**Basics of Water Notes**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the Earth is covered in water**
  + **Although water covers over 70 percent of the Earth, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

* **The vast majority of the water on this ‘blue planet’ is found in the Oceans, and is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. It is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to us!**
* **Of the freshwater available on Earth, about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which leaves only a small fraction accessible for human use.**

* **Freshwater**
  + **Surface Water – such as that in lakes, reservoirs, rivers and streams – is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_%**
  + **Groundwater – water underground in aquifers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- can be extracted through wells or found as springs. This is \_\_\_\_\_\_\_\_\_\_\_\_ our primary source!!**

* **Why not use salt water?**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!!!!**
  + **It can cost over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per acre-foot to desalinate (unsalt) seawater to make it available for human use.**
* **Did you know?**
  + **There is the SAME water on Earth as there was when the Earth was formed. The water from your faucet could contain molecules that dinosaurs drank.**
    - **HOW is that possible?**
* **The Water Cycle**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Water Cycle Vocabulary Terms**
  + **Evaporation - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Transpiration-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Condensation-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Precipitation-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Runoff-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Infiltration-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
    - **Will only happen if there is room available for additional water in the soil.**
    - **If no room is available, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs.**
* **Percolation - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Humans affect the cycle**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Ground water – Where is it located?**
  + **When precipitation hits the soil where does the water go?**
  + **The water moves into the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Groundwater is stored in – and moves slowly through – layers of soil, sand and rocks called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **How does the water get into the soil?**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Porosity & Permeability**
  + **Porosity - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **Permeability - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Aquifers**
  + **The area where water fills the aquifer is called the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* **The top of this zone is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **The Water Table**
  + **The water table may be located only a foot below the ground’s surface or it can sit hundreds of feet down.**
* **How can ground water be used?**
  + **Water in aquifers is brought to the surface naturally through a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**or can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into lakes and streams.**

* **Groundwater can also be extracted through a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_drilled into the aquifer.**
* **Groundwater supplies are replenished, or\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,by rain or snow melt.**
* **Water Use**
  + **How much water does it take to produce…**
    - **1 slice of bread? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
    - **1 cotton t-shirt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
    - **1 gallon of milk? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
    - **1 hamburger? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Water Shortages**
  + **In some areas of the world, people face serious water shortages because groundwater is used faster than it is naturally replenished.**
  + **In other areas groundwater is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_by human activity.**
* **No Access to Safe Drinking Water**
  + **Did you know…American residents use about \_\_\_\_\_\_\_\_\_\_\_\_\_\_ gallons of water a day!**
  + **Sub-Saharan residents use only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gallons of water a day!**
* **Clean Water**
  + **The number of people with access to clean water has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the last 20 years.**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_people in the world STILL do not have access to safe water. This is nearly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the population.**
* **Water Diseases**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of all illness in developing countries is caused by water-related diseases.**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of wastewater in developing countries is discharged DIRECTLY into rivers and streams without treatment!!**
* **The Future of Water?!?**
  + **The UN estimates that by 2025, \_\_\_\_\_\_\_\_\_ of the world population WON’T have reliable, clean water. WHY SHOULD YOU CARE?**
  + **Generally…you can survive…**
    - **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ without oxygen**
    - **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ without water**
    - **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ without food**
    - **You are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ water!**
* **Bottled Water – Friend or Foe?**
  + **If you drink your daily 8 glasses of water a day from the tap – cost = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **If you drink it with bottled water – cost = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + **More than \_\_\_\_\_\_\_\_\_ of bottled water comes from the same place tap water comes from.**