

Plastic pollution: lesson 1 of 4

Where does plastic go?

What plastic is, how much we make, and how it reaches the sea



Collecting plastic from a beach in the Philippines. Photo: MCP



Mystery bags

1. Each group gets a bag of clean, used plastic things.
2. Take them out one at a time. What was each one used for?
3. How long do you think it was used before it was thrown away?
4. What could be used instead?

Be a plastic detective

Write your answers on the detective sheet. Which item surprised you most?



What is plastic?



Made from oil and gas

Most plastic starts as oil or natural gas from underground.



Useful

Plastic keeps medicines clean, food fresh and helmets strong.



Cheap and light

So we often use it once and throw it away.



Long-lasting

It doesn't rot like food. It breaks into smaller and smaller pieces.



How much plastic?

460 million

tonnes of plastic made
around the world in 2019

353 million

tonnes thrown away the
same year

9%

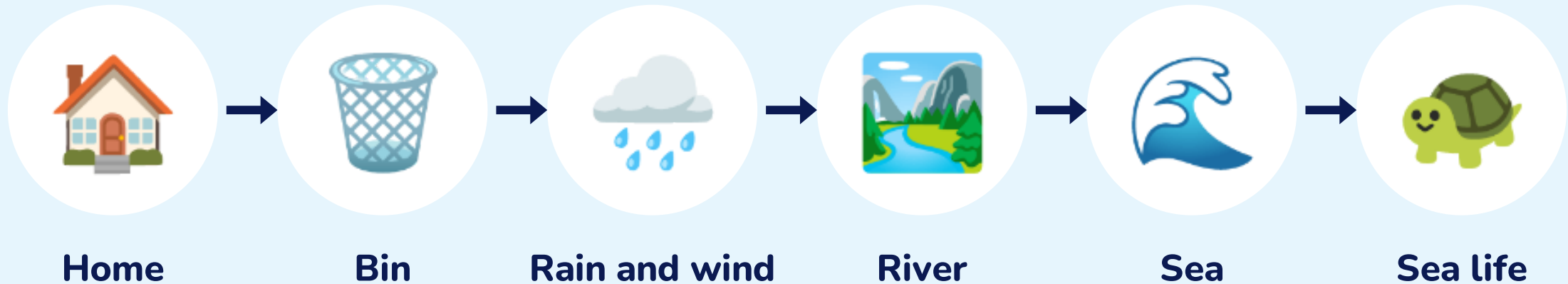
of plastic waste is recycled

Most of the rest is buried in landfills, burned or dumped, and some of it reaches rivers and the sea.



There is no such thing as away

Plastic we drop, or that escapes from bins and dumps, gets blown and washed into rivers, and rivers carry it to the sea.



Rivers carry plastic to the sea

A 2021 study estimated how much plastic every river in the world carries into the ocean. Many are small rivers flowing through busy towns near the coast.

#1

The Pasig River in Manila was estimated to carry more plastic into the sea than any other river in the world

7 of 10

of the rivers carrying the most plastic to the sea were in the Philippines

The Philippines has thousands of rivers, heavy rain and many people living near the coast.



Sachets

Sachets let families buy small, affordable amounts of shampoo, coffee or soap. But they are almost impossible to recycle.

163 million

plastic sachets used in the Philippines every day

591

sachets a year, for the average Filipino

Who should solve the sachet problem: shoppers, shops, or the companies that make them?



How long does plastic last?

You have probably seen charts like this. Put these in order: which lasts longest?



What the posters say
Plastic bottle: 450 years



What the posters say
Fishing line: 600 years



What the posters say
Plastic bag: 20 years



The twist: nobody really knows

Scientists checked 57 of these posters and could not find a reliable scientific source for any of the numbers. Every poster that listed fishing line gave exactly 600 years.

What we do know: plastic doesn't rot away like food. Sunlight and waves break it into smaller and smaller pieces, which can last a very long time, especially in the sea.

What does this teach us about checking facts we see online?



Class interview

1. Pair up with someone you don't usually work with.
2. Ask your partner the questions on the interview sheet, and write down their answers.
3. Swap, so you both get interviewed.
4. Share one interesting answer with the class.



Talk about it

Where have you seen plastic in rivers or on beaches near you?

Why is so little plastic recycled?

Which plastic thing in your mystery bag could you most easily live without?

Next time: plastic and ocean life



Photos and sources

Photos: beach clean-up by MCP. Microplastics by Da Shika. All illustrations drawn for this lesson by Marine Conservation Philippines.

Sources:

- OECD (2022). Global Plastics Outlook.
- Meijer, L.J.J. and others (2021). Science Advances.
- GAIA (2019). Plastics Exposed.
- Ward, C.P. and Reddy, C.M. (2020). PNAS.
- Marine Conservation Philippines.

Full links are in the teacher reading. Free to use and share for education. Made by Marine Conservation Philippines. More free lessons: marineconservationphilippines.org/resources/teachers-resources/

