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Section 4–4 Aquatic Ecosystems (pages 106–112)

This section explains the main factors that govern aquatic ecosystems. It also describes the characteristics of freshwater ecosystems, freshwater wetlands, estuaries, and the different marine zones.

Introduction (page 106)

1. Aquatic ecosystems are primarily determined by what characteristics of the overlying water?

a. _____ **c.** _____

b. _____ **d.** _____

2. What does the depth of the water determine? _____

_____

3. What does water chemistry primarily refer to? _____

_____

_____

Freshwater Ecosystems (pages 106–107)

4. What are the two main types of freshwater ecosystems?

a. _____ **b.** _____

5. Where do flowing-water ecosystems originate? _____

_____

_____

6. How does the circulating water in a standing-water ecosystem affect the ecosystem?

_____

7. What is plankton? _____

_____

_____

8. Complete the table about kinds of plankton.

KINDS OF PLANKTON

Kind	Organisms	How Nutrition Obtained
	Single-celled algae	
	Planktonic animals	

9. What is a wetland? _____

_____

_____

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10. What is brackish water? _____

11. What are three main types of freshwater wetlands?

a. _____ **b.** _____ **c.** _____

12. What distinguishes a marsh from a swamp? _____

_____

_____

Estuaries (page 108)

13. What are estuaries? _____

_____

14. Tiny pieces of decaying plants and animals make up the _____ that provides food for organisms at the base of an estuary's food web.

15. Circle the letter of each sentence that is true about estuaries.

a. Most primary production is consumed by herbivores.

b. They contain a mixture of fresh water and salt water.

c. Sunlight can't reach the bottom to power photosynthesis.

d. They are affected by the rise and fall of ocean tides.

16. What are salt marshes? _____

_____

_____

17. What are mangrove swamps, and where are they found? _____

_____

_____

Marine Ecosystems (pages 109–112)

18. What is the photic zone of the ocean? _____

_____

19. The permanently dark zone below the photic zone is called the _____.

20. What are the three main vertical divisions of the ocean based on the depth and distance from the shore?

a. _____ **b.** _____ **c.** _____

21. Circle the letter of each sentence that is true about the intertidal zone.

a. Organisms there are exposed to extreme changes in their surroundings.

b. The rocky intertidal zones exist in temperate regions.

c. Organisms are battered by currents but not by waves.

d. Competition among organisms often leads to zonation.

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22. What is zonation? _____

_____

23. What are the boundaries of the coastal ocean? _____

_____

_____

24. Why is the coastal ocean often rich in plankton and many other organisms?

_____

_____

_____

25. A huge forest of giant brown algae in the coastal ocean is a(an)

_____.

26. Circle the letter of each sentence that is true about coral reefs.

a. The coasts of Florida and Hawaii have coral reefs.

b. The primary structure of coral reefs is made of the skeletons of coral animals.

c. Almost all growth in a coral reef occurs within 40 meters of the surface.

d. Only a few organisms are able to live near coral reefs.

27. What are the boundaries of the open ocean? _____

_____

_____

28. The benthic zone covers the ocean _____.

29. What are the boundaries of the benthic zone? _____

_____

_____

30. Organisms that live attached to or near the bottom of the ocean are called

_____.

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WordWise

Answer the questions by writing the correct vocabulary terms from Chapter 4 in the blanks. Use the circled letter from each term to find the hidden word. Then, write a definition for the hidden word.

What are physical factors that shape ecosystems?

_ ◯ _ _ _ _ _ _ _ _ _ _ _ _ _

What is the full range of physical and biological conditions in which an organism lives and the way in which the organism uses those conditions?

_ ◯ _ _ _

What are the planktonic animals called?

_ ◯ _ _ _ _ _ _ _ _ _

What is a layer of permanently frozen subsoil in the tundra?

_ _ _ ◯ _ _ _ _ _ _

What is the average, year-after-year condition of temperature and precipitation in a particular region?

_ _ _ _ _ _ ◯

Hidden Word: _ _ _ _ _

Definition: _____

_____