



IDENTIFICATION AND CLASSIFICATION OF MARINE LITTER

In this activity learners familiarise themselves with marine litter by playing classification and description games. They brainstorm ideas on the concept of “litter” and discover that all objects disposed of improperly, may end up as marine litter.

SUBJECTS

Language, Arts, Mathematics, Science, Social Studies

LEARNERS' AGE

10-15 yrs

DURATION

60 minutes (30 minutes for each Task)

OBJECTIVES

- To practise descriptive and classification skills.
- To develop expression and communication skills.
- To discuss ways marine litter is created and then define it.

INTERNET SOURCES

www.oceanconservancy.org/ICC

SECTION **A**

GETTING TO KNOW
MARINE LITTER



KNOW FEEL ACT!

to Stop Marine Litter



Did you know that the first generation of plastics produced in the 1950s are still with us today?

Marine litter can be defined as any persistent, manufactured or processed solid material that is discarded, disposed of or abandoned in the marine and/or coastal environment. It is waste produced by human activity either on land or at sea that somehow finds its way into the marine environment.

- Common materials that make up marine litter include plastics, rubber, paper, metal, wood, glass, cloth, etc. and can be found floating on the sea surface, drifting in the water, washed up on beaches or lying on the seabed.
- Litter that is buoyant and/or easily blown away is more likely to end up in the sea. Not all litter is buoyant and some will sink out of sight.
- Marine litter may be visible to the human eye (macrolitter), hardly visible or even invisible (microlitter).
- The rate at which certain litter items degrade indicates how long they remain intact or “age” in the marine environment.
- One way to classify marine litter is by the type of activity that generated it in the first place. For example, fishing, shipping, illegal dumping, smoking, etc.
- Litter items may differ in their potential impact on the environment and wildlife; some litter items are much more harmful than others.

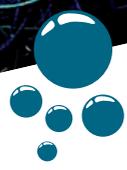
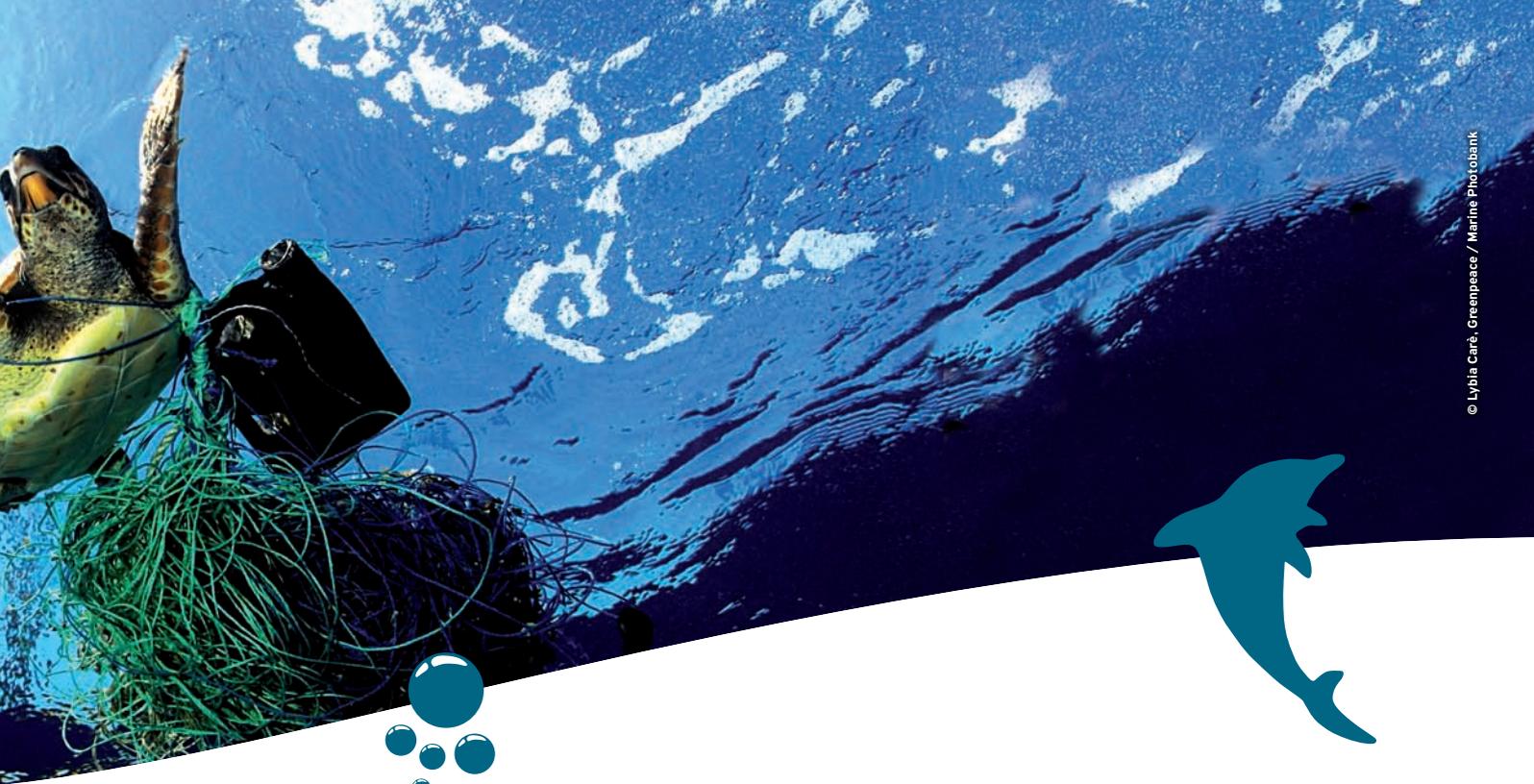
The Era of Plastics

