

Mediterráneo: source of life

LESSON PLAN PREPARED BY 4th ESO STUDENTS FROM
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DESCRIPTION

Our project is based on the Mediterranean sea problems. The Mediterranean sea is one of the most polluted seas in the world. Let's raise awareness on problems and good things about this beautiful sea.

OBJECTIVES

The objective of our project is to raise awareness of how much our garbage can damage the sea and the fauna that live in it, as many times we are not aware of how much our irresponsibility can affect it when it comes to recycling or throwing plastic anywhere.

ACTIVITIES

1. READING

PLASTIC ISLANDS IN THE MEDITERRANEAN

The Mediterranean Sea is famous for its pristine beaches, crystal clear waters and beautiful islands. However, it seems that human greed for plastics has ruined this idyllic region.

A team of researchers has discovered a floating "island" of plastic waste, which has an extension of several tens of kilometers and lies in front of the islands of Corsica (French territory) and Elba (Italian territory).

The agency France-Press reported that the "island" of plastics was created by the currents that carry garbage to the north and then deposit the plastics between the coasts of Corsica and Elba.



PROBLEMS WITH THE FAUNA IN THE MEDITERRANEAN SEA

In the Mediterranean Sea, plastic ingestion threatens 134 species. For example, it is estimated that 18% of tuna and swordfish populations have plastic remains in their stomachs, all sea turtles that live in the Mediterranean have ingested plastic, and it is estimated that 90% of seabirds have fragments of plastic in their stomachs.

Plastic debris in the marine environment contains organic pollutants, such as pesticides, PCBs, phthalates or bisphenol A. These plastics that marine species ingest also affect our bodies since, at the moment that polluting plastics enter, they interfere with important biological processes, causing liver damage and hormonal alterations.



<https://www.mirror.co.uk/news/weird-news/turtle-dies-after-washing-up-20446822>

Plastic pollution affects key economic sectors in the Mediterranean, especially fishing and tourism. It is estimated that marine litter is worth the EU fishing fleet about 61.7 million euros each year, due to reduced catches, damage to vessels and reduced demand for shellfish due to the concern about its quality.

The results revealed that the total annual load of plastics entering the Mediterranean is approximately 17,600 tonnes, of which 3,760 tonnes currently float in the Mediterranean. Of the total, 84% ends up on the beaches and the remaining 16% ends up in the water column or at the bottom of the sea.

This is an important problem and it means we have to avoid throwing plastic into the sea.

GOOD THINGS DONE IN THE MEDITERRANEAN SEA:

We call *Ghost Fishing* fishing with ghost nets, since they are not seen by animals. Nets are abandoned in the sea and a good thing that they do is that groups of people dive to take them off.

The disappearance of the Mediterranean sperm whale can generate an imbalance in the marine environment of which we do not know its size. To monitor it, they organize one-week expeditions on sailboats. Some hydrophones installed on the boat receive the sounds emitted by the cetaceans, allowing their location and sighting.

BAD THINGS IN THE MEDITERRANEAN SEA:

The Mediterranean Sea is one of the most polluted on the planet.

Its main problem is microplastics, small particles resulting from the fragmentation of plastic waste due to the force of the waves. They are millimeter pieces that are very difficult to remove.

According to a study by Greenpeace, between 21 and 45% of all particles of the world; microplastics are in the Mediterranean basin, where more than 95% of its waste is plastic.

Only Spain throws more than 126 tons of plastics a day, placing itself as the second country that dumps the most plastics into the Mediterranean sea.

Flora and fauna have been under a big pressure for years due to fishing, tourism, climate change and pollution, mainly. In less than 70 years, the Mediterranean Sea has lost 41% of the mammalian animals that inhabited its waters and 34% of its fish.

The Mediterranean Sea is an almost closed sea, it has little renewal, so it is more noticeable than in other seas or in the open oceans, where there is more exchange, that discharge that we do especially from our towns and cities. From our coasts from January 1 to December 31 we are pouring insufficiently purified and even untreated water, but we must be realistic.

Over the last decades, 99% of the sharks in the Mediterranean have disappeared due to overfishing, pollution with toxic discharges and the plague of plastics.

