PEER Life Science Water’s the Matter Measuring Oxygen Notes Outline

**Introduction**

* \_\_\_\_\_\_\_ in water is one of the most important factors in an aquatic environment.

**Lesson**

* \_\_\_\_\_ \_\_\_\_ \_\_\_\_\_\_\_\_ is the amount of oxygen that is present in water.
* Molecules of \_\_\_\_\_\_\_\_ trap molecules of oxygen to keep it in a dissolved form.
* \_\_\_\_\_\_\_ allow fish and some aquatic insects to remove some of the dissolved oxygen from the water.
* While organisms must have a maximum/minimum amount of oxygen to survive, there is no maximum/minimum amount for dissolved oxygen in the water supply.
* Air consists of about \_\_\_% nitrogen and about \_\_\_% oxygen.
* Attractive forces suspend the \_\_\_\_\_\_\_ molecules between the \_\_\_\_\_\_\_ molecules when oxygen is dissolved in water.
* Because the oxygen content in water is \_\_\_\_\_\_\_%, gills must be more/less efficient than lungs in extracting oxygen.
* Diffusion is the movement of substance from an area of higher/lower concentration to an area of higher/lower concentration.
* Atmospheric or barometric pressure is measured in units of \_\_\_\_\_\_\_\_\_ \_\_\_ \_\_\_\_\_\_\_\_\_
* A more turbulent body of water will have a larger that will allow more/less oxygen to diffuse into the body of water.
* Aquatic plants and algae use as fuel and generate \_\_\_\_\_\_\_\_\_ as a waste product, which will be dissolved into water. This process will be at night.
* Dissolved Oxygen is measured in / or ( ).
* The highest amount of oxygen that can be dissolved in water under standard barometric pressure, otherwise known as the , is \_\_\_mg/L.
* Cold water organisms require a minimum dissolved oxygen level of at least \_\_\_ mg/L while warm water organisms require a minimum dissolved oxygen level that is higher/lower than that required of the cold water organisms, but will become stressed if the dissolved oxygen levels drop below mg/L.
* The higher the temperature, the higher/lower the amount of dissolved oxygen.
* As altitude increases, the atmospheric (barometric) pressure increases/decreases, which causes the amount of oxygen diffused into the water to increase/decrease.
* , like parts of trees and plants, do not directly remove dissolved oxygen, but create conditions where large amounts of accumulate that will drive the overall oxygen level down.
* Freshwater can hold more/less dissolved oxygen than saltwater.
* Dams the flow of water, increase/decrease the amount of aeration, and increase/decrease the temperature. These effects will increase/decease the dissolved oxygen level.
* Human waste carries large amounts of oxygen-consuming that will increase/decrease the amount of dissolved oxygen.
* Nitrates and Phosphates in will increase/decrease the rate of plant growth. This will increase/decrease the amount of organic materials and allow algae to grow faster/slower, which will lead to a(n) stable/unstable dissolved oxygen level.
  + These processes together are called .