Name KEY

EOG Review: Water (Hydrosphere)

Word Bank:

Gulf Stream	3	Ice	Pollution	Upwelling	Phytoplankton (2)
Icebergs	97	Divide	Satellites	Rivers	Impermeable rock
Gas	Glaciers	Freshwater	Ocean	Divers	Mangrove forest
Fresh	Liquid	Lakes	Estuaries	Current	Drainage basins
Groundwater	Salt	Buoyancy	Surface zone	Solid	Lake turnover
71	Polarity	Surface	Sonar	Decreases	Overfishing
29	Cohesion	Water table	Deep zone	Wind	Hydrothermal vents
Intertidal zone	Adhesion	Rivers (2)			

1. Water can exist as a __Solid__, __liquid__, and __gas__ on Earth.
2. Water molecules stick to other water molecules in __Cohesion__.
3. Water easily dissolves substances with ionic bonds. This is because water has __Polarity__, or a negative end and a positive end.
4. Water molecules stick to other types of molecules in __adhesion__
5. Surface tension is caused by a strong attraction between __Surface__ molecules.
6. The density of __fresh__ water is less than the density of __salt__ water.
7. __Buoyancy__ is the force of water pushing up on an object to make it float.
8. Freshwater makes up __3__ % of all the water on Earth. Saltwater makes up __97__ % of all water on Earth.
9. 2/3 of all freshwater is found frozen (__ice__) in __glaciers__ or __icebergs__.
10. The top portion of an aquifer that is saturated with water is called a(n) __water table__.
11. About __29__ % of the Earth is covered with land and about __71__ % of the Earth's surface is covered with water.
12. On Earth, water flows from divides into areas known as __drainage basins__ (also called: -river basins -watersheds)
13. Water that collects and moves beneath Earth's surface is called __groundwater__
14. As water seeps into the ground, it is stopped by a layer of __impermeable rock__
15. An area that determines the direction of water flow is called a(n) __divide__
16. Water in aquifers is the most used source of __freshwater__ by people.
17. Two additional sources of fresh water are __desalination__ and __icebergs__
