

Name: _____ Period: _____ Date: _____

APES Study Guide- Aquatic Ecosystems

Vocabulary

Understand and be able to apply each of these terms.

1. Salinity – *taste experience when salt is taken into the mouth. Dissolved salt content.*
2. Plankton – *any organisms that live in the water column. Provide a crucial source of food.*
3. Nekton – *aquatic organism able to swim and move independently of water current*
4. Benthos – *Community of organisms which live on, the bottom sediments, of a sea, lake, or other body of water.*
5. Littoral Zone – *part of a sea, lake or river that is close to the shore. In coastal environments*
6. Benthic Zone – *ecological region at the lowest level of a body of water. EX/ Ocean, lake.*
7. Eutrophication – *excessive nutrients in a lake or other body of water. Ex of BLOOM.*
8. River Source – *direction leading to the source of the river,*
9. River Course – *direction towards the mouth of the river,*
10. River Mouth – *a lake, sea or an ocean, the source of all the streams.*
11. Marsh – *rea of low-lying land that is flooded in wet seasons*
12. Swamp – *wetland that is forested, occur on the shores of large lakes.*
13. Bog – *wetland that accumulates peat, a deposit of dead plant material, occur where the water at the ground surface is acidic and low in nutrients.*
14. Lagoon- *shallow body of water separated from a larger body of water by barrier islands or reefs, coastal.*
15. Estuary – *tidal mouth of a large river, where the tide meets the stream, most productive natural habitats.*
16. Abundance – *Plentiful of something.*
17. Diversity – *Compose of different elements.*
18. Watershed - *area or ridge of land that separates waters flowing to different rivers*
19. Hydrophytes- *plants that have adapted to living in aquatic environments.*
20. Halophytes- *plant that grows in waters of high salinity,*

Critical Thinking

Read, analyze, and give complete answers to these questions.

1. What are the *three important benefits* (ecosystem service) provided by wetlands?

*.Serve as filter of storm water to take out or absorb nutrient.
.nursery for baby fishes
.Provide the habitat for hydrophytic vegetation*

2. What causes high and low tides? **Explain.**

The moons gravitational, when the moon is pulling the earth, affects the Earth rotation and the bathymetry of oceans.

3. Where would you find an estuary? What type of organisms would you expect to find there?

You will find estuary, in most coastal communities. Organisms that you would find are, fish such as salmon and sea trout, striped bass, flounder and eels.

4. What is the definition of “freshwater”?

Water that's not form/of the sea.

5. The mouth of a river can sometimes become “murky” because of all of the sediments that are washed downstream. *Name 3 problems are caused by “murkiness”?*

*. Because all the trash goes to the ocean, organic wastes.
. A large amount of algae.
. Mud and Clay: lighter mud & clay particles float as suspended solids.*

6. Name 2 types of fish that can live in low oxygen environments:

*.Betta
. Marsh*

7. Explain why reefs are so important to preserve. *What are some of the dangers to coral reefs? Name 2.*

*It's important because it provides protection and shelter for many different species of fish. High levels of Carbons.
.Untreated or improperly treated sewage promotes the growth of algae.*

8. There are different types of marine reef environments. **Define the following:**

- a. Fringing Reefs: *It lies close to the shore.*
- b. Barrier Reefs: *provide a barrier between the ocean and the shore.*
- c. Atolls: *ring-shaped reef for of corals.*
- d. Coral Reefs: *coral consolidated into limestone*

9. **Draw a diagram** of a marine environment and **define the following:**

- a. Intertidal: *Area of a seashore that is covered at high tide*
- b. Pelagic: *Open sea.*
- c. Abyssal: *depths or bed of the ocean,*
- d. Benthic: *what happens on the bottom under a body of water.*

10. What is “winterkill” in a lake? *What happens?*

Cold winter weather, It kills plant, because of cold weather.

11. Describe the differences in the types of food webs found in the two ocean light zones, **euphotic** and **aphotic**. *Where does the initial energy input for each come from?*

Euphotic zone is the part of the ocean near enough to the surface, photosynthesis takes place. Aphotic zone is the part of the ocean that is too deep to receive sunlight. The energy come from the sun.

12. Explain how lakes “turn-over” yearly and what this process causes. *Name one positive and one negative aspect of turn-over.*

occurs on many large and/or deep bodies of water. As temperatures drop so does the water temperature. Is the process of a lake's water turning over: The water becomes colder. It sinks.

13. Draw a diagram of a lake and *define the following:*

- a. Littoral Zone *region of the shore of a lake or sea or ocean*
- b. Limnetic Zone *open surface waters in a lake, away from the shore*
- c. Profundal Zone *zone is a deep zone of an inland body of freestanding water*

14. Complete this summary table of aquatic ecosystems:

	Location	Physical Characteristics
Coral Reef	<i>Tropical Oceans</i>	<i>Corals, Reefs grow best in warm, shallow, clear, sunny and agitated waters.</i>
Sandy Beach	<i>South Shore</i>	<i>Sandy, water is especially dangerous during high surf,</i>
Mangrove Swamp	<i>Around the Gulf of Mexico.</i>	<i>Extensive root systems protect the coast from erosion and storm damage</i>
Salt Marsh	<i>Ocean coastlines.</i>	<i>land, and open salt water or brackish water</i>
Mudflat	<i>coastal wetlands</i>	<i>Bay muddy.</i>
Rocky Shore	<i>seacoast</i>	<i>Rocky shores.</i>

Climatograph

Use the data provided to construct a climatograph. Temperature should be displayed as a line graph and precipitation as a bar graph.

Month	Precipitation (cm)	Temperature (C)
January	10	35
February	3	37
March	2	39
April	5	40
May	13	42
June	9	44
July	2	45
August	2	44
September	2	42
October	8	40
November	18	37
December	7	35

What type of biome do you believe this is? Give specific observations from your graph to justify this answer.

