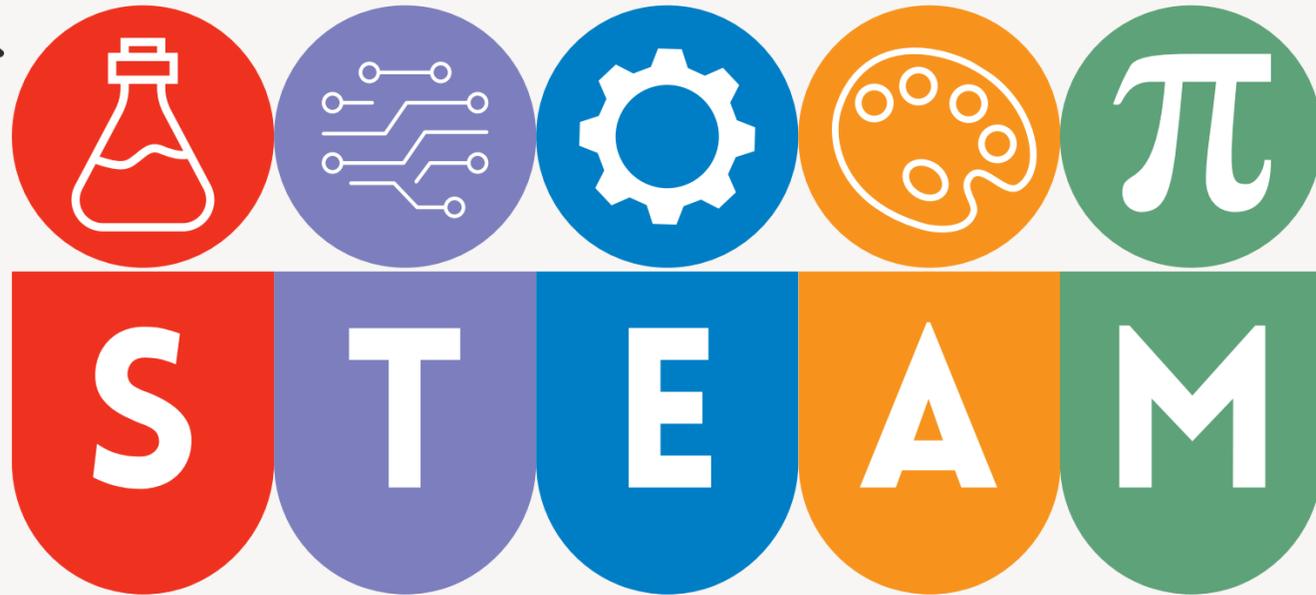CLIL

STEAM

TECHNOLOGICAL FIELDS • UDA 1: Agriculture, Livestock Farming, and Fishing

Feltrinelli Scuola

1. CREATE YOUR OWN MAP

Have a look at the mind map below, then sketch your own version in your exercise book.

AGRICULTURE

Cultivation of plants:
- Cereals
- Vegetables
- Fruit
- Intensive or organic
- Soil preparation with tools and machinery

LIVESTOCK FARMING

Care and breeding of animals for:
- Meat
- Milk
- Eggs
- Wool, etc.

Breeding of domestic animals:
- Cattle
- Sheep
- Pigs
- Poultry in intensive or organic farms

FISHING

Catching fish, crustaceans, and molluscs:
- Also intensive
- Using different techniques (trawling, purse–seining, longlining, and drift nets)

Aquaculture: breeding of aquatic organisms (fish, crustaceans, molluscs, algae) in controlled environments

SUSTAINABILITY

All activities create a significant impact.

