

Water Review (APES)

1. Who has the property of water that allows it to lose and gain heat slowly?
I have its HIGH HEAT CAPACITY. This is why the S Hemisphere has a steadier temperature than the N Hemisphere throughout seasonal changes.
2. Who has the property of water that allows it to dissolve many substances that are made of molecules with charged properties.
I have its POLARITY. Sometimes water even rips itself apart into H⁺ and HO⁻ ions.
3. Who has the limited resource that the demand for it is growing at twice the rate of human population growth?
I have FRESHWATER. The next 10 years should be critical for our world as we deal with projected water shortfalls for nearly 2 billion people.
4. Who has the reason why the N Hemisphere fluctuates in temperatures from Summer to Winter more than what the S Hemisphere does?
I have it is DOMINATED BY LAND that heats and cools much more quickly than water does.
5. Who has what we call the temperature difference between the warmer (lighter) water and colder (denser) water in a lake or ocean?
I have THERMOCLINE. Lakes will "turn over" when their temperatures get colder on top than the bottom.
6. Who has what colder water is in compared to hotter water?
I have MORE DENSE. Mix them and the cold water will sink until it meets denser water.
7. Who has what drives 90% of ocean currents circulation globally?
I have DIFFERENCES IN SALINITY & TEMPERATURE. Only 10% are driven by wind currents over the surface.
8. Who has what freshwater is in compared to salt water?
I have LESS DENSE. That's why melting of the Greenland Icesheet may turn off the sinking water that currently brings up the surface warm waters from the south and keeps Europe from being under a glacier.
9. Who has what decreased albedo (reflectivity) due to ice melting, increasing air global air temperatures, decreased upwelling, increase in CO₂, and increase in CH₄ are causing?
I have RISE IN OCEANIC TEMPERATURES. They have risen significantly in the last 50 years. The highest increase has been measured in the California Current (southward) off the west coast of the USA.

10. Who has what happens when warm waters near a coastline are blown away from shore?
I have UPWELLINGS occur. This brings nutrients up from the ocean bottom that are utilized by phytoplankton (plant like) that powers a bloom in the food chain.
11. Who has what causes water currents to turn to the right in the N Hemisphere and to the left in the S Hemisphere?
I have the CORIOLIS EFFECT. If the currents move away from the shore, then this causes oceanic upwellings.
12. Who has what was 430 feet higher 18,000 years ago at the end of the last ice age when global temperatures were 10 degrees F warmer?
I have SEA LEVEL. Melted ice filled the oceans as the Greenland and Antarctica lost their solidity.
13. Who has what parts of the Earth will expect the greatest temperature increases during global warming trends?
I have the POLAR REGIONS. A 1 degree global temperature increase means a 12 degree change at the poles.
14. Who has a negative effect of sea levels rising?
I have SALTWATER INTRUSION into freshwater aquifers. This will ruin aquifers already stressed by human use just when we need it the most!
15. Who has the percentage of water on Earth that is freshwater?
I have 3%. The other 97% is saltwater.
16. Who has the percentage of freshwater that is in glaciers?
I have 68.7%. Unless, of course, they melt and become ocean water.
17. Who has the percentage of freshwater that is groundwater in aquifers?
I have 30.1% Only .3% is surface water in lakes, rivers, and swamps.