

Microplastics

An invisible but invincible threat?



- On Tuesday, 28th April 2023, the students of A', B' and C' class of the 5th Model Gymnasium of Chalkida went on a cleaning and record keeping expedition of the amount of microplastics to three nearby beaches of our town under the supervision and initiative of the teacher of Biology Ms. Sofia Liaboti and in compliance with the protocol of the Programme of the European Union, PERSEUS.

- Precedent to the expedition part of the students of the Biology Club of the 5th Model Gymnasium of Chalkida had been educated on the topic of pollution, plastics and microplastics within the course of their visit to ΕΛΚΕΘΕ.

- Additionally, the teachers of the Foreign Languages Laboratories: Avgeri Maria, Madarou Vasiliki, Stamouli Sofia, Henkenherm Anke, Karayorga Ypapanti, gave elaborate presentations to the students of all classes on Microplastics and their impact both on the environment and the human body.

- The Information Technology teachers, Ms. Keskini and Ms. Lalakou, also, participated in the action within the framework of the Skills Laboratoties (B' Class- Volunteerism).

C' Class – Kourenti Coast



B' Class – Sykies Coast



Class A' – Papathanasiou Coast



English Laboratories - Microplastics

In the Laboratories of the English language and under the instruction of their English Language teachers, students watched videos on microplastics, answered questionnaires and produced informative leaflets in the English language to let the public know about the extent of the problem. The main focus of the discussion which followed was on what we eat and how we can make a change by being more careful as to the materials our clothes are made of.

English Laboratories - Microplastics

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Double-click to edit header

Microplastics

What they are: Most plastics in the ocean break up into very small particles. These small plastic bits are called "microplastics." Other plastics are intentionally designed to be small. They're called microbeads and are used in many health and beauty products. They pass unchanged through waterways into the ocean and pollute it.



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Ways to prevent them from entering our house:

1. Buy organic clothes (or those made from organic materials)
2. Change how you do laundry.
3. Buy plastic-free cosmetics.
4. Reduce shellfish consumption.
5. Use public or alternative transportation.
6. Don't microwave your food in plastic.
7. Regularly dust and vacuum.



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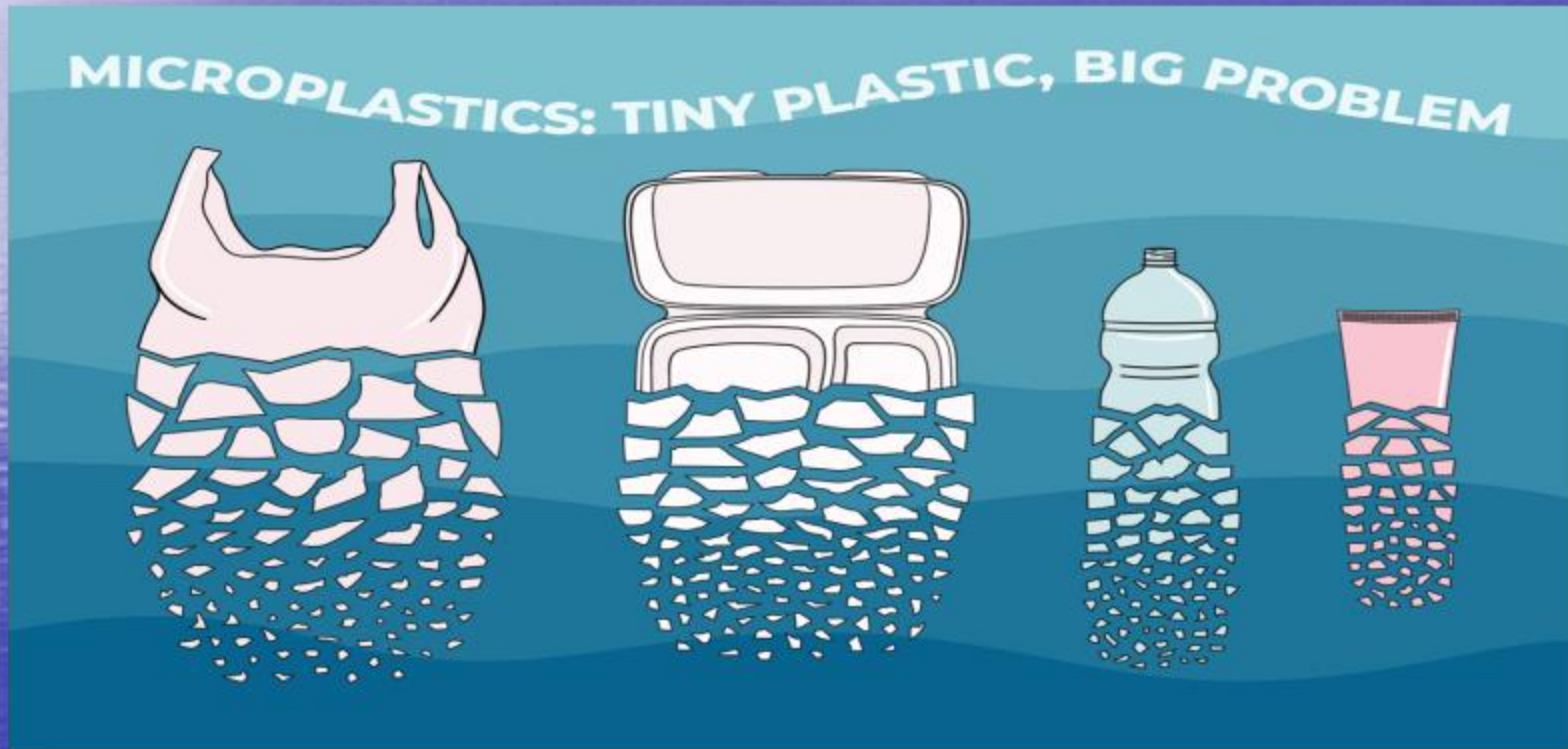
Microplastics

