

Question set on
oceans and
freshwater
ecosystems
assignment



**ASSIGN
BUSTER**

Compare and contrast the main types of freshwater ecosystems. Name and describe the major zones of a typical pond or lake. All freshwater systems are relatively pure and have few dissolved salts. Types of freshwater systems include surface water, rivers, streams, lakes, ponds, wetlands, and groundwater. All of the systems are located on and in different parts of the earth. They are all in the 3% of freshwater systems on earth. The zones of a lake are the littoral zone, the limnetic zone, the profundal zone, and the benthic zone. 2. Describe three benefits and three costs of damming rivers.

What particular environmental, health, and social concerns has China's Three Gorges Dam and its reservoir raised? Benefits include preventing floods, providing drinking water, and facilitating irrigation. Costs of dams include expenses, slowing of river flows, and erosion of tidal marshes. Many people were displaced from their homes, tidal marshes eroded, and many pollutants were trapped in the reservoir. 3. Why do the Colorado, Rio Grande, Nile, and Yellow Rivers now flow to a trickle or run dry before reaching their deltas? It is result of our diversions and our consumption.

We are withdrawing surface water at an unsustainable rate. 4. Name three major types of water pollutants, and provide an example of each. List three properties of water that scientists use to determine water quality. Nutrient pollution is from fertilizers, farms, sewage, lawns. There are pathogen and waterborne diseases (bacteria pollution). There is also thermal pollution. Three indicators are biological indicators, chemical indicators, and physical indicators. 5. What are some anthropogenic sources of groundwater pollution? Some sources of pollution are pesticides, nitrates, and pathogens like *Escherichia coli*. 6.

Describe how drinking water is treated. Our water is chemically treated, filtered, and disinfected. 7. How does a septic system work? Underground septic tanks separate solids and oils from waste water. Water drains into a drain field where microbes decompose the pollutant. Solid waste is periodically pumped out and landfill. 8. Describe and explain the major steps in the process of wastewater treatment. How can artificial wetlands aid such treatment? Screens and the grit tank. The primary clarifier. Aeration basin. Secondary clarifier. Filtering and disinfection.

Microbes decompose the remaining pollutants in artificial wetlands. 9.

Seeking Solutions p. 429-430 Answer three out of six questions. Write the numbers of the questions you are answering. #1 : We can lessen agricultural demand for water by reducing the amount of crops we grow annually. We can reduce household consumption by turning off faucets, taking shorter showers, and flush toilets once after using it. We can reduce industrial uses of water by not buying bottled water. #2: Desalination will remove the salt from seawater or water Of original quality.

Two methods include distilling (evaporates and condenses ocean water) and reverse osmosis (forces water through membranes to filter out salts.

Because the land is arid so there isn't much water available. #5 I would apply water restriction like the ones we had during the NC drought. People will not be able to water lawns and wash cars. I would promote household water conservation. I would try to do both because if we lower how much we use but we acquire more supply then we will have water when we really need it. Chapter 16 1. What proportion of Earth's surface do oceans cover?

What is the average salinity of ocean water? How are density, salinity and temperature related in each layer of ocean water? 75% of the earth is covered in ocean water. Ocean water is 96.5% water and ions of dissolved salts. As you go deeper the salinity gets higher and the temperature declines. 2. What is causing ocean acidification? What consequences do scientists expect ocean acidification to bring about? The ocean is absorbing more carbon dioxide from the atmosphere. The ocean surface water may soon become saturated with as much CO₂ as it can hold. Once it reaches the limit the climate will accelerate. . Where in the oceans are productive areas of biological activity likely to be found? The photonic zone is where nearly all of the oceans' primary productivity takes place. 4. Why are coral reefs biologically valuable? How are they being degraded by human impact? What is causing the disappearance of mangrove forests and salt marshes? Coral reefs are treasure troves of biodiversity. They provide a complex physical structure in shallow marathons waters. They have undergone coral bleaching, a process that occurs when contextually die or eave the coral, depriving it of nutrition.

Nutrient pollution is also a problem. It causes algal growth throughout the reef. Mangrove forests are developed for residential, commercial, and recreational uses. Shrimp farming is a large cause of the disappearance Of mangrove forests. 5. What is meant by the “ Great Pacific Garbage Patch”? Discuss three ways in which people are fighting pollution in the oceans and on our coasts. Circulating currents bring and trap plastic trash to areas specifically in the northern pacific gyred from California to Hawaii to Japan. It is the size of Texas.