Name: _____ Date: _____ Env. Science Period: _____

Chapter 7: Aquatic Ecosystems

Section 1: Freshwater Ecosystems

Freshwater Ecosystems

- The types of organisms in an aquatic ecosystem are mainly determined by the water's _____.
- As a result, aquatic ecosystems are divided into _____ ecosystems.
- Freshwater ecosystems include ponds, lakes, streams, rivers, and wetlands.
- _____ are areas of land that are periodically under water or whose soil contains a great deal of moisture.

Characteristics of Aquatic Ecosystems

- Factors such as _____ determine which organisms live in which area of the water.
- Aquatic ecosystems contains several types of organisms that are grouped by their _____ and by their _____.
- Three groups of aquatic organisms include _____.
- _____ are the mass of mostly microscopic organisms that float or drift freely in the water, and can be microscopic animals called zooplankton or microscopic plants called phytoplankton.
- _____ are all organisms that swim actively in open water, independent of currents.
- _____ are bottom-dwelling organisms of the sea or ocean and are often attached to hard surfaces.
- _____ are also aquatic organisms.

Lakes and Ponds

- Lakes, ponds, and wetlands can form _____ where groundwater reaches the Earth's surface.
- Humans intentionally create _____ by damming flowing rivers and streams to use them for power, irrigation, water storage, and recreation.
- The types of organisms present depend on the _____ available.

Life in a Lake

- The _____is a shallow zone in a freshwater habitat where light reaches the bottom and nurtures plants and aquatic life is diverse and abundant.
- Some plants are _____ underwater with their upper leaves and stems above water.
- Other plants have _____.
- The _____ is the region near the bottom of a pond, lake or ocean which is inhabited by decomposers, insect larvae, and clams.

How Nutrients Affect Lakes

- _____ is an increase in the amount of nutrients, such as nitrates, in an aquatic ecosystem.
- As the amount of plants and algae grow, the number of bacteria feeding on the decaying organisms also grows.
- A lake that has large amounts of plant growth due to nutrients is known as a _____
- However, eutrophication can be accelerated by _____, such as rain, that can carry sewage, fertilizers, or animal wastes from land into bodies of water.

Freshwater Wetlands

- Freshwater wetlands are areas of land that are covered with _____ for part of the year.
- The two main types of freshwater wetlands are _____.
- Marshes contain _____, while swamps are dominated by _____.
- Most freshwater wetlands are located in the southeastern United States, with the largest in the _____.
- Wetlands perform several important environmental functions.
- Wetlands _____ that absorb and remove pollutants from the water.
- They also _____ by absorbing extra water when rivers overflow.
- These areas _____ for native and migratory wildlife in addition to feeding and spawning for many freshwater game fish.

Marshes

- There are several kinds of marshes, each of which is characterized by its _____.
- Brackish marshes have _____while salt marshes contain _____.
- The benthic zones of marshes are _____ and contain plants, numerous types of decomposers, and scavengers.
- Marshes also attract migratory birds from temperate and tropical habitats.

Swamps

- Swamps occur on _____, often near streams and are dominated by woody shrubs or water loving trees.
- Freshwater swamps are the _____ for amphibians because of the _____.

Human Impact on Wetlands

- Wetlands were previously considered to be _____ that provide breeding grounds for insects.
- The importance of wetlands is now recognized, as the law and the federal government protect many wetlands.

Rivers

- A river changes with the _____ through which it flows.

Life in a River

- In and near the headwater, mosses anchor themselves to rocks by using root-like structures called _____.

Rivers in Danger

- Industries use river water in _____ for wastes.

Section 2: Marine Ecosystems

Marine Ecosystems

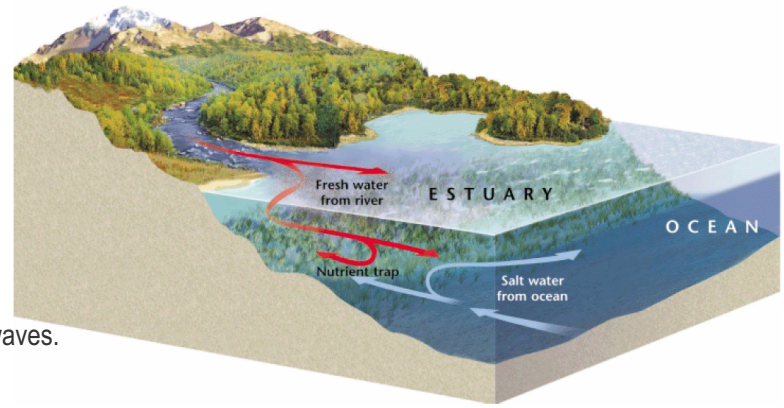
- Marine ecosystems are located mainly in _____.
- Organisms that live in coastal areas adapt to changes in _____.
- Organisms that live in the open ocean adapt to changes in _____ and _____.