The 20th and 21st century have been characterised as the plastics’ centuries. Plastics have revolutionised our lives: just think about how many different plastic items we use daily: clothes, toys, personal computers, kitchenware, tools and many others!

Despite the benefits, plastics can have severe negative impacts once they become waste and especially if they enter the marine environment. Plastics consistently make up 60 to 80% of all marine litter items found in European Seas. Their design and durability results in a slow degradation in the environment. This means they can travel vast distances with ocean currents, waves, tides, winds and rivers and accumulate over time. Plastic items gradually fragment into increasingly smaller pieces, or microplastics, which are unintentionally ingested by marine organisms every time they open their mouth.

Microplastics can also enter the sea directly mostly through cleaning and personal care products (abrasives), washed clothes (polyester microfibers) or in the form of resin pellets (or “mermaid’s tears” as they are known) found in the raw material of the plastics industry.



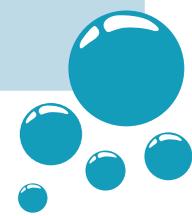


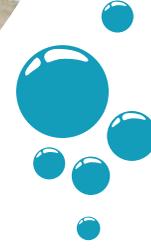
Marine litter games

Game	Skill	Description
Guess it	...description	From a collection of litter items learners secretly choose one and then describe it using only a certain number of words, e.g. 30-40. They then read out their description and the others try to guess the object.
20 Questions	...description	Learners think of 20 questions on a common litter item, for example, a beverage can. This activity demonstrates how much information can be drawn even from any trivial object depending on how we think about it.
“yes - no”	...description	Learners sit in pairs back to back. One holds an object and the other tries to guess what it is by asking only 10 “yes-no” questions (the number of questions depends on what the object is). After the game students draw conclusions on the importance of classification and sequence of questions.
The Litter Museum	...classification	Learners (individually or in groups of 4), are asked to classify a wide range of objects in as many ways as possible as if they were to exhibit them in a Museum. For each classification, learners explain the criteria they used and then the class documents the diverse criteria all the learners used.
My game		



**Can you think of a new game using these litter items?
Describe how to play it!**





Materials and Equipment

Various clean and safe litter items: beverage cans, bottles, candy wrappers, balloons, plastic and paper cups, plastic forks, straws, shopping bags, fishing line and fishing net, rubber bands, paper scraps, etc.

Instructions step by step

TASK A: Marine litter games

The educator empties a large bag full of litter items in the middle of a circle and gives learners time to familiarise themselves with the objects. Depending on age and experience, learners play one or more of the games presented in the Table of the previous page.

After playing, each learner suggests one new game and the class tries them out.

TASK B: Looking for a definition

Let's brainstorm the question: What is "litter"? Learners list key-words and synonyms (words with similar meaning) for the word "litter". Alternatively, they create a spider-net (concept map) on the blackboard.

What about the definition of "marine litter"? How is it different from litter? How might the waste find its way into a stream or the sea?

In the end learners discuss how their family's daily activities generate marine litter and what they could have done differently to prevent its generation.

