

Water/Chemistry Benchmark Review

Water

Chapter 1

1. Water can exist as a _____, _____, and _____ on Earth.
2. Freshwater makes up _____% of all the water on Earth. Saltwater makes up _____% of all water on Earth.
3. _____ substances stop water from flowing through. EXAMPLES:
4. 2/3 of all freshwater is found frozen (_____ state) in _____ or _____.
5. _____, _____, and _____ are all parts of the water cycle.
6. When temperature _____, water changes from a liquid to a gas. This is called _____.
7. The top portion of an aquifer that is saturates with water is called a(n) _____.
8. Water molecules stick to other water molecules in _____.
9. When the temperature _____, water changes from a gas to a liquid. This is called _____.
10. _____ substances allow water to flow through. EXAMPLES:
11. Water is _____, or has a negative end and a positive end.
12. Aquifers provide _____ for humans.
13. Water with no dissolved salts is called _____; water with dissolved salt is _____.
14. Water molecules stick to other types of molecules in _____.
15. _____ is what makes water bead up into drops. It is an attraction between _____ molecules.
16. If an object is _____ dense than water it floats, if it is _____ dense, it sinks.
17. Water has a _____ specific heat, meaning it takes a lot of _____ to heat it up.
18. About _____% of the Earth is covered with land and about _____% of the Earth's surface is covered with water.
19. On Earth, water flows from divides into areas known as _____.
20. Water that collects and moves beneath Earth's surface is called _____.
21. As water seeps into the ground, it is stopped by a layer of _____.
22. The process in which water falls from clouds is called _____.
23. A hole that is dug into the ground to extract water from an aquifer is called a(n) _____.
24. An increase of nutrients in a lake or pond that causes algae to grow is called _____.
25. On Earth, water that flows off the side of the land and into a drainage basin is known as _____.
26. An area that determines the direction of water flow is called a(n) _____.
27. _____ is the force that pushes up on an object in liquid (water).
28. _____ is how clear the water is.
29. The formula for density is _____. The density of water is _____ (include units).
30. What 3 things are needed for an aquifer to form?

Chapter 2

1. _____ are built across rivers to help control the water, but interfere with _____ fish.
2. Most people get their water from _____. How long do they take to form?
3. Point-source pollution is _____ to locate. Many _____ are put into place to prevent this pollution.
4. The type of pollution that causes most water pollution is _____ pollution.
5. An example of _____ pollution is an oil spill.
6. An example of _____ pollution is runoff from nearby farms or yards.
7. We can conserve water in three ways: _____, _____, and _____.
8. Two additional sources of fresh water are _____ and _____.
9. The _____ determines whether the levels of chemicals in the water are safe for human consumption.

10. _____ are used to treat wastewater in rural areas.
11. The process of removing salt from salt water is known as _____.
12. Long periods of time with unusually low amounts of precipitation are known as _____.
13. The business of raising and harvesting fish in a controlled setting is called _____. What are some negative effects of this?
14. The unit for concentration is _____ or _____.
15. _____ are used to treat wastewater in urban areas.
16. The use of water to grow crops is called _____.
17. _____ and _____ are the two main solutions to water shortages.
18. The _____ of a solution is how much solute has been dissolved in the solvent.
19. _____ and population _____ decrease our limited freshwater supplies.
20. The pH of water should be close to _____.
21. List 2 water quality indicators and explain how they help us tell how safe the water is.
22. Dangerous chemicals are only allowed in low _____ because of the damage they cause.
23. What is the difference between economic water scarcity and physical water scarcity?

Chapter 3

1. The higher the salinity is in ocean water the higher the _____ will be.
2. The three layers of the ocean based on temperature: surface layer, _____, _____.
3. We use _____ (sound waves) to map out the ocean floor.
4. As you travel further down into the ocean the temperature _____.
5. A _____ is a mass of moving water.
6. There are two types of currents _____ and _____.
7. _____ currents move nutrients to the surface and mix oxygen within the ocean.
8. _____ causes surface currents which move _____ water away from the equator and _____ water away from the poles.
9. _____ rainfall can cause ocean salinity to decrease.
10. Waves in the ocean transfer _____, while currents move _____.
11. The density of _____ water is less than the density of _____ water. (*fresh or salt*)
12. _____ causes the tides in the ocean.
13. Currents distribute _____ and _____ around the world.
14. _____ tides are extreme tides, _____ tides are minimal tides.
15. When the sun, the moon, and the earth are not in line you will have _____ tide.
16. When the sun, the moon, and the earth are in line you will have _____ tide.
17. The difference between high and low tide is called a _____.
18. The _____ moves warm water towards Great Britain creating a mild climate.
19. _____ creates electricity from the moving of water during high and low tides.

