

Marine Litter: “Searching for the usual suspects ...at my beach”

Practical Activities to share with the community

There are different ways that we can use for the communication of the carrying out of the activity: several actions are then proposed to deepen the debate and communication on the subject.

1.Exhibition with collected waste

“In search of the usual suspects At my beach”

Creation of an exhibition on k-lines with different types of waste collected, separated by typology (cigarettes butts, swabs, straws, bottle caps ...). A legend should be made with the name and type of waste as well as its degradation time at sea.



Example of the Exhibition *"The Usual Suspects"*
Source: Blue Flag Programme

2. Analysis and interpretation of the data collected

In all activities, it is important to collect, account, analyse and interpret results to draw conclusions. In a beach cleaning we must weigh the collected waste and identify the types of waste by type. Draw bar graphs and / or sectograms with the most frequent residues found in beach cleaning. Based on

the results obtained, through the reading of the graphs, we can have conclusions that allow us to think about behaviours and more sustainable choices, to avoid the production of the residues found.



Analysis and interpretation of results

Example of a Sectogram

3. Photo Exhibition on Beach Cleaning

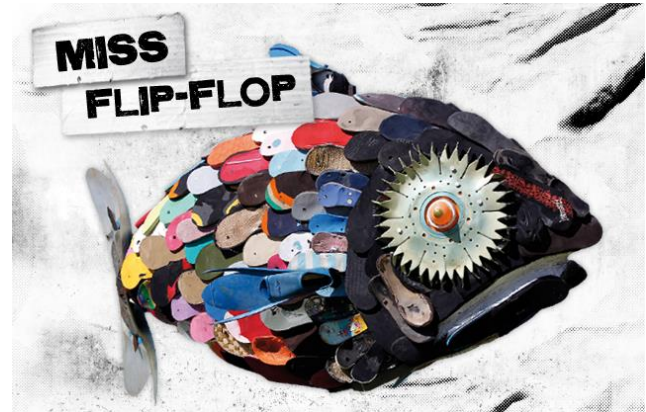
Holding of an Exhibition of photography about the activity carried out. Use the various photographs taken by the participants during the course of the action, aiming to present the various stages of this activity, from the characterization of the beach, distribution of materials, collection of different types of waste, highlight the most frequent or unusual waste that they collected. All photographs must be identified with the author and with a caption. An explanatory guide to the exhibition can be drawn up, where messages are conveyed about the importance of adopting more sustainable behaviours and choices.



Examples of photographs taken during a beach cleaning Blue Flag Programme

4. Sculptures with marine litter collected

Carrying out of several sculptures allusive to native or endemic marine species of the region, using the collected residues in the activity. The sculptures must be identified with the name of the species, the type of waste they used in the construction and the time of degradation at sea.



Examples of Sculptures made with waste collected on the beaches and the sea
Source: Skeleton Sea

5. Mini-Video Campaign

Conducting a 2-minute mini-video campaign to alert and convey a message on the problem of plastic at sea and its impact on the marine ecosystem and food chain.



A viagem interminável do plástico e do lixo marinho

Source: Noctula
noctula.pt/lixo-marinho-plastico/



#SaveOurOcean #MaresLimpos
ONU: o plástico está cobrindo e destruindo nosso planeta

Source: ONU
<https://www.youtube.com/watch?v=3dmZrzeg2e0>

6. Photo Campaign Poster

Launch of a campaign to elect the best poster about the theme by the school community.

Elaboration of the regulation of the poster. Ex: vertical in A3, one sentence.

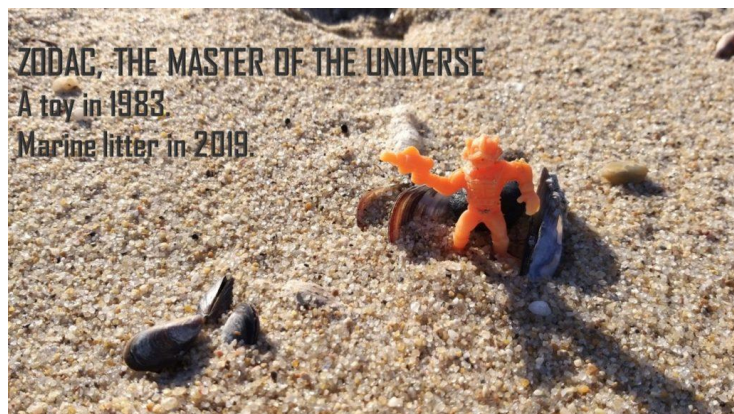
Dissemination of the posters to the campaign in the school (exhibition) and in the social networks.

To elect the best poster, a jury (eg. Eco-Schools Committee) can be used or the social networks (Facebook or Instagram).

The poster chosen by the school will later be used for dissemination in the community: parish council, bathing areas, municipal chamber, etc.



Diogo Ribeiro; Inês Santos; Inês Martins; Mariana Ferreira; Tatiana Vicente; Tomás Oliveira. Escola Básica e Secundária de Canelas. Trabalho premiado no YRE International Competition 2019. jra.abae.pt



Tomás Oliveira. Escola Básica e Secundária de Canelas. jra.abae.pt

7. Lecture on Marine Litter

Organize a lecture about marine litter for the school community and / or local community, where the results of the beach cleaning activity are reported. Invite some entities related to the subject of marine litter like APLM, OSPAR, Plasticus Maritimus, Blue Flag Program.

At the end, there should be time for debate of possible solutions to this problem.