Coastal Wetlands

- Coastal land areas that are covered by _____ for all or part of the time are known as coastal wetlands.
- Coastal wetlands provide _____ for many fish and wildlife.
- They also _____which protects them from flooding, they _____ and sediments, and they _____ for boating, fishing, and hunting.

Estuaries

- An _____ is an area where fresh water from rivers mixes with salt water from the ocean.
- Estuaries are very productive because they _____ _____while the surrounding land protects the estuaries from the harsh force of ocean waves.



Plants and Animals of Estuaries

- Estuaries support many marine organisms because they receive _____ _____ for plants and animals.
- Organisms that live in estuaries are able to _____ in salinity because the salt content of the water varies as fresh water and salt water mix when tides go in and out.
- Estuaries also provide _____, access to the ocean, and connection to rivers.

Threats to Estuaries

- Estuaries that exist in populated areas were often used as places to _____.

Salt Marshes

- _____ are maritime habitats characterized by grasses, sedges, and other plants that have adapted to continual, periodic flooding and are found primarily throughout the temperate and subarctic regions.
- Salt marshes, like other wetlands, also _____ to help protect inland areas.

Mangrove Swamps

- _____ are tropical or subtropical marine swamps that are characterized by the abundance of low to tall mangrove trees.
- The swamps help _____ _____ from storms.

Rocky and Sandy Shores

- A _____ is a long ridge of sand or narrow island that lies parallel to the shore and helps protect the mainland.

Coral Reefs

- _____ are limestone ridges found in tropical climates and composed of coral fragments that are deposited around organic remains.
- Thousands of species of plants and animals live in the cracks and crevices of coral reefs, which makes coral reefs among the _____ ecosystems on Earth.
- Corals are predators that use stinging tentacles to capture small animals, such as zooplankton, that float or swim close to the reef.
- Corals live only in _____ where there is enough light for photosynthesis.

Disappearing Coral Reefs

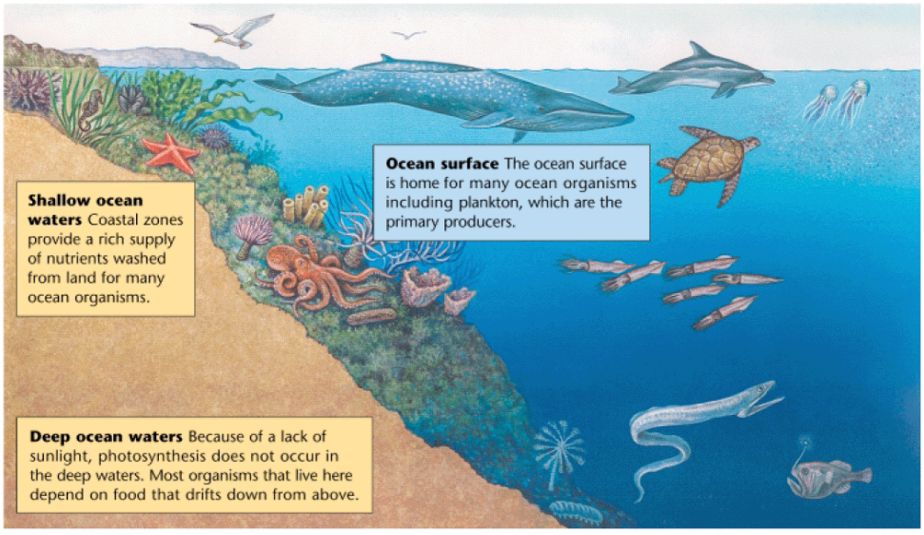
- Coral reefs are productive ecosystems, but they are also _____.
- _____ have also been linked to coral-reef destruction.
- _____can devastate fish populations, upsetting the balance of the reef's ecosystem.

Oceans

- Because water absorbs light, sunlight that is usable by plants for photosynthesis penetrates only about _____ into the ocean.
- As a result, much of the ocean's life is concentrated in the _____ where sunlight penetrates to the bottom and rivers wash nutrients from the land.

Plants and Animals of Oceans

- The sea's smallest herbivores are _____ _____, including jellyfish and tiny shrimp, which live near the surface with the phytoplankton they eat.



Threats to the Oceans

- _____ from fertilized fields and _____ _____ and _____ being discharged into rivers are major sources of ocean pollution.