

This lesson will empower students to be able to take action on the marine plastic pollution problem.

First we learn about what science is doing to help answer questions about marine plastics. Then, we learn about advocacy and action that is occurring in Australia and globally to help reduce plastics.

SCIENCE ON PLASTIC

THERE IS LOTS OF
RESEARCH ON PLASTIC
POLLUTION, WHICH
HAS INCREASED OVER
THE YEARS



Marine plastic pollution is a huge environmental issue, one of the biggest of the past century.

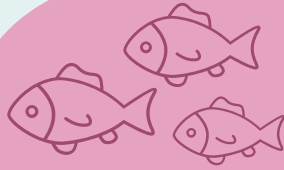
Due to this, lots of scientific effort has gone into researching plastics. Scientists are looking at how much plastic is in the environment, how it is getting there, where it came from, and ways to reduce it.

We need scientific information about the amount of plastic, before we can really begin to tackle solutions.

EXAMPLES



ONE RUBBISH
TRUCK OF PLASTIC
ENTERS THE OCEAN
EVERY MINUTE
GLOBALLY



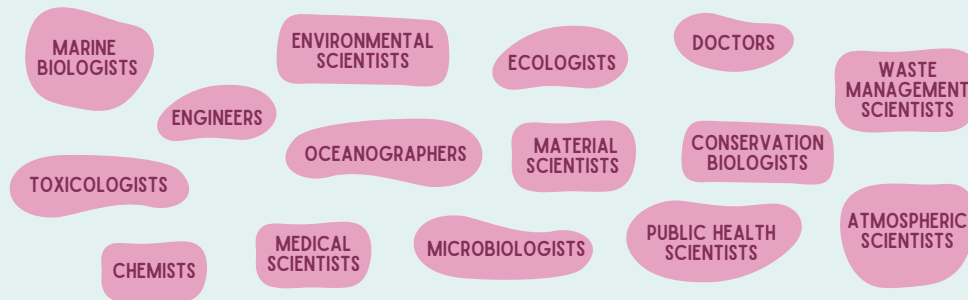
50% OF FISH IN
AUSTRALIA
HAVE PLASTIC
INSIDE THEIR
STOMACHS



MICROPLASTICS
HAVE BEEN FOUND
IN THE BLOOD,
LUNGS AND
BREAST MILK OF
HUMANS

Some examples of scientific evidence that shows the amount and source of plastic and microplastic.

WHAT TYPE OF SCIENTISTS WORK ON PLASTIC POLLUTION?



Marine debris and plastic pollution is a huge global crisis, so lots of different types of scientists are working to help find solutions.

Some examples include:

- Environmental Scientists who study the impact of plastic pollution on ecosystems and develop strategies for managing and reducing waste.
- Marine Biologists who focus on how plastics affect marine life, including health, behavior, and population dynamics.
- Chemists who analyse the chemical composition of plastics and the toxins they release into the environment.
- Ecologist who examine the broader effects of plastic pollution on ecosystems, food chains, and biodiversity.
- Waste Management Scientists who develop and improve methods for recycling, waste reduction, and sustainable disposal of plastics.



GROUP DISCUSSION

**WHAT TYPES OF QUESTIONS DO YOU
THINK SCIENTISTS SHOULD BE TRYING
TO ANSWER ABOUT PLASTIC
POLLUTION?**

Students here can work in groups or as a class to come up with the key questions that they think scientists should be trying to answer about plastic pollution.

GOVERNMENT

WHAT ACTION DOES THE
GOVERNMENT TAKE TO REDUCE
PLASTIC POLLUTION?

Governments take various actions to reduce plastic pollution.

GOVERNMENT ACTION



BANS AND
RESTRICTIONS



RECYCLING
PROGRAMS



PUBLIC AWARENESS
CAMPAIGNS



LEGISLATION



SUPPORT FOR INNOVATION

Bans and Restrictions: They may ban or limit the use of single-use plastics like straws, bags, and utensils.

Recycling Programs: Governments set up and promote recycling programs to help people properly dispose of and recycle plastic waste.

Public Awareness Campaigns: They run educational campaigns to inform people about the impact of plastic pollution and encourage sustainable practices.

Legislation: Governments create laws to regulate plastic production, enforce waste management practices, and support research on alternatives.

Support for Innovation: They fund research and support companies working on new, eco-friendly materials and technologies for reducing plastic waste.

