

# Unit 9 Study Guide:

Name \_\_\_\_\_ Per \_\_\_\_\_

## Solutions, Concentrations, Dilutions, Acids & Bases

1. Complete the table below for Acids & Bases:

	<b>Acids</b>	<b>Bases</b>
<b>PH range</b>		
<b>taste</b>		
<b>properties</b>		
<b>List 5 or more examples</b>		
<b>Arrhenius definition</b>		
<b>Bronsted-Lowry definition</b>		
<b>Ways we identified these in the lab (experiments we performed and observations we saw)</b>		

2. When you mix an acid with a base, what is formed? What is this reaction called?

3. Explain what acid rain is, where it has an impact, and why international agreements are important.

4. What are the formulas for Molarity and molality?

5. What letters (uppercase or lowercase?!) do we use to represent Molarity? \_\_\_\_ molality? \_\_\_\_ and \_\_\_\_

6. How did you determine the amount of powder and the amount of water needed to make the 3 Kool-Aid concentrations?

7. How would you make 300mL of a 1.5M Kool-Aid solution? The molecular formula for Kool-Aid is  $C_{12}H_{22}O_{11}$ .

8. How would you dilute this solution (from #7 above) to 1.0M?

9. What is the **Molarity** of a solution that contains 100g Sodium Chloride (NaCl) dissolved in 458mL water?

10. What is the **molality** of a solution that contains 8 moles of solute dissolved in 1280g solvent?

11. How many moles of ammonia are in 650mL of a 2.3M solution?

12. What is the volume of a 8.9M solution that contains 7 moles of solute?

13. How much water needs to be added to 25L of a 6M solution to dilute it to 4.5M?