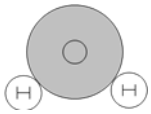
Name: _____ Date: _____

Notes: Solubility of Gases

Why is water such a great solvent? _____

Label the water molecule to the right with the correct partial charges.



Why is dissolving a physical change? _____

_____

Define ***unsaturated solution***: _____

_____

Define ***saturated solution***: _____

_____

Define ***supersaturated solution***: _____

_____

How does **increasing the temperature** affect the solubility of a **gas**? _____

_____

How does **decreasing the temperature** affect the solubility of a **gas**? _____

_____

How does **increasing the air pressure** affect the solubility of a **gas**? _____

_____

How does **decreasing the air pressure** affect the solubility of a **gas**? _____

_____

What is ***carbonated water***? _____

What kind of solution is carbonated water? _____

What happens to the compressed carbon dioxide gas when it is opened under lower pressure?

_____

What increases around a diver as he swims deeper into the ocean? _____

How does this affect the amount of dissolved gases in his blood? _____

_____

Which specific gas undergoes the greatest increase in solubility? _____

What will happen as the scuba diver begins to surface? _____

_____

Name the small air sacs that transfer gases between the blood and lungs. _____

What happens to these air sacs when they are placed under too great of a pressure?

_____

What names are given to this sickness? _____

What is used to treat this sickness? _____

Hyper means _____ Bar means _____

Define ***hyperbaric***: _____

How do power plants and factories use water? _____

Why do they use water for this purpose? _____

How will increasing water's temperature affect the solubility of a gas like oxygen?

_____

How does decreasing the solubility of oxygen gas affect an environment? _____

_____

What is the name of this type of pollution? _____

Is this pollution the result of a physical or a chemical change? _____

What condition allows the most **solid** solute to dissolve? _____

What conditions allow the most **gaseous** solute to dissolve? _____

_____

Complete the following table by circling the correct effect the change will have on each type of solute.

Change to Solution	Type of Solute	Effect on Solubility		
Increasing temperature	Solid	More Soluble	Less Soluble	No Effect
Increasing temperature	Gas	More Soluble	Less Soluble	No Effect
Decreasing temperature	Solid	More Soluble	Less Soluble	No Effect
Decreasing temperature	Gas	More Soluble	Less Soluble	No Effect
Increasing air pressure	Solid	More Soluble	Less Soluble	No Effect
Increasing air pressure	Gas	More Soluble	Less Soluble	No Effect
Decreasing air pressure	Solid	More Soluble	Less Soluble	No Effect
Decreasing air pressure	Gas	More Soluble	Less Soluble	No Effect

Why are solids and gases not considered complete opposites in terms of solubility?

_____