LOCAL GOVERNMENT ACTION



PLASTIC BAGS

BAN ON SINGLE USE
LIGHTWEIGHT PLASTIC
BAGS



SINGLE USE PLASTIC BANS

CUTLERY, STRAWS, PLATES
AND BOWLS, COTTONS
BUDS & HEAVY WEIGHT
PLASTIC BAGS



WORKING ON

BREAD TAGS, COFFEE
CUPS, CONFETTI, FRUIT AND
VEG BAGS, TAKEAWAY
CONTAINERS

Every state and territory has a ban on single use lightweight plastic bags.

Most states have banned cutlery, straws, plates and bowls, cottons buds & heavy weight plastic bags.

There has been some movement on banning bread tags, coffee cups, confetti, fruit and veg bags, takeaway containers. This is still in its early days and needs more focus.

ACTION OVERSEAS

INTRODUCED
PLASTIC
TAXES



Plastic taxes are a great way to force big companies to have responsibility for the plastic they are using. Plastic taxes have been introduced in the UK and Europe.

What is it: A tax on any plastic used in packaging.

Examples

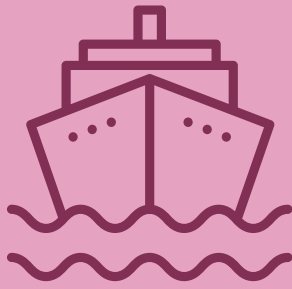
- Food and drink packaging
- cosmetics
- medicines
- consumer goods

Expected benefits are:

- Encourage recycling of plastics
- reduce virgin plastics

INTERNATIONAL AGREEMENTS

MARPOL: SHIPPING AGREEMENT



UNITED NATIONS GLOBAL PLASTIC TREATY



There are two major international agreements that are in place to help the reduction of plastics in the marine environment.

The MARPOL agreement is focused on shipping and fishing vessels. There are a number of rules in the MARPOL agreement that reduces marine debris. This includes: banning dumping (prohibits the dumping of plastics from ships), rules on waste management, and enforcement and education to limit incorrect disposal required. This helps keep plastics from ships out of the ocean.

The United Nations Global Plastic Treaty is an international agreement designed to tackle plastic pollution worldwide, first developed in 2022. It sets targets for reducing plastic production and waste, promotes the use of eco-friendly alternatives, and supports better recycling practices. The treaty encourages countries to work together to share solutions and technologies, aiming for a cleaner and healthier planet.

DISCUSSION POINTS

**WHAT INTERNATIONAL AGREEMENTS DO YOU
THINK ARE NEEDED?**

**WHAT LOCAL AGREEMENTS OR LAWS
SHOULD BE MADE?**

Students can discuss both international and local rules that they think should be enforced. This can be a group or class discussion.

YOUTH ACTION



This video can be played to provide another style of learning for the students. Audio will be required, however there are audio cues available. The video goes for 4 minutes.

https://www.youtube.com/watch?v=Er7AmyJzcEE&ab_channel=DohaDebates

DISCUSSION POINTS

WHAT CAN YOU DO?

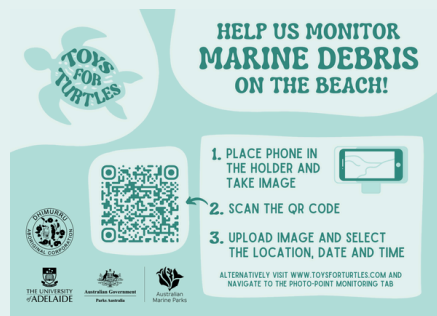
**HAS YOUR BEHAVIOUR TOWARDS
PLASTIC USE CHANGED SINCE YOU
BEGAN LEARNING MORE ABOUT IT?**

Students can take part in a group discussion to talk about individual actions that can be taken to help reduce plastics. This includes not just reducing individual plastic use but also advocacy and encouraging others.

CALL TO ACTION: PHOTO-POINT MONITORING

WE WANT TO USE PHOTOGRAPHS TO MONITOR
MARINE DEBRIS ON THE BEACH OVER TIME

PLEASE TAKE PHOTOS AND UPLOAD THEM TO
THE WEBSITE WHEN YOU VISIT THE BEACH



The Toys for Turtles program is using photo point monitoring to track changes in plastic accumulation over time. A great addition to the science that the Dhimurru rangers and sea shepherd are already collecting.

If you ever see one of these signs at local beaches, take a photo with your phone, and upload it! You can be a citizen scientist!

PRACTICAL

**FIELD TRIP TO PHOTO-POINT
MONITORING SITE**

**TAKE AN IMAGE AND UPLOAD
TO WEBSITE**

If possible, take students on an excursion to a photo-point monitoring site. Allow them to each take photos and upload it to the website.