

# GUIDE

## For educators (teacher, trainer and parent)

### Why this guide?

- Each course is accompanied by a guide. It enables users of the course to take their learning further.
- It is particularly intended for teachers or supervisors, to help them run workshops on the various themes covered.
- In this way, supervisors can raise questions, put the content of the module into perspective of the course in the context of each country and suggest ways of taking action locally.

### How should you use it?

Each course is divided into 3 parts: *Discover*, *Understand* and *Act*. Depending on the time you have available and the equipment you have, you can:

1. Simply let the students work independently or in small groups on each course and encourage them to lead discussions amongst themselves. They can, of course, use the guide themselves!
2. Once they have gone through the course, use this guide to lead the conversation and make sure everything is understood. Don't let the concepts remain vague or remote. Every student should be aware of the impact these subjects have on their daily lives.
3. You may also prefer to go step by step through the course with the whole class. In this case, project it onto a screen so that everyone can follow the same window.

*Nota bene: this document is simply a basis for reflection! It will help you to organize the work around the different themes, but you are free to launch other debates and ask other questions. The more you personalize the content, the more the subject will speak to your learners.*

# COURSE 2 Marine biodiversity

## WHAT ARE THE OBJECTIVES OF THIS COURSE?

- Discover what marine biodiversity is and why it is vital to our survival.
- Understanding how marine biodiversity works and what threatens it.
- Find solutions to preserve it and, if possible, put them into practice.

## FIRST PART: DISCOVER

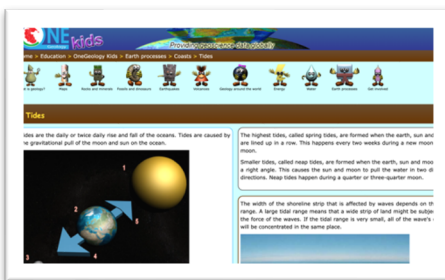
### A. THE SEAFARER'S PLACE IN THE LIVING WORLD

#### A FEW KEY CONCEPTS TO BEAR IN MIND

Our planet is blue. Look at images of the Earth seen from space or a globe to highlight the importance of oceans and seas: oceans and seas represent almost three-quarters!

Life on Earth originally came from the sea, so it is the source of global biodiversity. It is the largest ecosystem on our planet, with almost 10 times as many species present, even if they are different: for example, the plant world there is very particular, there are no trees under the sea....

There is one important phenomenon to be aware of that has a major impact on this ecosystem: the tides.



## READING : ARTICLE BY ONEGEOLOGY ON TIDES

#### A FEW QUESTIONS TO ASK TOGETHER:

1. What are the main differences between the marine and terrestrial worlds? What explains them (light, salt, aquatic environment, availability of oxygen, currents, depth and pressure, etc.)?
2. Identify 5 reasons why it is essential to conserve the sea and oceans.
3. What are you doing or what would you like to do to contribute to this conservation?
4. Even if you live far from the sea, can you influence it positively or negatively?
5. What do you perhaps do, even if you don't mean to, that increases the threats to the seas?

#### A BIT OF GROUP WORK TO GO INTO MORE DETAIL

- Make a list of the most important elements of marine biodiversity that you know of, either in the world or in your region if you live by the sea: remarkable ecosystems, emblematic species, biological phenomena that occur there, etc.
- Construct a tree describing the biodiversity of the ocean: the main environments, the species that inhabit them, the relationships between them and what we can learn from them...
- Choose a marine environment that interests you in particular and describe how it works: what does it consist of? What species live there? What threats does it face? Summarize all this for the class.

## B. FOCUS : THE PLANKTON

A FEW QUESTIONS TO ASK TOGETHER:

1. What is plankton? What are the different forms of plankton in the sea? What is plankton used for?
2. Plankton are said to be at the base of the marine food chain. What does this mean? How can you illustrate this in a drawing?
3. What threats could plankton face? Do you think you are contributing to these threats? If so, what can you do to change this?



### READING : ALL ABOUT PLANKTON

A BIT OF GROUP WORK TO GO INTO MORE DETAIL

1. What would happen if plankton disappeared?
2. Identify 5 species, large or small, that would also disappear. Identify which human activities are directly linked to plankton (fishing, aquaculture, etc.) and how they are directly affected by its health (displacement of fish stocks, seasonal whale-watching tourism, etc.).

## C. OCEAN SERVICES

A FEW QUESTIONS TO ASK TOGETHER:

1. How does the ocean influence what we eat: directly (the fish we eat) or indirectly (products from the sea, salt, fishmeal to feed livestock, etc.)? And what do you own, consume or receive that comes from the sea or wouldn't exist in your life without it?
2. The ocean is said to help regulate the climate, but the same is said of the forest. So what are the ocean's specific assets in playing this role? How does it really help to regulate the climate, and therefore help us to control climate change?



### READING: OCEANS AND CLIMAT

A BIT OF GROUP WORK TO GO INTO MORE DETAIL

1. List 5 things in your life that are linked to the ocean and/or impact us all? Explain why these things are important to you.
2. Try to measure how important the good health of the ocean is for these 5 elements to continue to exist, identify the reasons that may threaten these elements and explain how you contribute to them or, on the contrary, try to correct them.

