Name:		Date:	
<b>Chemistru</b> ~ Ms. Hart	Class:	Anions or Cations	SCHOOL FOR CRIMII



## Unit 9 – Lesson 9.1 - Acids and Bases Introduction

SPARK:

- 1. What are the ions that form when KCl is dissolved in water?
- 2. What is an electrolyte?

## **Review:**

• When **IONIC** compounds are dissolved in water, the ions that make up the compound separate.

## • These ions conduct electricity and are called **ELECTROLYTES**

**TASK:** Read pages 453-471 in your textbooks and complete the graphic organizer below. It might be helpful for you to take additional notes on a separate piece of loose leaf.

	ACIDS	BASES
Properties		
Arrhenius Definition		
pH value		
In solution		
Reference Table		

Examples (from reference table!)	
Alternate Theory (Bronsted Lowry)	

## PRACTICE

5.

- 1. Which substance is an Arrhenius base? Explain why in the lines provided below.
  - (1) CH<sub>3</sub>OH
  - (2)  $CH_3Cl$
  - (3) LiOH
  - (4) LiCl

- 2. The compound NaOH (s) dissolves in water to yield
  - (1) hydroxide ions as the only negative ions
  - (2) hydroxide ions as the only positive ions
  - (3) hydronium ions as the only negative ions
  - (4) hydronium ions as the only positive ions
- 3. An Arrhenius acid has

(2)

- (1) only hydroxide ions in solution
- (2) only hydrogen ions in solution
- (3) hydrogen ions as the only positive ions in solution
- (4) hydrogen ions as the only negative ions in solution
- 4. Which Lewis electron-dot diagram correctly represents a hydroxide ion?



(4)



(1)  $NO_{3}$ 

(2) Cl-

(4) H<sup>-</sup>

(3) OH-

- (2) Acids and bases are both H<sup>+</sup> donors.
- (3) Acids are H<sup>+</sup> acceptors, and bases are H<sup>+</sup> donors.

Which ion is the only negative ion produced by

an Arrhenius base in water?

- (4) Acids are H<sup>+</sup> donors, and bases are H<sup>+</sup> acceptors.
- 7. The only positive ion found in  $H_2SO_4$  (aq) is the
  - (1) ammonium ion
  - (2) hydronium ion
  - (3) hydroxide ion
  - (4) sulfate ion
- 8. Which two formulas represent Arrhenius acids?
  - (1)  $CH_3COOH$  and  $CH_3CH_2OH$
  - (2)  $HC_2H_3O_2$  and  $H_3PO_4$
  - (3) KHCO<sub>3</sub> and KHSO<sub>4</sub>
  - (4) NaSCN and  $Na_2S_2O_3$
- 9. Which compound releases hydroxide ions in an aqueous solution?
  - (1) CH<sub>3</sub>COOH
  - (2) HCl
  - (3) CH<sub>3</sub>OH
  - (4) KOH