Plastic waste is killing our oceans.

If we don't act now, by 2050 there could be more plastic than fish.



Microplastics- How they are produced...

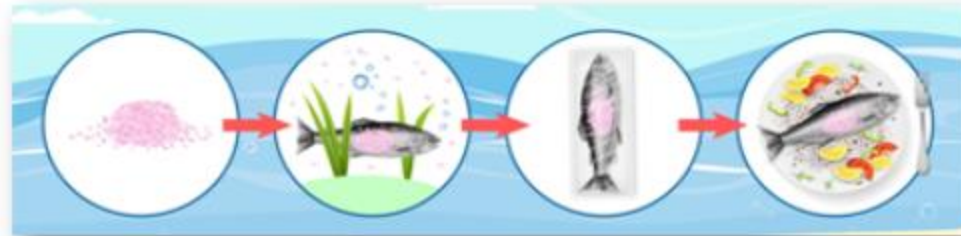


... and how they end up in the human body.

CONNECT

car@

Microplastics get eaten by fish...



...and then by us.

Why might your body contain microplastics?

Ways to remove microplastics from oceans and the sea



“We’ve invented a way of removing large pieces of plastic from the oceans, but it doesn’t work for microplastics.”

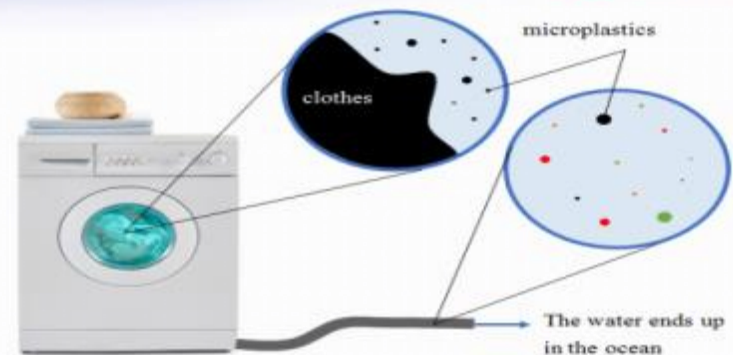
Why doesn't this method remove microplastics?

What happens every time you do the laundry!

CONNECT

do

“ Every time you wash clothes in your machine, they shed hundreds of thousands of microplastics.



Let's invent a way to stop microplastics escaping from washing machines. ”

Length of the largest microplastics

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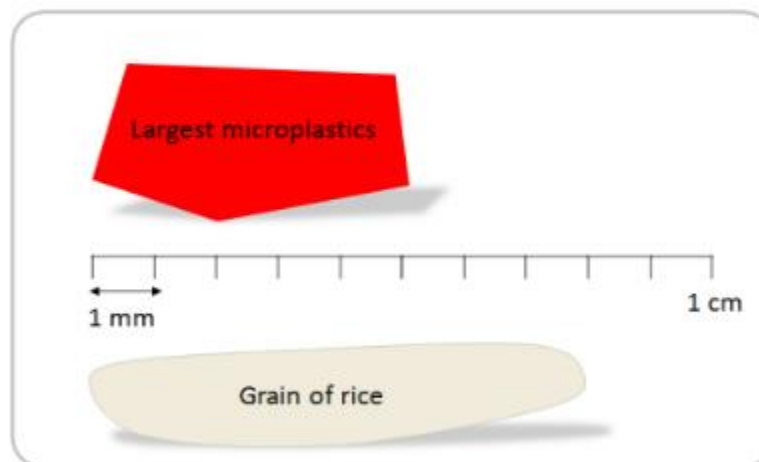


The challenge: microplastics are tiny

Click for
simulation

What makes some microplastics hard to capture is that they're very small.

