

HOI!

Did you know that your next classroom presentation could save the world? Well, maybe that one about your guinea pig won't make much of a difference, but this one about plastic pollution will! Tricky? Not at all! Because we're here to help.

In this kit you'll find all the information you need about (re)using plastic, stopping pollution and how you can make the world a much cleaner and nicer place to live. Take a look around our website, and you'll find hidden treasures all around: a quiz, a bingo game, a fun experiment and much more.

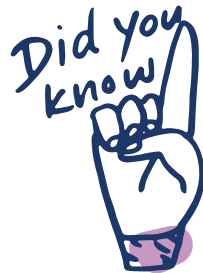


THE PLASTIC SOUP

How it all began

When you heat up oil and add lots of pressure, you can make plastic, a material **with lots of useful benefits**. Plastic was invented in 1900, more than one hundred (!) years ago. It's as light as a feather, super strong (almost unbreakable) and comes in all shapes, sizes and colors.

From your lunch bag, the water bottle on your desk and the rain coat you wore this morning, to your uncle's deck chair and the car bumper: plastic is everywhere.



After 1950 things really got going: more and more plastic was coming out of factories. Since 1950 we have produced at least **8.3 billion metric tons of plastic**¹. That's 8.3 with 11 zero's! More than 17 times the weight of all, and we mean ALL, the people on our planet! And that includes you!

Plastic in our environment

We know you always throw the plastic wrapping of your cookie in the bin, right? Or even better – in the plastic bin? Sadly, not everyone does. Most of the plastic in the world **ends up in nature**. From the sidewalk, into the river and straight out to the ocean. But that's all about to change, thanks to you and your awesome presentation!

The plastic floating around in the ocean is mostly disposable plastic. Like the name suggests, this is plastic you throw away after use. But guess what? We don't really need disposable plastic at all! There are lots of ways to replace it.



How much are we talking about?

Some kinds of plastic sink, others float. That's why we don't know exactly how much plastic is in our oceans. Currents bring plastic from all over the world together in **"gyres"** (pronounced as: djajers. Try that tongue twister 5 times fast!). Straws from China, plastic forks from the Netherlands and maybe even your water bottle from the US. Gyres are huge, spiral-shaped ocean currents that contain millions of tons of plastic garbage.



Because not all plastic floats, you won't see a plastic island when you fly a drone over the ocean. It looks more like plastic soup, and not at all tasty. The biggest plastic soup in the world, The Great Pacific Garbage Patch, is twice the size of Texas²!

Every year 8 billion kilos of plastic end up in the ocean³.

That's one garbage truck full of plastic every minute!

Plastic never disappears, it just breaks down into smaller and smaller pieces. We call these little pieces **microplastics** – they look like mermaid tears. When they become even smaller, they're called **nanoplastics**.



The smaller the pieces of plastic are, the harder to spot and take out of the ocean.

Today, there are at least 5.25 trillion pieces of microplastic in the ocean⁴, twice as much as all the trees on the planet! Even in the deepest place on earth, the Mariana Trench in the Pacific Ocean, a plastic bag was found at almost 11,000 meters deep⁵.

Have you ever seen a sea lion taking a tuna snack out of a plastic baggie? Of course not! Animals don't understand what plastic is doing in their ocean, and can easily mistake a piece of plastic rubbish for a yummy snack. And the rest of our planet isn't too happy about plastic either.

PREVENTION

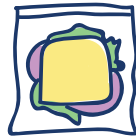
A million plastic bottles are bought around the world every minute⁷. Can you work out how many bottles were sold from the moment you started reading? But using less plastic isn't difficult at all.

Can you find an alternative to those plastic objects?

Hint: ask your classmates during your presentation!



1. TEA BAGS



2. BAGGIES



3. DISPOSABLE CUTLERY



4. PLASTIC BOTTLES



5. PLASTIC BAGS



6. STRAWS

What else can you come up with?

There are lots more ways to use less plastic. How about this birthday, instead of hanging up balloons, you make (reusable) bunting out of colored material?



DRINK
TAP.



REUSE!

You've taken the first step, no more disposable plastic for you. High five! But what do you do when there's no alternative? Don't worry, you don't have to suddenly ban all plastic from your life: just use it again.



**REUSE
YOUR
BOTTLE**

Bottle deposit schemes work well to collect plastic (also a good way to make a bit of extra pocket money!). Sometimes plastic can be shredded and melted into new products. To do so, we need super hot temperatures, even hotter than those we got last summer. That melted plastic can then be turned into plates, lamp shades and even deck chairs!

