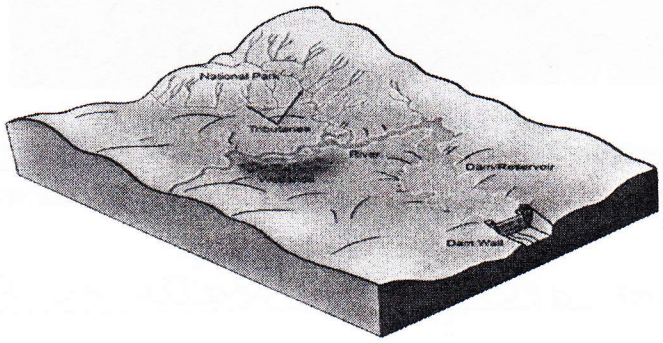
area of land where lakes, rivers etc all drain into the same body of water

Hydrosphere Worksheet

1. Below is a picture of a catchment area.
   a- What is a catchment area? an extent of land where water from precipitation drains into a body of water (aka drainage basin)
   b- Explain if all the water will lead to the dam reservoir. yes all flowing downhill towards the dam



2. Name the 5 factors that affect water flow in a watershed? topography, geology, climate, vegetation, agricultural/industrial & urban development

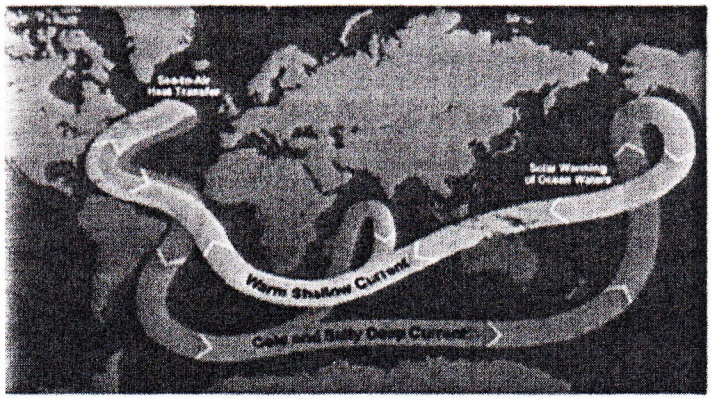
3. What 3 factors affect the temperature of the oceans?
   depth, seasons, latitude

4. What is the thermocline? transition zone (~200 m) where water from ocean cools rapidly

5. For each statement state whether it is an example of a surface current or a subsurface current.
   a- these currents are altered by density and salinity — subsurface
   b- these currents are mostly controlled by wind — surface
   c- these currents occur at a depth of more than 800 m — subsurface
   d- these currents will cause you to swim off course in the ocean — surface

6. How is salt formed? come from erosion of rocks (wind/water) when water evaporates, salt left behind

7. a- What name is given to the circulation of water shown below? thermohaline circulation



* b- Explain why the cold water is more ~~salty~~ dense then the shallow water. particles closer together (in the same amount of space)

8. What is the cryosphere? all frozen water on Earth's surface

9. Differentiate between glaciers, icebergs, pack ice and icefloes?
glaciers: fresh water (snow/ice) on land
Iceberg: piece of glacier that has broken off; in water
pack ice: frozen ocean (arctic, antarctic)
ice floes: pieces of pack ice (broken pieces)

10. Discuss how global warming is causing sea levels to rise?
glaciers melting ... ↑ water into ocean + ↑ icebergs

11. Cruise ships regularly offer tours along the shores of Greenland. Tourists can observe the spectacular blocks of ice that break off from the coast and fall into the sea.

a) What are these blocks of ice called? iceberg

b) A few fragments of ice melt in the seawater. This water does not stay near the coast; it moves about. What factors will affect its movement? wind, thermohaline circulation

c) Will the water that melts from a glacier eventually arrive at the equator? Explain your answer. yes - thermohaline circulation

12. Give 2 examples of hydraulic energy.
hydroelectric dams
underwater turbines