18. __Rivers__ drop sediments that contain valuable minerals into the ocean.
19. Organisms that live in the __intertidal zone__ must be able to live in and out of the water.
20. Cracks in the ocean's crust that allow heat from the Earth to escape are called __hydrothermal vents__
21. Tiny, plantlike organisms that undergo photosynthesis are called __Phytoplankton__
22. __Overfishing__ and __Pollution__ are two negative outcomes from commercial fishing.
23. This type of wetland is found in warm tropical regions and is home to many trees: __mangrove forest__
24. Fresh water from __rivers__ meets salt water from the __ocean__ in environments called __estuaries__.
25. The open ocean is divided into two zones: __Surface (photic)__ and __deep__
26. The __Gulf Stream__ moves warm water towards Great Britain creating a mild climate.
27. __Upwelling (deep)__ currents move nutrients to the surface and mix oxygen within the ocean.
28. A __current__ is a mass of moving water.
29. As you travel further down into the ocean the temperature __decreases (gets colder)__.
30. __Plants__ and __wind__ mixing water and air are the source of dissolved oxygen in the ocean.
31. How might organisms interact to connect terrestrial and aquatic food webs? __Land organisms eat things that live in the water. Bears eat fish, racoons eat crabs, etc.__
32. How might water pollution affect this combined food web? __Water pollution might kill aquatic organisms, which might be an important food source for land organisms, which may die and disrupt the land food web too.__
33. How might land pollution affect this combined food web? __Some fish may lose predators and become overpopulated.__
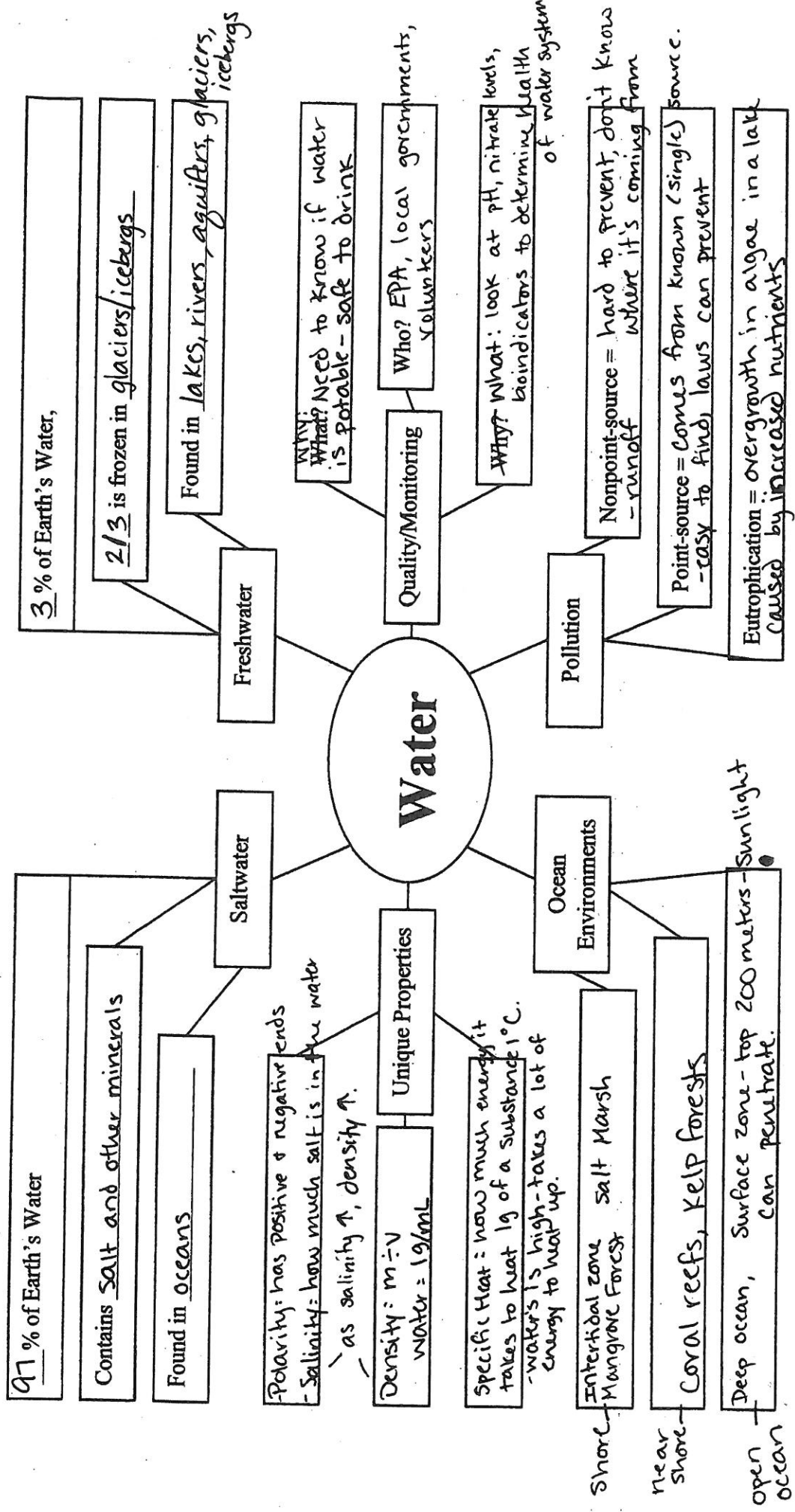
Word Bank:
95 Non-point source (2) Laws Migrating EPA Reuse Runoff
Water Eutrophication Irrigation Precipitation Septic systems Recycle Hydroelectricity
Runoff Point-source Dams Condensation Sewage Systems Desalination Increases
Easy Concentrations Turbidity Evaporation Reduce Chemicals (2)