Maybe you even have one of these recycled plastic chairs in your garden. Reused plastic can even be turned into "ink" for 3D-printers, cool!

Even so, lots of companies use brand new plastic, because it's cheaper than recycling. They're just like Uncle Scrooge. Another reason is that the quality of recycled plastic isn't always as good because it's made from a mix of different kinds of plastic. Sometimes the recycled plastic bends or breaks too easily. **The very best solution is using as little plastic as possible.**



WILL YOU SPREAD THE WORD?

Everyone can help to save the world. Including you! How about **eliminating single-use water bottles** from your school? This time you make the rules! Check out the website to find more information about how to make that happen.

Or you can organize a **Trash Hunt** in and around your school (see the link at the bottom of the next page), or literally go fishing for plastic trash in nearby streams, rivers or lakes!

Companies and celebrities sometimes turn trash into art to raise awareness about the plastic problem. That's why Dopper worked with National Geographic in New York to build an **enormous bridge** out of thousands of plastic water bottles. You could even walk across it! Other organizations and artists including Greenpeace.org and WashedAshore.org have also turned something negative like plastic into beautiful works of art. Together we can make something awesome! So take a sip of (tap) water, and think up a way to help people use less plastic!





Good luck with your presentation!

Nervous? Don't be! To help you out, we made you some note cards. (But shhhhh, don't show your teacher!) There are also some extra presentation tips, even though we're sure you can present like a pro. Want to make your talk even more fun? Find a quiz, an experiment and a bingo game on our website!

Want to know more?

About the plastic soup:

<https://www.schooltv.nl/video/het-klokhuis-plastic-soep>

More about art:

<https://www.hetklokhuis.nl/tv-uitzending/3501/Maria%20maakt>

How much plastic do you use?

<http://mylittleplasticfootprint.org/>

Want to get more involved?

Go Trash Hunting with your class!

<https://www.plasticsoupfoundation.org/wp-content/uploads/2017/08/TrashHunterOpdrachtBasisschool.pdf>

How to literally fish for plastic:

<https://plasticwhalefoundation.com/plastic-vissen/>

How to use less plastic at home?

<https://www.nationalgeographic.nl/stop-met-plastic/2018/06/thuis-minder-plastic-gebruiken-zo-doe-je-dat>

Sources:

No need to read all of these, we did it for you and listed all the most important facts for you in this presentation kit.

- 1) Geyer, R.; Jambeck, J.R.; Law, K.L. (2017). Production, use and fate of all plastics ever made. *Science Advances* 3(7). DOI: 10.1126/sciadv.1700782
- 2) <https://www.theoceancleanup.com/great-pacific-garbage-patch/>
- 3) Jambeck, J.R.; Geyer, R.; Wilcox, C.; Siegler, T.R.; Perryman, M.; Andrady, A.; Narayan, R.; Law, K.L. (2015). Plastic Waste Inputs from Land into the Ocean. *Science* 347(6223) pp. 768-771. DOI: 10.1126/science.1260352
- 4) Eriksen, M.; Lebreton, L.C.M.; Carson, H.S.; Thiel, M.; Moore, C.J.; Borerro, J.C.; Galgani, F.; Ryan, P.G.; Reisser, J. (2014). Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250.000 Tons Afloat at Sea. *PLoS ONE* 9(12): e111913. <https://doi.org/10.1371/journal.pone.0111913>
- 5) Chiba, S.; Saito, H.; Flether, R.; Yogi, T.; Kayo, M.; Miiyagi, S.; Ogido, M.; Fujikura, K. (2018). Human footprint in the abyss: 30 year records of deep-sea plastic debris. Elsevier, Marine Policy. <https://doi.org/10.1016/j.marpol.2018.03.022>
- 6) Franeker, J.A. van; Blaize, C.; Danielsen, J.; Fairclough, K.; Gollan, J.; Guse, N.; Hansen, P.L.; Heubeck, M.; Jensen, J.K.; Le Guillou, G.; Olsen, B.; Olsen, K.O.; Pedersen, J.; Stienen, E.W.; Turner, D.M. (2011) Monitoring plastic ingestion by the northern fulmar *Fulmarus glacialis* in the North Sea. *Elsevier* 159(10):3609-15. DOI: 10.1016/j.envpol.2011.06.008
- 7) Euromonitor 201

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