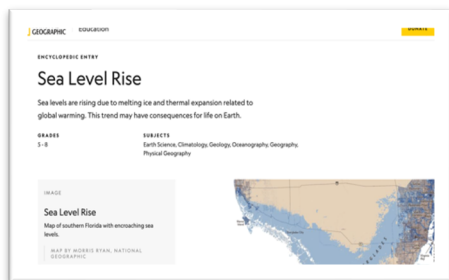
## SECOND PART: UNDERSTAND

### A. DISAPPEARING ISLANDS, SEAS, LAKES AND RIVERS

A FEW QUESTIONS TO ASK TOGETHER:

In some parts of the world, water is becoming increasingly scarce. Are any large bodies of water disappearing? Which ones (Dead Sea, Aral Sea, Lake Chad, etc.) and what are the causes?

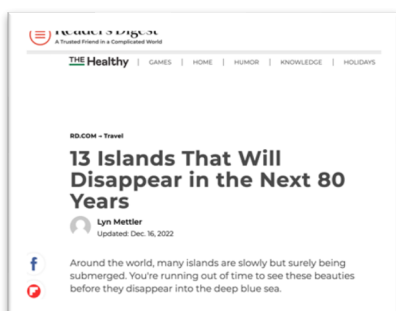
In other places, it's the other way round, and some areas are threatened by rising sea levels (islands, coastlines). How does this manifest itself? What are the consequences for nature and people?



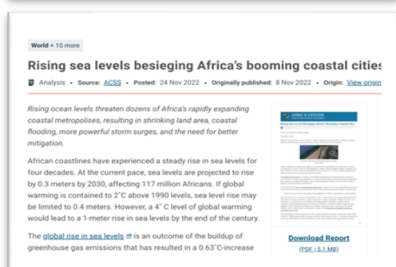
## READING :SEA LEVEL RISE

A BIT OF GROUP WORK TO GO INTO MORE DETAIL

Find the sites on the planet that are most threatened by rising sea levels and also the sites that are most affected by the disappearance of water. Show them on a map and explain the causes of these situations, case by case.



## READING: 13 ISLANDS THAT WILL DISAPPEAR IN THE NEXT 80 YEARS



## READING: RISING SEA LEVELS BESIEGING AFRICA'S BOOMING COSTAL CITIES

## B. FISHING

A FEW QUESTIONS TO ASK TOGETHER:

1. How much of our food comes from sea fishing? What are the main species fished? Where are they found?
2. Why has current fishing become a problem? What has changed in recent years? What are the consequences for marine biodiversity today?
3. Are you concerned by fishing and its consequences (as a fisherman or consumer)? What can you do to limit the problems?

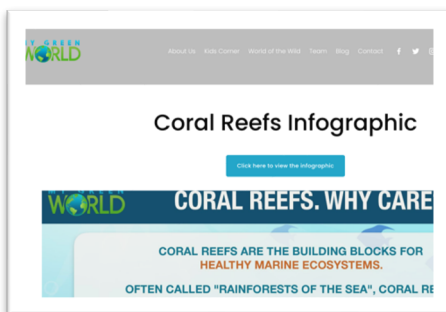
A BIT OF GROUP WORK TO GO INTO MORE DETAIL

Choose a marine species that is often fished (near you or globally) and analyse its situation: where does it live? Why is it fished so often? By whom and where? What will happen if we do nothing? How can we save it?

## C. FOCUS ON CORAL

A FEW QUESTIONS TO ASK TOGETHER:

1. What is coral? How does it work?
2. What is the Great Barrier Reef? Why is this ecosystem unique and so important to the ocean?
3. Closer to home, where can you find coral?

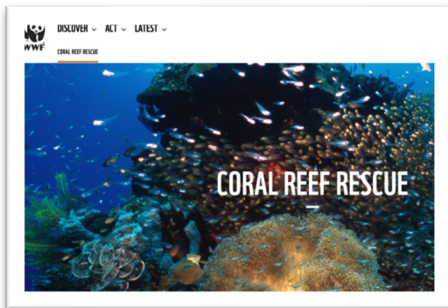


**[DOWNLOAD: CORALS INFOGRAPHIC](#)**

A BIT OF GROUP WORK TO GO INTO MORE DETAIL

List in a table all the direct and indirect benefits of corals. What would happen if they disappeared completely?

Identify what we can do alone, in a group, near or far from the sea... to better protect the world's corals.



## READING: CORAL REEF RESCUE

### THIRD ACT: ACT

A FEW QUESTIONS TO ASK TOGETHER:

1. Even if we live far from the sea, how do we directly impact it? Trace the path taken by a product poured into a river or a plastic discarded at the side of a road until it reaches the ocean!
2. What needs to change so that the products we use have less impact on the ocean?
3. Do you often eat fish or other seafood (shellfish, prawns, seaweed, etc.)? Why is it important to eat them? Can you do without them? Can we eat less? What impact will this have on the sea and oceans?

A BIT OF GROUP WORK TO GO INTO MORE DETAIL

- ➔ If you live near the sea, organize a trip to the beach. Make a list of all the animal and plant species you come across and draw a picture to show the other classes.
- ➔ Choose to take action and collect all the rubbish you come across on the beach: weigh it after an hour and do it again every month to see if there is more and more or less and less. Why should you do this?
- ➔ If you live far from the sea, organize an outing by the river - it connects to the sea! Describe what's going well (is nature healthy?) and what's not (is the river damaged, is there pollution?). Draw a picture of how this will affect the sea.
- ➔ Then collect all the rubbish at the water's edge or in the riverbed. Weigh it after an hour and do it again every month? Follow the changes in the weight of the rubbish and try to understand what is changing and what you can do to stop it!

**To share your ideas with other teachers or simply to find inspiration, join the [Youth Conservation Facebook group](#) dedicated to teachers and educators (parent, trainer, etc ...).**