GENERAL CHEMESTRY Quarter 1 Week 5(Module 8-10)

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Mod 8

TRY THIS

1. 1. B
2. 2. B
3. 3. A
4. 4. B
5. 5. B

DO THIS

4 PICS 1 WORD

1. CONCENTRATION

2. SOLUTION

Question:

1. Concentration is a property of solutions as it describes the ratio of the solute on the solvent

EXPLORE

2. 70% solution because it contains more concentration of alcohol.

3. It represents the concentration of solution. It shows the amount or volume of chemical

or compound per 100 mL of a solution

4. Because such high super concentrated solution is too potent and dangerous to be of use and getting such high concentration is difficult to be sold commercially.

|  |  |
| --- | --- |
| DO THIS  1. Solution : Cup of coffee  A. Caffeine : Solute  B. Water : Solvent  2. Solution : Vinegar  A. Acetic acid : Solute  B. Water : Solvent  3. Solution : Ocean water  A. Salt : Solute  B. Water : Solvent | **DO THIS**  1. Black  2. Dark green  3. Light green  4. Yellow  5. Red  6. Light blue  7. Orange  8. Purple  9. Brown  10. Dark blue |

APPLY WHAT YOU LEARNED:

1. Percent by mass is in terms of the masses of the

solute and the solution. Our bodies homeostasis rely on

the many proper concentration of organic compounds

such as the amount sodium in our blood or other chem-

ical balance are necessary for your livelihood.

2. A freshly brewed coffee which is part coffee poweder

and hot water. For me the concentration of powder to

water is about 20 percent of powder is to 80 percent of

water.

ELICIT

1. The product contains 4.5 g CH3COOH in

every 100 g vinegar

ENGAGE (Word Search):

* Mole Fraction
* Parts per million
* Molality
* Molarity

EXPLORE ON THIS:

Sample 1

1. Divide the number of solute moles by liters solution

2. 0.35 moles

3. Molarity

Sample 2.

1. Divide the number of solute moles by kg mass of solvent

2. 0.5 kg

3. Molality

Sample 3:

1. Pentane, C5H12 : MM = 72.14
2. Hexane: C6H14 : MM = 86.17

Let’s Check What You Have Learned

1. B.

2. C.

3. 760.91 ppm

4. 0.360

POST-TEST

1. C 2. A 3. C 4. C 5. D

1. Benzene: C6H6 : MM = 78.11
   1. Pentane, C5H12 : no. of moles = 0.139
   2. Hexane: C6H14 : no. of moles = 0.116
   3. Benzene: C6H6 : no. of moles = 0.128
   4. Total sum of moles = 0.383
2. a
   1. Pentane, C5H12 : Mole fraction = 0.363
   2. Hexane: C6H14 : Mole fraction = 0.303
   3. Benzene: C6H6 : Mole fraction = 0.334

Total No. of Moles = 617.3

Mole fraction hexane= 0.303

Sample 4:

1. Divide mass of CaCO3 by the mass of solution and multiply by 10 raise to 6 ,CaCO3
2. Concentration per mass

EXPLAIN:

1. 0.01 m
2. 0.018 m
3. 0.085
4. 121.95

* It decrease the effectiveness of soap because calcium and magnesium ions react with

soap, making it unavailable to dissolve grease and oil. The product of this reaction is

a slimy, gray scum called curd that often deposits on skin or on the sides of the bathtub

producing bathtub ring.

* Use water softeners
* For safety reasons
* Higher concentration of active ingredient since it’s more effective
* No. Lead is not volatile; therefore, boiling water that is contaminated with lead will only

make the water more concentrated in lead. Some of the water boils away, but virtually

all of the lead is left behind.

Mod 9

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| Pre-Test  1. b 2. c 3. C 4. b 5. B  Work on This:   1. S = 1, G = 1 2. S = 1, L = 1, G = 1   Let’s Try:   1. 30 Mols CO2 2. 2.5 moles of Di Chloride molecules 3. 65 grams per 100 grams of Nac3   Work on This:   1. 25% 2. 0.6 grams 3. 240 M 4. 140 Liters 5. 0.0000153 | 1. 0.00035 grams of NaCl   Post Test  1. D 2. A 3. A 4. A 5.A |

Mod 10

|  |  |
| --- | --- |
| Pre-Test  1. B  2. C  3. D  4. A  5. D  Question #1  Because the water vapor cannot build up with it leaking to the open air. The water molecules bounce all around the pot but since it is open it has more way to go to that open space and never comeback. It will properly be trapped and heat the egg.  Question #2  The higher the vapor pressure of a compound, the more volatile it is. Higher vapor pressure and volatility translate into a lower boiling point. Increasing temperature increases vapor pressure, which is the pressure at which the gas phase is in equilibrium with the liquid or solid phase. | Question #3  Sugar has more retention to heat therefore has a higher temperature to be vapor compared to water and since it is hotter it will be more damaging getting burned by it.  Post-Test  1. B  2. A  3. C  4. True  5. A |