In agriculture:
- Fewer chemicals to limit the impact
- In livestock farming:
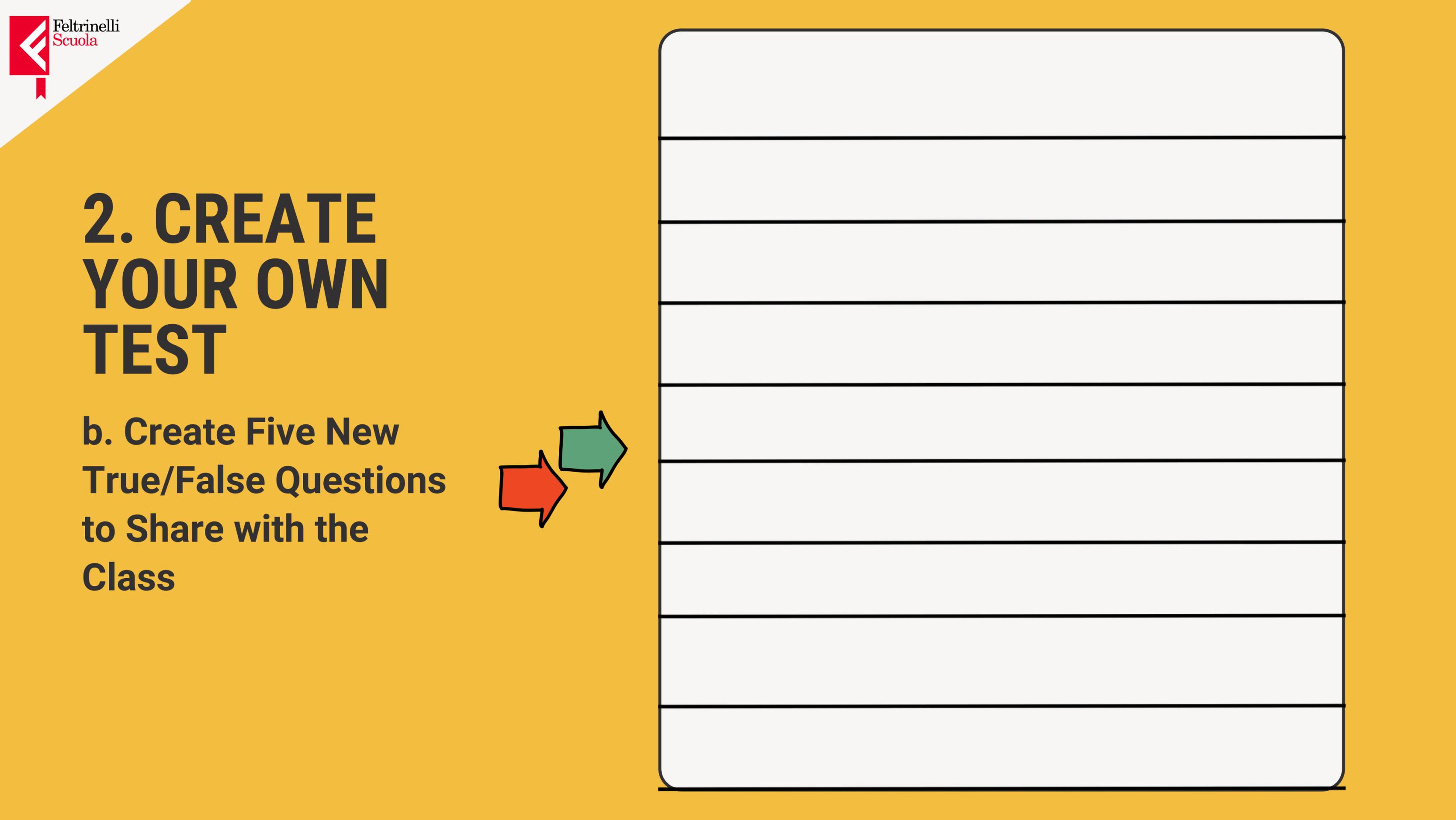- Lower greenhouse gas emissions

In fishing:
- Responsible fishing and controlled aquaculture

2. CREATE YOUR OWN TEST

a. Indicate whether the following statements are true (T) or false (F).