Chapter 4

1. Organisms that live in the _____ must be able to live in and out of the water.
2. Crabs, shrimp, tubeworms, and bacteria can all call _____ their home.
3. Tiny, plantlike organisms that undergo photosynthesis are called _____.
4. _____ and _____ are two types of wetlands.
5. What are Marine Protected Areas and why are they good?
6. This type of wetland is found in warm tropical regions and is home to many trees: _____.
7. Fresh water from _____ meets salt water from the _____ in environments called _____.
8. The open ocean is divided into two zones: _____ and _____.
9. _____ is a nonliving resource that some countries use as their source for drinking water.
10. Coral rely on _____ for food.

11. _____ is the source of most pollution in the ocean waters.
12. _____ is one of the harmful chemicals found in some fish that live in the ocean.
13. A species that has a greater-than-expected effect on an ecosystem is called a _____ species. What happens if you remove them? Give an example.

14. What are dead zones? What causes them?
15. Describe an ocean food web.

16. What kind of water holds more gas?

17. Why is carbon dioxide important in the ocean?
18. Explain how the ocean affects climate. Give examples.
19. What is overfishing and why is it a problem?
20. What is by-catch?
21. Why is pollution in one area of the ocean a problem for everyone?
22. Explain the process of drilling for oil in the ocean.
23. What are some good things about tourism? Bad things? What about ecotourism?

Chemistry

Section 1: Atomic Structure and the Periodic Table:

1. What are the three particles that make up the atom? What are their charges?
 - a. _____ = _____ charge
 - b. _____ = _____ charge
 - c. _____ = _____ charge
2. What is the difference between atomic number and atomic mass number?
 - a.
 - b.
3. Describe the structure of an atom. Be sure to tell where each particle is located.

4. Particles with the same charge _____ each other, while particles with opposite charges _____ each other.
5. What does it mean if an atom is neutral?

6. How do ions form?
7. A positive ion will have more _____ than _____, but a negative ion will have more _____ than _____.
8. What is an isotope?

9. Atoms of the same element all have the same number of _____.

10. Who organized the elements into the first periodic table?
11. What are the 3 types of elements on the periodic table?
12. Explain how the Periodic Table is arranged.
13. The columns (↓) of the periodic table are called _____ and the rows are called _____.
14. Elements in the same group/family have similar _____.
15. Which group is **least** reactive? _____
16. Which groups are **most** reactive? _____
17. Most elements on the periodic table are _____. At room temperature, most metals are _____ and most nonmetals are _____.

Section 2: Compounds and Mixtures:

18. Elements and compounds are both _____.
19. How can the same elements form different compounds?

20. Chemical bonds between atoms involve _____.
21. The freezing point of a solution is _____ than the freezing point of the pure solvent, and the boiling point is _____ than the boiling point of the pure solvent.
22. How do you increase the solubility of solids?

23. How do you increase the solubility of gases?

24. The octet rule says that elements will join chemically until they get _____ valence electrons.
25. A high solubility means a _____ amount of solute can dissolve in the solvent, while a low solubility means a _____ amount of solute can dissolve.
26. What is the chemical formula for water? _____
27. What are the 4 ways to change the rate of a chemical reaction?

28. What are the 4 types of evidence of a chemical reaction?

29. As a substance goes from a solid, to a liquid, to a gas, density _____.
30. When acids and bases combine, you get a(n) _____ solution.

31. What is the difference between a physical change and a chemical change?

32. In a chemical reaction, a new substance is formed when atoms are _____.
33. What does the law of conservation of mass say?

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