**Full Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_**

**Study Guide - Hydrology 1, Common Assessment**

1. Write T or F for the following statements:

**\_\_\_\_**Proper disposal of wastes will regulate Earth’s climate.

**\_\_\_\_**Proper disposal of wastes will eliminate the need for additional landfills.

**\_\_\_\_**Improper disposal of waste in a watershed affects the organisms living in the water downstream.

**\_\_\_\_**Improper disposal of waste in a watershed affects the amount of water flowing down stream.

1. How much of Earth’s water is Freshwater? \_\_\_\_\_\_\_% How much is saltwater? \_\_\_\_\_\_\_\_%
2. Where is the most freshwater? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ What is this % of all water? \_\_\_\_\_\_\_\_%
3. Where are all the other places freshwater can be found? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which of these contains the second most amount of freshwater? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the two types of coastal wetlands that surround estuaries? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_forests

and \_\_\_\_\_\_\_\_\_\_\_ marshes.

1. Would a decrease in runoff cause lower or higher turbidity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Identify 2 examples of point-source pollution. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Identify 2 examples of non-point source pollution. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Describe bad conditions of water health as it relates to turbidity, temperature, and pH?
5. Which of the following do you believe most directly influences what happens in a river basin in a positive way?
6. Promoting public awareness through education.
7. Protecting soil, water, air, plants, and animals.
8. What would a pH meter measure? \_\_\_\_\_\_\_\_\_\_ vs. \_\_\_\_\_\_\_\_\_\_\_\_
9. What causes Eutrophication and would be found in water quality tests in high amounts? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Explain the Eutrophication process and w: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is added to water to kill bacteria? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Carbon is used to filter water which is removing small particles.
3. What is an estuary? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What river basin provides our local water? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. When water temperature rises it \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in the water which can cause stress and harm to fish.
6. What is the **best** reason for monitoring and preventing water pollution?
7. Fresh water is a limited resource.
8. Pollutants suffocate some aquatic life.
9. Pollution is hard to clean up.
10. Pollution smells bad.
11. Organisms that are used to assess the health of a water source are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
12. Describe the difference between evaporation and condensation. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. List 4 types of precipitation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Man changed from hunter–gatherers to farmers due to the invention of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the fertile soils of the \_\_\_\_\_\_\_\_ River and others. This led to urbanization and formation of great historic civilizations.
15. **Draw and label a diagram showing the following 5 layers/parts:**

Ground covering dirt

Unsaturated, permeable rock layer

Saturated permeable rock layer

Water Table

Impermeable layer

 How can a family who lives upstream affect the health of the water that a family who lives downstream uses?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Key

1. False, False, True, False

2. 3% freshwater, 97% saltwater
3. Icebergs and glaciers, 2% of all freshwater

4. Lakes, rivers, underground, water vapor in the air, animals, plants, aquifers

5. Underground

6. Mangrove forests, salt

7. lower

8. Point source examples-Spill of toxic waste, discharge pipe leak, fertilizer use on a family garden

9. Non point source examples- stormwater runoff, Pesticides from different sources sprayed into the air

10. Turbidity- high turbidity bad sign of water quality,
 Temperature- higher temperature=less dissolved oxygen
 pH-low pH causes loss of life (acidic), high pH results from algal blooms (basic)

11. B. Proetcing soil, water, air, plants, and animals

12. acidity vs alkalinity (basic)

13. Increase of nitrates and phosphates from fertilizer running off into the water leading to algal blooms which sap up oxygen and lead to loss of aquatic life

14. Chlorine

15. Carbon is used to filter water which is removing small particles

16. An area where rivers flow into the oceans and freshwater and saltwater mix

17. Neuse River Basin

18. decreases, dissolved oxygen

19. A. Freshwater is a limited resource

20. Bio-indicators

21. Evaporation –Liquid water vaporizing into a gas
 Condensation- Water condenses into the air from gas to a liquid; this is how cloud droplets are formed

22. Rain, hail, sleet, snow

23. sickle, Nile

24. Draw the picture on the board

25. Through gravity, water naturally runs downstream without having to add an energy source. As a family(upstream) uses water, it is sent through sewer pipes to a water reclamation plant. At the water reclamation plant, the water is filtered and cleaned and then sent back to the river.
 Downstream, a water treatment pulls water from a river, filters, cleans, and adds certain chemicals to the water (such as chlorine to kill bacteria and fluorine to help prevent cavities) and then piped to a water tower. The water tower adds pressure to the water, which allows the water to flow out of faucets. This water is then used by homes, businesses, and for agriculture.
The waste is then piped from the homes, businesses, and sewers back to a water reclamation center, which restarts the whole process again.