Freshwater Review

|  |  |
| --- | --- |
| **Substance**  | **Specific Heat**  (J/kg•°C) |
| Lead | 128 |
| Iron | 448 |
| Glass | 837 |
| Ice (water) | 2090 |

\_\_\_\_1) This table shows the **specific heat** of four substances.

If each substance is exposed to the same amount of energy for

one minute, which substance will be the coolest?

(If a pot of water is on a stove)

* 1. Glass
	2. Lead
	3. Iron
	4. ice

 Matching:

Properties

2. Surface Tension \_\_\_\_ This describes how water molecules are attracted to each other. They bead together at the surface.

3. Capillary Action \_\_\_\_ This causes water to be attracted to other polar molecules

4. Adhesion \_\_\_\_ The attractive force between water molecules due to the polarity

5. Cohesion \_\_\_\_ Water can dissolve so many substances

6. Solubility \_\_\_\_ the ability of to stick to other substances

1. Universal Solvent \_\_\_\_ Roots of a plant send water upward to the stem and leaves

\_\_\_\_\_ 8) Water has many special properties such as adhesion, cohesion, surface tension, and being a universal solvent because the water molecule is **polar**.

This means that the

* 1. Molecule is neutral.
	2. molecule is connected in a straight line like a pole giving it a uniform electrical charge
	3. the atoms are found mostly in the polar regions of the world.

\_\_\_\_\_9) Two hydrogen atoms and one oxygen atom represent what type of molecule?

\_\_\_\_\_10) What percentage of Earth is freshwater?

* 1. 30 percent
	2. 3 percent
	3. 71 percent
	4. 97 percent

\_\_\_\_\_11) The diagram shows several underground layers and several wells (see below).

 If the area experiences a severe drought, what is the *most* logical conclusion?

1. The saturated zone will be deeper.
2. Wells 1 and 3 will go dry.
3. The water table will rise
4. The sand layer will expand.

\_\_\_\_\_\_12) Evaporation from oceans causes:

1. Evaporation from soil.
2. Water vapor in the atmosphere.
3. Transpiration from plants.
4. The burning of fossil fuels.

\_\_\_\_\_\_13) Most of Earth’s freshwater is found in \_\_\_\_\_\_\_\_\_\_\_\_\_ and icecaps?

1. Oceans
2. Mountains
3. Glaciers

\_\_\_\_\_\_ 14) Which best describes the characteristics of a river basin?

1. the land drained by a river and its tributaries
2. The land formed when rivers create estuaries and marshes
3. The land at the mouth of a river where water flows into the ocean
4. The land formed as a result of a river flooding

\_\_\_\_\_\_15) Several \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can drain into smaller \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ like streams, creeks or even shorter rivers. They make up a river basin. For example, in the Neuse River Basin, the Flat and Eno Rivers, Crabtree, Swift, Contenna, and Walnut creek make up the river basin.

1. Tributaries, watershed
2. Watershed, river basin
3. Watershed, tributaries
4. River basins, tributaries

\_\_\_\_\_\_16) Which combination of processes from the water cycle is most likely to cause flooding?

1. Low runoff, low evaporation, high transpiration
2. High runoff, low evaporation, high precipitation
3. Low runoff, high infiltration, high condensation
4. High runoff, low infiltration, high precipitation



Use the water cycle diagram for #17

 Match the terms associated with the water cycle.

17)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Change of a liquid to a gas Condensation

18)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Change of a gas to a liquid Solar

19)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Process of depositing water in liquid or solid Condensation

20)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Energy that drives the water cycle comes from this: Precipitation

**T or F**

21)\_\_\_\_\_\_Water is called Nature’s recycling system.

22)\_\_\_\_\_The water basin that is located here is Wake County is the Tar-Pamlico

23)\_\_\_\_\_\_A molecule that has a positive charge on one side and a negative charge on the other due to unequal distribution of electron charge is a property called polarity

 24)\_\_\_\_\_\_Water from an aquifer more likely to be cleaner than water from other sources because pollutants are filtered by rock and soil as water infiltrates deep within the earth.

25)\_\_\_\_\_\_The Hydrosphere contains only freshwater

26)\_\_\_\_\_\_ Rainwater dissolves minerals out of the rocks and soil during runoff after a heavy rain is how minerals get into streams.

\_\_\_\_\_\_ 27) In early spring in the mountains as snow melts, water travels down the mountain and seeps into the soil and pores of the rocks. These areas are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_. The contained in the soil and the pores of the rock is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Runoff, Condensation
2. Precipitation, runoff
3. Aquifers, Groundwater

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 28) are natural filters of polluted water. It also acts as a sponge and \_\_\_\_\_\_\_ up/down fast moving water. Swamps, bogs, and marshes are examples of these ecosystems. They are dominated by hydric soil and plants.

1. Wetlands, slows
2. Aquitard, speeds
3. Aquifer, slows
4. Tributary, speeds

\_\_\_\_\_\_\_29) There are 17 river basins in N.C. Those that flow east or flow southeast end up dumping the water into the:

 a) Gulf of Mexico b) Mississippi River

 c) Atlantic Ocean d) Pacific Ocean

\_\_\_\_\_\_\_30).After 4 days of heavy rain in the spring, the river becomes cloudy and turbid with increase sediment. After several water quality tests, it is discovered that not only is the water turbid but it contains high levels of nitrates and phosphates. What else could be in the runoff?

1. Oil and gasoline from leaky cars
2. Detergent runoff from carwashes
3. Fertilizer runoff from lawns and golf courses
4. Exhaust

31) North Carolina has 17 watersheds or river basins. The majority of Wake County is in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ basin. This is your ecological address.

32) A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ forms when a depression in the land fills with water over time from underground sources &/or precipitation.

33) Underground layer of rock or sediment that holds water is called a

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Many people use this water for drinking by wells.

34) The top layer of the saturated zone is called the

 \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_.

 a) permeable

 b) water table

 c) aquifer

 d) Neuse River

 e.) watershed

 f.) Runoff

35) Groundwater moves easily through materials are called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

36) Rain that cannot be absorbed into the ground collects on the surface, forming \_\_\_\_\_\_\_\_\_\_\_\_\_ streams.