



## TRACES ON THE BEACH

| Biology | Technology |

WASTE AND  
POLLUTION



## PEDAGOGIC CONTENT :

- Marine trophic chain
- Food safety and traceability
- Paths and actors of the seafood supply chain
- Degradation times of marine litter
- Coastal management and nature reserves.

## PRE-REQUISITES:

None

## NEW COMPETENCIES TARGETED/LEARNING OUTCOMES:

STUDENTS WILL BE ABLE TO:




- Provide examples of environmental and socio-economic activities sustainable for the seas
- Classify causes and consequences of natural and anthropogenic processes
- Recognize different typologies of marine litter
- Categorize the main groupings of the Animal and Plant Kingdom
- Find decline and erosive processes in the beach
- Construct a seafood chain, from the sea to the table
- Describe existing link among health of the sea, food safety and human health
- Disseminate how to decrease impact on marine resources.







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## DESCRIPTION:

### PREPARATION


-  #1: Collecting of the authorization forms signed by the parents of all the students to participate in the study visit.
-  #2: Creation of IDs card on marine fauna and flora of the place.
-  #3: Explanation on how to understand when it is the right time to implement the ID cards, before or after searching activity.


### IMPLEMENTATION


-  #1 : Learning phase.
  - Briefing on the coastal-marine equilibrium. Explanation of the categories included in the seafood trophic chain and their functions.
  - Observation of coastal and marine resources with considerations on their conservation.
-  #2: Challenge phase.
  - Composition of small teams to start a collection of algae, shells, remains of bones and other parts of marine organisms, and also wastes beached as plastic bottles, bags and fishing webs that occur to them
  - Use of the collected materials to construct a Food Pyramid on the beach (primary producers, consumers of 1° 2° 3°, top carnivores, decomposers).
-  #3 : Reasoning phase.
  - Why the pyramid has not the right appearance? What are the consequences on your plates? What we can do to maintain the pyramid?
  - Observation of human activities at sea and along the coast and of the pollution level of it. How they interact with marine resources and the seafood supply chain?
-  #4 : Guided debriefing.
  - Identification of the actors of the seafood supply chain and simulation of short and long chains.
  - Relationship between the health of the sea, food safety and human health.
  - Restitution of the collected natural materials to the sea and disposal of the waste possibly cleaning the beach and leaving it better than they found it.


Type of activity  Field research, experimental activities

Target audience  11 years old


Place  Outside place (preferably involving a Natural reserve including river and coastal environments with a sandy beach)

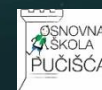
Material needed  IDs card on marine fauna and flora  
binoculars to better observe the environment  
gloves to collect natural traces and marine litter  
containers to collect the founded elements, garbage bags.

Duration of activity  Preparation : 1 and ½ hour  
Implementation: 3 hours

Authorship  MareCamp association, certified by “Friend of the Sea”

Links  [www.marecamp.com](http://www.marecamp.com)

Notes by the author  No registration or authorization for use is required  
Program and duration of the experience may undergo variations in case of adverse weather conditions.  
Disposal of waste is made in collaboration with the local refuse collection service.



MED  
EDUC



Erasmus+