

Waste and Plastics Unit

This unit examines the nature and impact of plastic pollution, this lesson starts with the background and history of plastics. Then we look into the individual analysis and from there into the measurement of the school total amount of plastics used. Finally, we focused on the process of looking at waste management and potential solutions.

Students research the history of plastics and create a presentation to tell others, emphasizing how plastic is a huge part of our everyday life, to focus students on the amount of plastics produced each year since the 1950s. They will use data from sites in English and in Spanish (or their own languages). They can also search independently.

1. https://www.bpf.co.uk/plastipedia/plastics_history/Default.aspx
2. <https://es.greenpeace.org/es/trabajamos-en/consumismo/plasticos/datos-sobre-la-produccion-de-plasticos/>

Give students some time to come up with items of plastic they have used in a day. They will bring one day plastic used at home. They will list, weigh and take photos of the waste. Then they create a list and add all the information. How much plastic did each one use in a day? What is the total of a day in the class? How much would it be in the 25 classrooms at school? How much would be the whole city in a day? Final result: chart with data.

Class discussion: after the presentation of the history of plastics and the data of the plastics collected students discuss about the results and where plastics go once used.

Create an art project with the plastic collected. Discuss on what can be created. After the discussion, they decided to create a table with food and people made of plastic. The display was showed at school hall to withdraw attention of other students, families and visitors. A poster with the results of their data and analysis was also included to alert on the tremendous amount of plastic used.

Carnival time. In February, our town celebrates carnival. Many people come to visit and participate in different events during the weekend. Students took photos of the waste in the streets during the weekend. They created photos, posters and videos of the problem. They discussed on the topic following the questions. Here are the questions and their answers.

Question 1: What is your reaction to these photos?

- Some people can be careless/shameless.
- I don't like this. It is dirty.
- It looks like people don't care about the consequences of their actions.
- I'm upset with Carnival.

Question 2: Why is there so much trash in the streets?

- Sometimes people don't care to dispose of their trash in the proper places.
- Some people don't respect nature.
- People tend to litter (leave their trash on the street).
- The garbage bins are not large enough.
- Some assume that others will throw away their trash in the bins.
- There are many people that participate in Carnival, which means there is a lot of trash.

Question 3: If you were mayor of Cadiz, what would you propose to do in order to solve the problem of excess waste in the city?

- If I were the mayor, I would fine people who throw their trash on the streets (during Carnival and other times of the year).
- If I were the mayor, I would put up signs telling people not to litter.
- If I were the mayor, I would put the garbage bins underground.

Where does the plastic go?

Students study a graphic of the life cycle of a plastic bottle with special reference to disposal. They are asked to describe and then rank the different paths that plastic can take after it has been thrown away. They learned about Composting, Biological Mechanic Treatment and debated about Landfills.

Watch the video the life of 3 plastic bottles before their final reflections on the topic:
https://www.youtube.com/watch?v=_6xINyWpPB8

Finally, they created their own presentations, posters and video on their worries about where all the plastic goes.

We also organized a last activity that helped all to pay attention to the impact of plastics and waste in nature around us. After all the previous work done during two weeks, we decided to take act and organize a field trip to visit the mashes at the entrance of town. We walked there with a group of students and teachers, we carried bags and gloves to observed and collect all the rubbish brought to the area by the ocean during the tides. A video was created to show on the social media, pictures and articles were written to explain the activity. The summary of the activity appeared on all the local newspapers. The Local hiking helped to concern our students about the effects of waste on our local environment. The students recollected all type of plastic waste found in the trail of marshland and the waste was weighed and exhibited in our high school.