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| Review 2; This won't be checked.  CλeMis+ry: http://genest.weebly.com  *Check the answers to this online* after 6pm.  After-hours question? Email me at home: [eagenest@madison.k12.wi.us](mailto:eagenest@madison.k12.wi.us) | http://3.bp.blogspot.com/-ZQyV-1YvNB4/UFPPWJLWedI/AAAAAAAABzY/zpbSAXoV_Vs/s1600/ill_05.jpg | Name\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_ |

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| 1. Take 99 mL of sugar water that is 0.730mol/L. Add 99 mL of water to it. What is the final concentration of the new solution? |  | 1. 1.5 moles of carbon dioxide can make a 4 mol/L solution. What volume should the solution be? |  | 1. A study of dog sweat finds 0.003 moles of potassium ion in 30 milliliters of sweat. What is the concentration? |

1. Write the charges of the following ions with the aid of a periodic table:

\_\_\_\_\_\_\_ Na ion \_\_\_\_\_\_\_ Oxygen ion \_\_\_\_\_\_\_ Zn ion \_\_\_\_\_\_\_ Al ion

1. How many of the ions in the previous question are "Anions"? \_\_\_

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| 1. In the second box, redraw how the first drawing would look if the ion in the middle were "-" instead of "+". |  |  |

1. In (NH4)2CO3 Carbonate is the ( cation / anion ) and Ammonium is the ( cation / anion )
2. If you have 1.0 M solutions of the compounds above which would lower the freezing point the most? Which would lower the freezing point the least?
   1. Sugar(C12H22O11)
   2. Sodium chloride
   3. Aluminum fluoride
   4. Magnesium bromide
3. Explain why salt is added to water when you are cooking pasta.
4. Explain why you put antifreeze in your car during the winter AND also during the summer.
5. In FeCO3(s) iron is the ( cation / anion ) and CO3is the ( cation / anion )
6. The following are all water based solutions. Rank the solutions from coldest freezing point (1) to highest freezing point (4)
7. \_\_\_\_\_\_ 0.5*M* AuF3(aq)
8. \_\_\_\_\_\_ 0.5*M* NO2(aq)
9. \_\_\_\_\_\_ pure water
10. \_\_\_\_\_\_ 0.5*M* NaCl(aq)
11. How many grams of SF4 are contained in 606. mL of a 0.075 M solution?
12. Circle the metallic element in each.

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| *Circle any element that is a metal* | This substance is… |  | *Circle any element that is a metal* | This substance is… |
| Al(OH)3 | ionic / molecular |  | NH4Br | ionic / molecular |

1. How many pieces will this fall apart into if made into an aqueous solution? (circle your choice)

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| NH4Br | 1? 2? 3? 4? 5? | Mg3(PO4)2 | 1? 2? 3? 4? 5? |
| CaCO3 | 1? 2? 3? 4? 5? | Na2S | 1? 2? 3? 4? 5? |

1. Write your answer with a coefficient in front of each particle*. For example, instead of writing Br- Br- Br- it is more common and easier to write a coefficient: 3Br-*

K2SO4(s) dissolving. Use a coeffiecient where appropriate.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_

1. How many moles of nitrate ions are in 50.0 mL of a 1.9850 M magnesium nitrate solution?