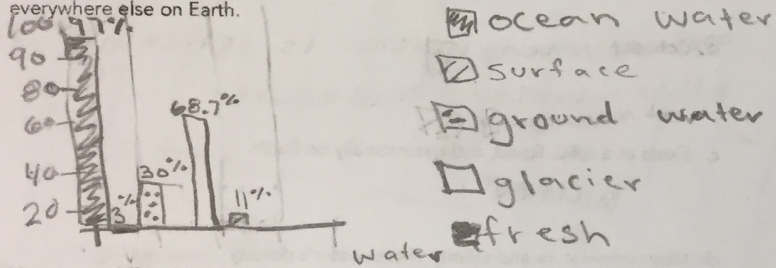


Hydrosphere Unit Review

Learning Target 1a:

1. Use a bar graph to compare the amount of water in the ocean to the amount of water everywhere else on Earth.



2. Now use a different bar graph to compare the amounts of water in the different fresh-water reservoirs on Earth.

→ both

Learning Target 1b:

3. Describe the major processes in the water cycle. Include which reservoirs would be involved.

a. Evaporation

When the sun evaporates the water and gases rise up to the sky

b. Transpiration

Plants release water to the air through leaves

c. Condensation

When the clouds get filled with water, they make rain clouds.

d. Precipitation

When it rains, snows, hail, sleet

e. Infiltration/Percolation Water going through a "filter"

f. Runoff Runs of the surface
(gutters, parking lots)

4. What drives the water cycle?

Sun

a. How?

Evaporation happens to bring water gases to the clouds to make rain

5. Describe two of the ways that we discussed in class that humans are altering the water cycle.

a. Use, pollution

b. Urbanization

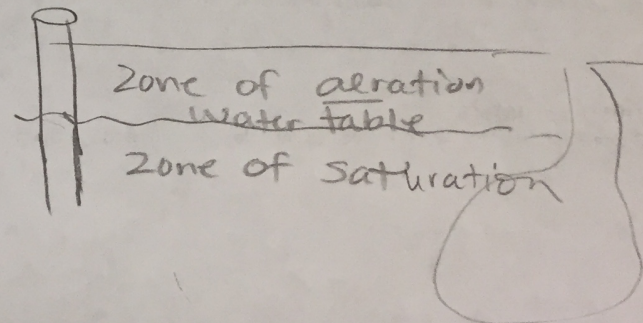
6. What is urbanization?

The building of city

a. How does it affect the water cycle?

It takes away evaporation, transpiration

7. Draw a diagram showing and defining the zone of aeration, zone of saturation, and water table. Include a well that is able to pump water out of the ground.



Learning Target 1c:

8. Why is the water cycle important in terms of the water that you drink?

Cleans it

9. How does nature use distillation to purify water?

Through evaporation, Percipitation

10. What is sedimentation and how does it fit into the natural water cycle?

It acts as a "filter"

a. How does it fit into sewage treatment?

We would build water filters.

11. Describe how filtration fits into the natural water cycle?

Perculation

a. How does it fit into sewage treatment?

Perculation would act as a "filter"

12. What is aeration and how does it fit into the natural water cycle?

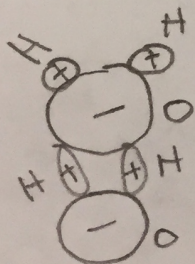
Adding oxygen to soil and water.

a. How does it fit into sewage treatment?

Re-oxygenate bad water

Learning Target 2a:

13. Draw and label two water molecules (include the atoms and the charges) that are sticking to each other.



H - hydrogen
O - oxygen



14. Describe the following characteristics of water. Include a definition, how we demonstrated it in class, where it may be seen in the natural world, and why it may be significant.

a. Adhesion When you add water to something else

b. Cohesion When water is sticking to another water molecule.

c. Exists as a solid, liquid, and gas naturally on Earth.

Water

d. How temperature and salinity affects water's density

It made layers in the ocean

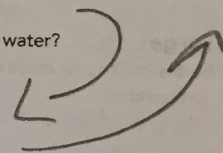
e. Capillary action

Allows water to move through material w/ pores or narrow spaces

f. What it means to be a solvent (particularly that water is a "universal solvent")

Its a Polar molecule
+ -

15. What causes so many of these unusual properties of water?



Learning Targets 2b and 2c:

16. Describe why we tested or observed the abiotic and biotic factors that we did on the field trip:

a. Biotic (at least two):

i. Mushrooms

ii. Plants

b. Abiotic (at least five):

i. Temperature

ii. nitrates

iii. Dissolved oxygen

iv. Rocks

v. Turbidity

c. Which data that we collected could be used to support a claim that "The river at the mouth of American Fork Canyon is a healthy ecosystem?"

