Name: Key
Blk:____Date:_____

Chemistry 11
Solution Chemistry Intro Lesson

Please read **pgs.283 – 288** in your Chemistry 11 text before attempting to fill in this worksheet.

1.**Define** the following terms in your own words and give an example for each:

a. solution – a homogenous mixture (ex: salt crystals mixed in water)

b. solvent – in a solution; the substance that does the dissolving (ex: water)

c. solute – in a solution; the substance that is dissolved. (ex: salt)

d. aqueous solution – a solution in which water is the solvent. (ex: salt + water)

e. miscible – when two substances (liquids) mix completely (ex = soap (liquid) + water)

f. immiscible – when two substances (liquids) do not mix (ex: oil and water)

g. alloys – a solid ~~mixture~~ mixture of metals (ex: gold jewlery.)

h. solubility – the amount of solute that will dissolve in a given quantity of solvent. (ex 36 g NaCl / 100 mL H_2O)

i. saturated solution – when a solution will no longer dissolve any more solute. (ex: hot chocolate satchels)

j. unsaturated solution – when a solution can still dissolve more solute. (ex: black coffee vs sugar coffee)

2. **Read pgs 90 - 91** and describe what makes a molecule "**polar**" and explain why they are sometimes called "**dipolar**".

POLAR molecules have one end that is negative and another end that is positive. They are sometimes called dipole because they have a negative pole and a positive pole.

Read pg 292 – 293 and answer the following questions:

3. What is a **dipole**? Give an example in your answer.

A dipole occurs when two opposite charges are separated by a short distance.

ex: H — F

4. Explain and give an example of a "**dipole-dipole attraction**".

The attraction btwn opposite charges on TWO DIFFERENT POLAR molecules. (INTER-MOLECULAR) BETWEEN

ex: $\overset{+}{H}-\overset{-}{F}\cdots\overset{+}{H}-\overset{-}{F}$

5. Explain and give an example of a "**hydrogen bond**"

A special dipole-dipole attraction btwn H-O, H-F, H-N

ex: $\overset{+}{H}-\overset{-}{F}\cdots\overset{+}{H}-\overset{-}{F}$

6. Explain and give an example of an "**ion-dipole attraction**"

Attractive forces between an ION and a POLAR molecule

$\overset{-}{O}_2\overset{+}{H}\cdots Cl^{-}\cdots\overset{+}{H_2}O^{-}$