1. Agriculture began around 10,000 years ago during the Neolithic period.

   ☐ T ☐ F

2. Organic farming uses chemical fertilisers.

   ☐ T ☐ F

3. Livestock farming does not cause environmental problems.

   ☐ T ☐ F

4. Aquaculture involves the capture of fish in open waters.

   ☐ T ☐ F

5. Responsible fishing aims to maintain the balance of marine ecosystems.

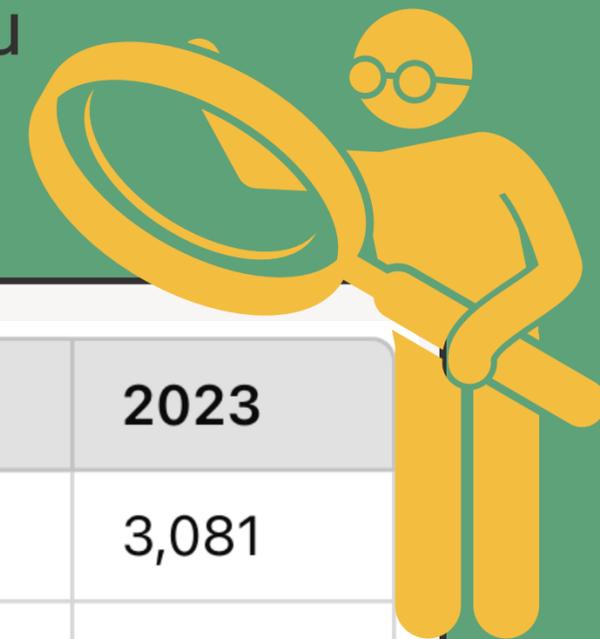   ☐ T ☐ F

2. CREATE YOUR OWN TEST

b. Create Five New True/False Questions to Share with the Class

3. ANALYSIS OF CEREAL PRODUCTION IN ITALY

The table shows **cereal production in Italy from 2020 to 2023**, measured in thousands of tonnes.
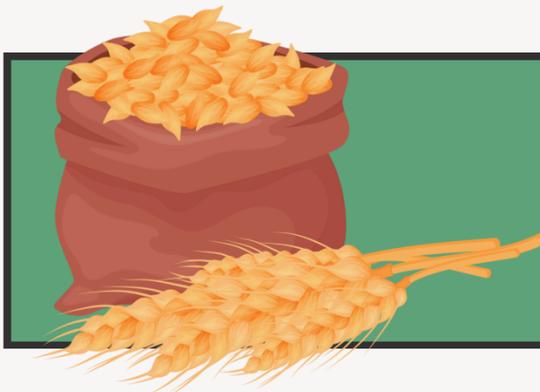Represent the data in the graph or chart you think is most appropriate. You can draw it on graph paper, millimetre paper, or enter it into an Excel sheet.

Cereals (production in thousands of tonnes)	2020	2021	2022	2023
Soft wheat	2,687	3,072	2,777	3,081
Hard wheat	3,963	3,997	4,137	3,741
Maize	6,845	6,126	4,717	5,386
Barley	1,080	1,099	1,069	1,132
Rice	1,270	1,300	1,220	1,380

Summary

For up-to-date data, **you can consult resources like ISTAT** (National Institute of Statistics), **FAO reports** (Food and Agriculture Organization), or t**he Ministry of Agricultural, Food and Forestry Policies**. These sources typically provide the most current and detailed information on **Italian agricultural production.**
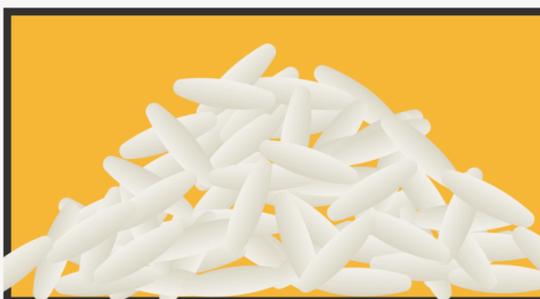
Wheat: Production has shown fluctuating trends between soft wheat and hard wheat, but overall, it remains stable.