Found alot of living macroorganisms because of temperature and dissolved oxygen

Learning Target 2d:

17. How does Utah's population growth relate to water use in our state?

It can be either super high or low depending on how much water we drink.

18. What are three things that those in charge of Utah's water need to consider in developing a water use/conservation plan.

a. Be close to water

b. Use what you need to use of water

c. Plant turf so you don't need to water your grass

Learning Target 3a:

19. How have the oceans changed over time?

They have gotten bigger and they've have expanded all over the earth.

20. Why is the ocean salty?

Mineral runoff, (glaciers, rivers)

21. Describe the two most plausible explanations for where Earth's water originally came from?

a. Comets hitting the earth

b. Steam from volcanoes then steam rising creating rain

Learning Targets 3b & 3c:

22. Sketch and label a graph showing how the following factors change as depth increases. Include a description of why the graph may look like it does.

a. Salinity Measure of Minerals in the ocean. Salinity is top layer (salt)

b. Temperature lower you go down in the ocean, the temperature drops

c. Pressure Going deeper in the ocean, Pressure increases

d. Light light is visible on the top layer but as you go deeper light isn't visible

23. How does ocean life change as one descends in the ocean?

As you descend down there isn't much oxygen or sunlight for life

24. Define and provide examples of the following terms.

a. Benthos:

b. Plankton: Plant like organism
Creates oxygen

c. Nekton:

25. Draw, label, and describe the ocean life zones.

Sunlight zone - where visible light exists

Twilight zone - faint light

Dark zone - visible light doesn't exist

Abyss - temperature is near freezing

Trenches - water is above freezing

26. Compare freshwater to saltwater. Don't just say, one includes salt and the other doesn't.

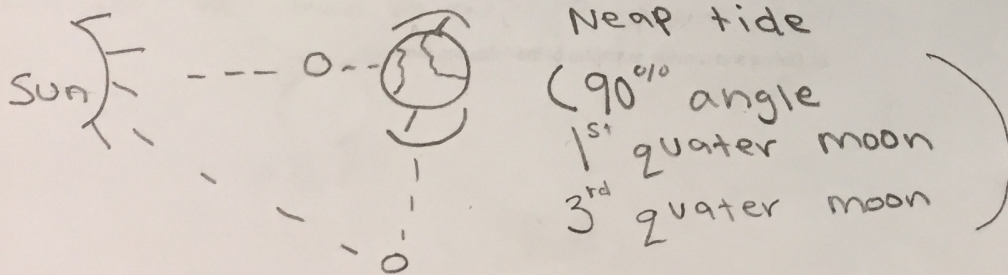
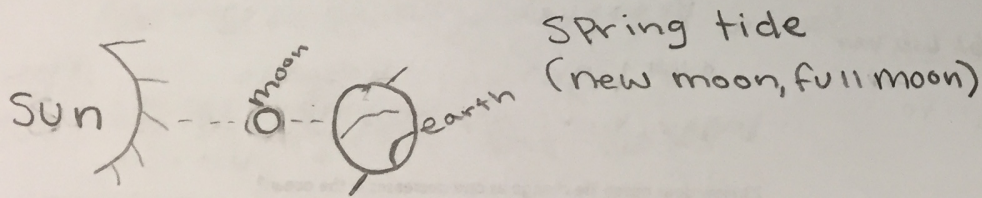
97% is saltwater, Freshwater is 3%
and is measured by oxygen

Learning Target 3d:

27. How many high tides and low tides are there per day?

4 total, 2 low tides, 2 high tides

28. Draw AND write a description (or multiple descriptions) of how the Earth, moon, and sun all work together to create the tides. Make sure to use the following terms: earth, moon, sun, full moon, new moon, quarter moon, spring tide, neap tide, high tide, low tide, tidal bulge(s), centrifugal force, gravity, rotation, and common center of gravity.



29. What causes waves?

Through a body of water usually formed when winds blow across the water's surface transferring energy.

30. What are surface currents, what causes them?

Caused by wind and the current can go down in the ocean

31. What are deep currents, what causes them?

Caused by differences in density of ocean water, moves water downward then later brought up by upwelling

32. What is upwelling?

Movement of cold water that has been blown away by wind

a. What impact does upwelling have on local ecosystems and even people?

It mixes the water and keeps the ocean clean

33. What is El Niño? (don't say that it's Spanish for "The Niño")

Warm water that is off of the equator that goes to the Pacific. Low in nutrients that causes change in climate

a. How could you identify an El Niño event on a map that showed ocean temperatures as opposed to what the ocean temperatures normally look like?

Look for warmer temperatures

b. What are the possible effects on the world's weather?

Drought in Africa
Could cause rain in
an other continent.