

1.3 Aquatic Biomes

Name: _____ Class: _____ Date: _____ **Total: 10 marks**

KEY WORDS marine 海洋 • estuaries 河口 • freshwater 淡水 • salinity 盐度 • coral reef 珊瑚礁

Objective

Build the skills to answer exam questions on **aquatic biomes**.

You must be able to:

- distinguish **freshwater** 淡水 and **marine** 海洋 systems
- describe productive zones (**estuaries** 河口, coral reefs)
- state the factors that shape aquatic biomes (salinity, sunlight, nutrients)

1 Worked examples

Study these first. Each one shows the method for a question type used later — follow the steps and you can do the Practice and Exam-style questions yourself.

■ Freshwater and marine

Aquatic biomes cover most of Earth. **Freshwater** (streams, lakes, wetlands) has low salt; **marine** (open ocean, reefs, estuaries) is salty. They differ in **salinity**, **sunlight**, and **nutrients**.

■ Highly productive zones

- **Estuaries** — where rivers meet the sea; nutrient-rich and highly productive nurseries.
- **Coral reefs** — high biodiversity, need warm, clear, shallow water.

■ Factors that shape them

Sunlight (limits photosynthesis with depth), temperature, **salinity**, dissolved oxygen, and nutrient levels all determine what lives where.

■ A worked reasoning

An estuary is highly productive because rivers deliver nutrients and it is shallow enough for sunlight to reach the producers.

2 Practice

Now apply the methods above.

2.1 State the main difference between freshwater and marine biomes. [1]

2.2 Where is an estuary found? [1]

2.3 Name one factor that shapes an aquatic biome. [1]

3 Exam-style questions

3.1 Estuaries are highly productive because they [1]

A	B
C	D

- A** have no sunlight
- B** are nutrient-rich where rivers meet the sea
- C** are very deep
- D** have no life

3.2 A coral reef is a highly biodiverse marine biome.

(a) State two conditions coral reefs require. [2]

(b) Explain why sunlight limits life in deep ocean water. [2]

3.3 Explain why estuaries are described as important “nurseries” for marine life. [2]