Overfishing also threatens species such as bluefin tuna or grouper, whose overfishing and poorly managed captive breeding have pushed their populations to the limit, as is also the case with the sea cicada or red coral.

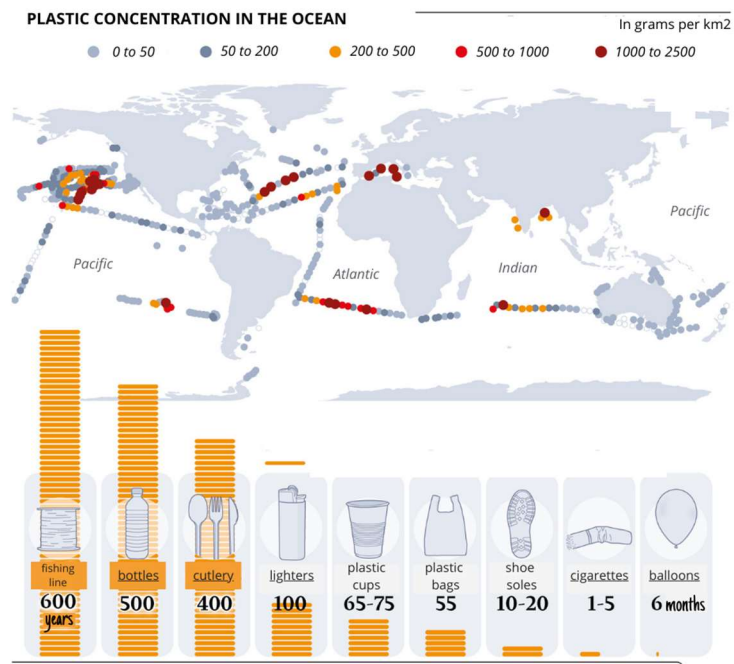
If we could travel back in time and see the submerged landscapes of the Mediterranean 40, 50 or 60 years ago, we would realize that many places have nothing to do with what we have now. They had a health and a shine that we are losing, although it is still seen in some places.

THE MEDITERRANEAN, PLASTIC CONTAINER

Plastic is a visible material, but what is observed represents only the tip of the iceberg of the problem it is creating. There are, in addition, concepts that have become popular and that are erroneous, such as the famous plastic islands. People have in mind a giant accumulation in remote areas of the seas. However, this is not the case, otherwise there would be hundreds of satellite images.

Once plastic enters circulation, it is usually incorporated into what are called ocean gyres, circular currents found in the north and south of the oceans. According to a GreenPeace report published in 2017, **21% of the microplastic particles in the world are found in the Mediterranean basin.** In this study, microplastics were found in 88.71% of the samples. Another work by the former Ministry of the Environment in 2016 showed that on Mediterranean beaches, 72% of the garbage is plastic. This material also has a very high permanence in the seas.

Therefore, experts say that it is not enough to stop consuming. Ideally, to reverse the environmental disaster would be to develop projects to remove much of what is already in the oceans.



2. LISTENING

VIDEO:

THE HIDDEN TRUTH OF PLASTIC POLLUTION IN THE MEDITERRANEAN

3. Watch the video and answer the questions.

<https://youtu.be/hEf2va6Q1wA>

QUESTIONS:

- What can we find under the water in the Mediterranean Sea that is observed in the video?
- How long has the master diver taken to collect all the trash?
- How long have some plastics and garbage been in the sea?
- How many kilograms of garbage have they collected in total?
- What kind of method do divers use to collect more trash and how?

3. SPEAKING

THINK ABOUT IT!

Here are some questions for you to think and answer giving your opinion about sea pollution. How can we make a difference?

- Do you think sea pollution influences your welfare?
- Do you consider that you pollute a lot? Do you do anything to prevent it?
- Do you know any good things that people are doing to help with the sea pollution? Would you like to do any of those things in your free time to help them?
- Now you know some things that people do to help with the pollution, do you know anything else that they do or they could do for it?
- Did you know that so many animals had died from this pollution? What do you think about it?
- Do you think the sea looks different now than a few years ago? What do you think about that?

LESSON ASSESSMENT.

Will you be able to complete the missions? Let's check it out!

<https://view.genial.ly/61e7ea80bc31e000123bab6e/interactive-content-breakout-mystery>