34. _95_ % of the ocean remains unexplored.
35. Without _water_ there would be no life on Earth.
36. On Earth, water that flows off the side of the land and into a drainage basin is known as _runoff_.
37. Point-source pollution is _easy_ to locate. Many _laws_ are put into place to prevent this pollution.
38. The type of pollution that causes most water pollution is _nonpoint source_ pollution.
39. An example of _point source_ pollution is an oil spill.
40. An example of _nonpoint source_ pollution is runoff from nearby farms or yards.
41. Dangerous chemicals are only allowed in low _concentrations_ because of the damage they cause.
42. The use of water to grow crops is called _irrigation_.
43. _Hydroelectricity_ is electricity created from the moving of water in tides, river, and falls.
44. _Turbidity_ is the measure of how murky or muddy water appears.
45. _Dams_ are built across rivers to help control the water, but interfere with _migrating_ fish.
46. _Evaporation_, _Condensation_, and _Precipitation_ are all parts of the water cycle.
47. What is transpiration?
   The evaporation of water from the leaves of plants.
48. The _EPA_ determines whether the levels of chemicals in the water are safe for human consumption.
49. _Septic Systems_ are used to treat wastewater in rural areas, and _Sewage Systems_ treat water in urban areas.
50. We can conserve water in three ways: _reduce_, _reuse_, and _recycle._
51. The process of removing salt from salt water is known as _desalination_
52. _Chemicals_ are added to the water in water treatment plants to kill off any harmful microorganisms.
53. _Runoff from land_ is the source of most pollution in the ocean waters.(nonpoint source)
54. Water needs to be tested to ensure it is NOT contaminated by bacteria or _chemicals_.
55. As salinity increases, density _increases_.
56. Describe a river basin.
   Where water collects in low areas- surrounded by high land (divides). Water flows through the river basin to the ocean.
57. How might a bioindicator help us monitor water quality?
   Health of organisms in the water (and biodiversity in the water) shows the health of the wa
   Lots of healthy organisms shows good water quality.
58. Why are temperature, pH, dissolved oxygen, and nitrate levels important to water quality?
   Must be within a certain range to be safe.

H	59. Specific Heat	a.	How much salt is dissolved in water (salt concentration)
J	60. Cohesion	b.	Extreme tides
I	61. Adhesion	c.	The science and business of raising fish; fish farming
E	62. Polarity	d.	Mass/volume
D	63. Density	e.	When molecules have a positive region and negative region
A	64. Salinity	f.	Weak tides
F	65. Neap Tide	g.	How much solute is dissolved in solvent; measured in ppm
B	66. Spring Tide	h.	How much energy it takes to heat a substance; water's is high
G	67. Concentration	i.	When water molecules stick to other substances
C	68. Aquaculture	J.	When water molecules stick to other water molecules
K	69. Keystone Species	k.	A species that if you remove it from an environment, all of the other animals in the food web are affected

70. Explain how water's specific heat affects Earth's climate.
   Water has a high specific heat, meaning it takes longer to change the temperatu
   -Warms atmosphere over ocean, seasons occur later.

Name __KEY__   Date 5/8/13 Period: _____ ASSIGN

Water

Freshwater
- 3 % of Earth's Water,
- 2/3 is frozen in glaciers/icebergs
- Found in lakes, rivers, aquifers, glaciers, icebergs

Saltwater
- 97 % of Earth's Water
- Contains salt and other minerals
- Found in oceans

Unique Properties
- Polarity: has positive & negative ends
- Salinity: how much salt is in the water
  - as salinity ↑, density ↑.
- Density: m ÷ v
  - water = 1 g/mL
- Specific Heat: how much energy it takes to heat 1g of a substance 1°C.
  - water's is high—takes a lot of energy to heat up.

Quality/Monitoring
- Why? Need to know if water is Potable — safe to drink
- Who? EPA, local governments, volunteers
- What: look at pH, nitrate levels, bioindicators to determine health of water system

Pollution
- Nonpoint-source = hard to prevent, don't know where it's coming from — runoff
- Point-source = comes from known (single) source.
  - easy to find, laws can prevent
- Eutrophication = overgrowth in algae in a lake caused by increased nutrients

Ocean Environments
- Surface zone — top 200 meters — sunlight can penetrate.
- Shore — Intertidal zone, Salt Marsh, Mangrove forest
- near shore — Coral reefs, Kelp forests
- open ocean — Deep ocean,

Summarize the information in this diagram.