CHEMISTRY-PHYSICS OF THE SEA

Target audience:

primary and secondary school students

Duration:

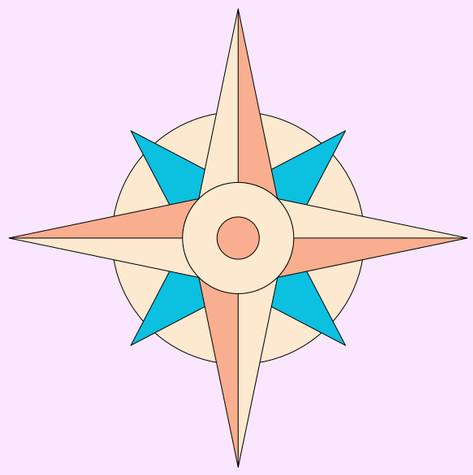
90 minutes

Objectives

The activity aims to investigate the main chemical and physical parameters of the air and sea, teaching students to use the main measuring instruments and some of the environmental monitoring methodologies. A secondary objective is to assess how changes in some of these parameters may affect the balance of ecosystems and marine organisms.

Materials

- Anemometer, thermodensimeter, thermohygrobarometer, compass, oxygen analysis chemistry kit, litmus paper, graduated cylinder, oxygenation analysis waste container
- Instructions for oxygen analysis
- Salinity chart
- Tidal calendar
- Sampling sheets



Description

After an initial introduction to the marine environment and the importance of environmental monitoring, the atmospheric and meteomarine parameters covered in the activity and the instruments with which they will be measured are presented: atmospheric pressure, humidity and temperature with the thermohygrobarometer; wind speed with the anemometer; wind direction and name with compass and sundial; sky coverage by subjective visual analysis expressed in %.
Next, the chemical and physical parameters of seawater are presented.
Divided into groups, students take a sample of seawater with the graduated cylinder and then analyze: the temperature and density of the water using the thermo-densimeter; salinity using the table provided (by combining the density and temperature values they can trace the salinity of their sample); the pH using litmus paper; the sea state with direct observation and the tide level using the provided calendar; the dissolved oxygen with the provided kit.
At the end of the activity, students are involved in a debriefing to reflect on the values of the parameters analyzed and the importance of their stability.

fact sheet realized by

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