



# EDUCATIONAL MATERIAL DEVELOPMENT TO PROMOTE INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA) IN THE FRAME OF ASTRAL PROJECT

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## ASTRAL

All Atlantic Ocean Sustainable, Profitable and Resilient Aquaculture (ASTRAL), is focused on Integrated Multi-Trophic Aquaculture (IMTA) farming, aiming to define, support, and promote sustainable aquaculture production across the Atlantic region.

Sharing knowledge and capacity development are among ASTRAL's priorities. This includes the building of collaborative networks along the Atlantic Ocean with industrial partners, scientists, policymakers, social representatives, educators and other essential stakeholders.

Teaching youngsters about sustainable aquaculture and more complex biological processes such as IMTA can be difficult, especially when resources are scarce and information is vast, and, in many cases, too technical or in English (most used language for scientific communications).

## EDUCATIONAL MATERIAL

Thirty-eight (38) activities have been created including:

- Multiple choice
- Open questions
- Join with arrows schematics
- Find the differences schematics
- Crosswords
- Puzzles and others

This guide was based on scientific and public-access material and the collaboration of experts in the different subjects. It has been translated into 5 languages (English, Spanish, Portuguese, French and Norwegian) being therefore available for more than 122 countries.

## IMTA

IMTA is the farming of aquatic species from different trophic levels in a way that allows one species' uneaten feed and wastes to be used as inputs (fertilizers and feed) for another species.

ASTRAL is committed to increasing the public acceptance and awareness of aquaculture by fostering public understanding (including young generations) of the value of aquaculture and especially IMTA, as a sustainable way to produce aquatic products.

## OCEAN LITERACY

We have developed a compilation of activities (i.e. activity guide) that intends to:

- Disseminate scientific knowledge about traditional aquaculture and IMTA in a pedagogical and ludic way.
- Be a resource for teachers teaching children between 10 to 15 years old.

**Question 32**  
Sea creatures eat different kinds of organic material. Some like it more dissolved, some more solid, others like eating even smaller nutrients such as phosphorus and nitrogen. When all these animals and plants work in a team, they can, altogether, keep the environment clean!  
Can you place all the marine animals in the right circle?  
Remember their favorite dish!

**Question 4**  
Where can aquaculture be carried out?

1. In freshwater such as lakes and ponds
2. In seawater like the ocean
3. In both freshwater and seawater

**Aquaculture QUIZ**



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