Maize: Production experienced a significant decline, particularly in 2022, due to unfavourable climatic conditions such as drought and high temperatures.
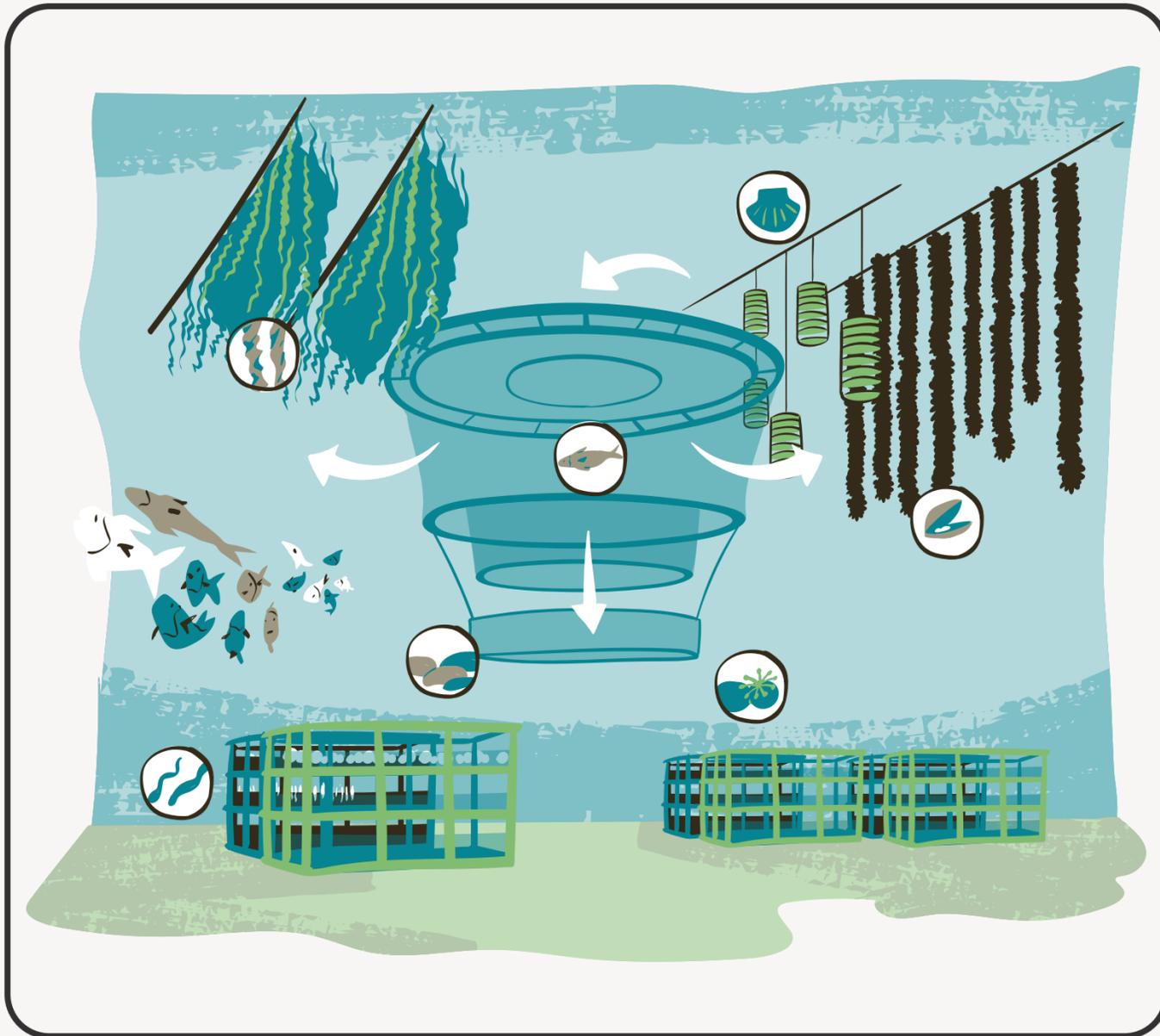
Barley: Production remained stable until 2022 and showed a slight increase in 2023.

Rice: Production fell in 2022, mainly due to the drought that affected the Po Valley, the main growing area.

4. BUILDING A SUSTAINABLE AQUARIUM FOR AQUACULTURE

Subjects: Science and Technology

Objectives
- Understand how a sustainable aquaculture system works, with a focus on water recirculation and environmental quality control.

Activity
- Design a miniature aquaculture system using a standard aquarium. It should include a biological filter and create a balanced ecosystem, similar to those used in controlled fish farming environments.
- You can personalise the aquarium and choose the species of fish or aquatic plants to include, demonstrating how a small ecosystem can be managed sustainably.