Let's see how small...



What is the length of the largest microplastics?

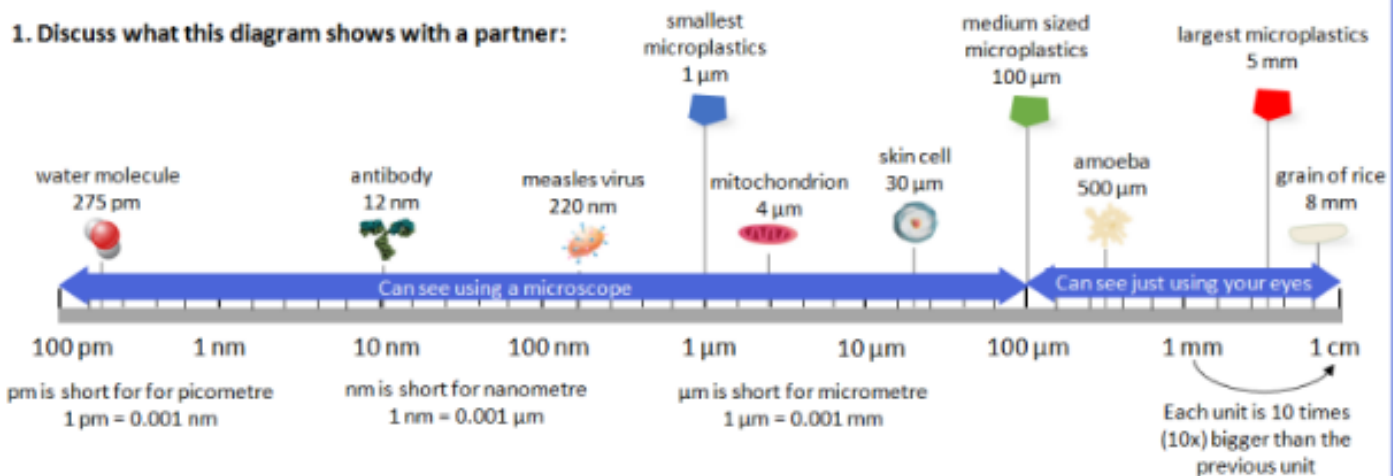
Comparisons

Size and scale

SS1

What to do:

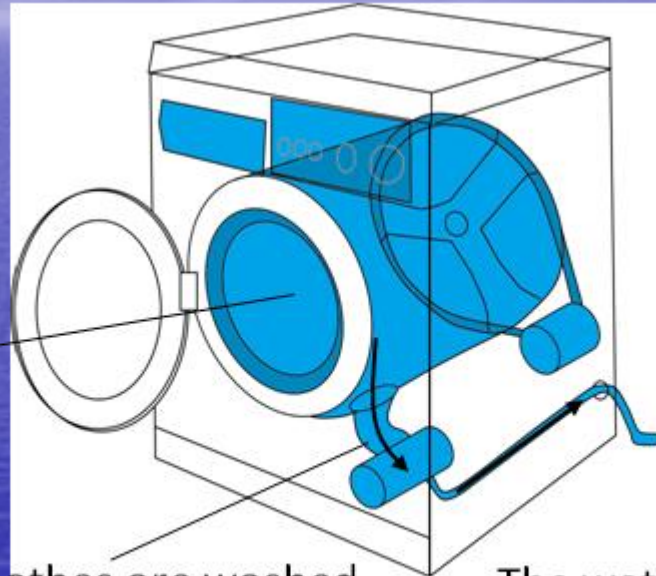
1. Discuss what this diagram shows with a partner:



2. Answer these questions on your own:

1. Put these objects in order of size, smallest first: bacteria, amoeba, antibody, skin cell.
2. If you lined up bacteria end-to-end, how many would fit inside a skin cell?
3. How big is an amoeba in mm?
4. True or false: The smallest microplastics are 0.001 mm.
5. Noah says 'you can see if there are microplastics in water with your eyes.' Do you agree? Give a reason for your answer.

Clothes go
in the drum.
It then fills
with water.



After the clothes are washed,
the water leaves this way.

The water eventually
ends up in the ocean.

Microplastics in our plate



Καμάρες

Ένα ισχυρό σύμβολο – τοπόσημο.

Το ρωμαϊκό υδραγωγείο, γνωστό ως Καμάρες, βρίσκεται στη βόρεια έξοδο της Χαλκίδας στην περιφερειακή οδό, λίγες εκατοντάδες μέτρα από το 5ο Πρότυπο Γυμνάσιο.

Αποτελούσε έργο μεταφοράς νερού για την ύδρευση της πόλης, το οποίο κατασκεύασαν οι Ρωμαίοι και συνέχισαν οι Ενετοί.

