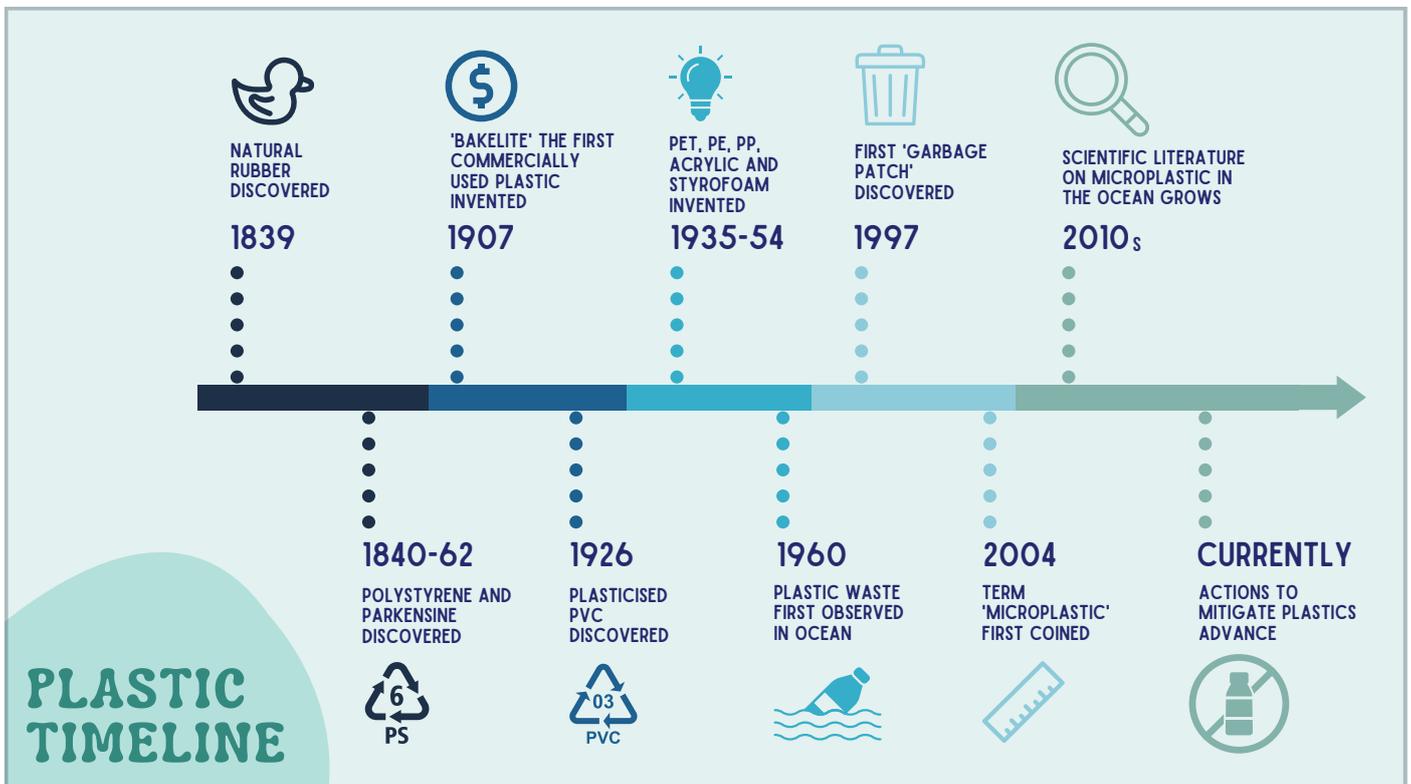


Plastic production has increased a lot since it was first used broadly in the 1950s.

We now produce more than 380 million tonnes each year across the world - a lot of plastic!

This number is only set to continue increasing.

Students could be asked why is plastic production still increasing? The answer is demand and population size also increasing.



This timeline shows when the first commercially used plastic was first invented (bakelite in 1907), and then the different types of plastic following.

Microplastics were only first discovered formally in 2004.

The students may be asked if they think microplastics would have still existed prior to the term being coined? In reality, microplastics made from the breaking down of larger pieces of plastic could have been occurring as early as plastic was first produced. So likely microplastics have been around since the mid 1950s.



Activity: Class brainstorms and answers 'what can you think of that is made out of plastic in the room right now?'

Some great examples to give that the students may not have thought of is the clothes that they are wearing, the carpet and the computer screen.

PLASTIC ENTERING THE MARINE ENVIRONMENT



Plastic enters the marine environment and can affect a lot of marine life.

We estimate that around 8 million tonnes of plastic enters the marine environment each year. Which on average, equals out to one rubbish truck worth of plastic enters the marine environment each minute.

Students could be asked if they have ever seen plastic pollution in the marine environment? If so, where did they see it and what type of plastic was it?

PLASTIC IN THE OCEAN



This video can be played to provide another style of learning for the students. Audio will be required, although there are audio cues. The video goes for just over 3 minutes.

https://www.youtube.com/watch?v=vrPBYS5zzF8&ab_channel=InsiderScience

SOURCES OF MARINE PLASTIC POLLUTION



MISMANAGED
PLASTIC WASTE
(LITTER)



SEA-BASED PLASTIC
DEBRIS



MICROPLASTICS

There are three main ways that plastic can enter the marine environment.

1. Plastic litter. Who has ever seen plastic waste outside in the play yard?
2. Sea- based litter. This often comes from fishing vessels of transport vessels.
3. Microplastics. We will learn more about microplastics later in the term but these are small pieces of plastic that are hard to pick up and collect.

PLASTICS AND MARINE LIFE



Plastic can have many negative effects on marine life.

What effects do you think plastics might have?

Examples: entanglement in nets, eating the plastic, using the plastic as a shell (hermit crab)

PLASTIC IN ARNHEM LAND



There is a lot of marine debris and plastic waste in Arnhem Land.

Who has even seen plastic on the beaches or on the streets around Nhulunbuy?



What can we all be doing to help reduce the impact that plastic waste is having?

We can recycle - putting the bottles and recyclable items in the correct bins.

We can find plastic alternatives. Using a reusable drink bottle and reusable shopping bags are a great idea.

We can do research by completing beach clean ups and finding out what kind of plastic is present in our area.

We can stay educated by sharing the information we learn with others.

Reduce reuse recycle

DISCUSSION POINTS

**WHAT BEACHES IN THE AREA HAVE YOU
SEEN PLASTIC?**

**HAS ANYONE EVER HELPED OR WANTS TO
HELP WITH A BEACH CLEAN?**

Talk with the class about the beaches where lots of plastic is seen. Why might this happen?

Has anyone ever helped with beach clean ups in the area?

Would you be interested in helping?