8. Role Play

It consists of the organization of a debate about a problem-matter directly or indirectly related to marine litter.



Examples of problem issues:

- should fishermen pay a fee each time they go out to sea as they are producers of marine litter?
- should smokers pay a fee, every time they light a cigarette, even if they do not throw it on the floor since the cigarette butts are one of the most problematic waste in terms of marine litter?
- should cosmetic products be banned because of marine microbead pollution?
- should plastic be banned all over the world?

The debate is organized with the participation of a moderator and several characters representing people or directly or indirectly involved in the production, collection, referral, treatment, research or education / awareness regarding the problem of waste in general and / or marine litter in particular. Each participant should investigate the theme and the opinions, behaviours, values and attitudes of their character. At the time of the debate they should characterize, if possible, the characters with appropriate clothes and props.

Character Suggestion:

- Industrial – currently a producer of disposable plastic, but which equates to reformulate its production. He argues, however, that the problem is not plastic is that people do not put it in the "right place".
- Environment Agency Technician – has an enlightening stance. Remember some numbers and what has already been done.
- University researcher - develops work on microplastics and solutions. It presents facts about what you are investigating - a "magic" solution for cleaning the oceans.
- Environmentalist – advocates education and prohibition as effective strategies. Proclaims the urgency of measures
- Fisherman– refers to declining fishing and compensation needs rather than fines. It refers to the care it has in the sea and points out that others responsible for the marine
- Tourist 1 – very fond of the beaches of Portugal but consumes fast food on the beach and does not always take the garbage because it knows that they collect for being a Blue Flag beach. Smoke on the beach and bury the blessed in the sand
- Tourist 2 – looking for wild and uncrowded beaches. He cleans the beach he goes to daily. Together with a local school decided to make a campaign delivering ashtrays (biodegradable) to some tourists.

Moderator- introduces the chosen theme / problem; tries to hear different opinions on the subject; generate the time for everyone to have the opportunity to speak; concludes and ends the debate.

Achievement:

The "Game" / "Simulation" should last between 30 and 45 minutes and the moderator plays a key role in the introduction of the problematic and the different characters.

It can be videotaped and then explored, debated, and shared.

9. Beat the Micro Bead

Exploration of the Beat the Microbead site, in particular the microsphere list / identification. Usually the ingredients are written in English: Polyethylene (PE); Nylon-12/6/66; Polypropylene (PP); nylon-11; PMMA; nylon-6; copolymer polyethylene terephthalate (PET).

Consult the list of products already identified in Portugal that contain microspheres.



Source: <https://www.aplixomarinho.org/beat-the-microbead-1>

Some key issues:

- What are microspheres (microbeads)?
- Do we use and send these pollutants into the sea on a daily basis? As?
- Are microspheres a problem?
- If microspheres are a problem, what do you do to minimize or end this problem?



Elaboration of a list of the type of cosmetic and other products, potentially with microspheres in their composition, which are usually used by young people and / or family. Example: body and facial scrubs and peels, deep cleansing, toothpaste (adult and child).

Realization of a table with the list elaborated by the group of the class, adding:

- a column to fill in information about the Brand / Manufacturer during the "audit"; a column for the color (red yellow or green) of the product, if it appears on the list of those identified in Portugal;
Columns to mark the most common (and other) components:

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Columns to mark the most common (and other)

Conduct an "audit" for analysis of products included in the table elaborated by the class. It can be done individually or in small groups.

Each element of the class or small group can search for at least 4 products.

Analyse some diversified products (gel, creams, toothpaste ...).

Check the composition of the product using the label.

Material needed: table made by the class in checklist format to fill various products; list for consultation of the names of microsphere components [[download here](#)]





Hypothesis 1: to the bathroom of the students' house (with permission of the parents).



Hypothesis 2: in a supermarket, traditional shop or other place where it is possible to analyse the labels of the products included in the list drawn up.

10. Marine Litter Matching Game

Description: This game aims to increase the awareness and knowledge of the most frequent types of marine litter in a playful-pedagogical way. It intends to make known the causes, impacts on the environment, time of degradation of the residues and possible solutions to avoid the consumption of this waste.

Instructions: The game consists of a K-Line panel of size A1, to which correspond 20 individual pieces, for correspondence of images about the type of waste most frequent in the sea, its origin, the impact that this has on the environment, time of degradation at sea and the solution to avoid its consumption and production. The game promoter has a bag with the pieces, where each player removes a piece that has to be placed correctly on the board. This game can be adapted so that two teams can participate simultaneously. The team that correctly places the images on the board wins, in the shortest possible time.

Litter	Origin	Impact	Degradation time	Solution
	Throwing cigarette butts to the ground	7000 units are thrown to the ground per minute	> 5 years	Using portable ashtrays
	Consuming drinks with a plastic straw	On average, each person uses 1 per day, which are not recyclable	250 years	Using reusable straws made from metal, bamboo, for example.
	Throwing plastic swabs in the toilet	60% of the litter that comes from residual water	500 years	Using biodegradable swabs, made from bamboo, for example
	Consuming soda cans	They are not placed on the recycling bin, even though they are 100% recyclable	200 years	Drinking water from a reusable bottle

Litter	Origin	Impact	Degradation time	Solution
	Using cosmetic products with microbeads	Ingestion by marine species	Undefined	Using natural products
	Careless use of fishing nets by fisherman	Imprisonment of large marine species	400 years	Recycling the fishing nets

Example (plastic swabs):

