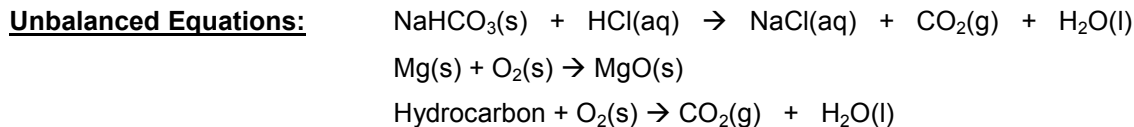


Name: _____
Period: _____ Date: _____
Dr. Katz – Honors Chemistry

Bonding: *Let's Make Some Bonds!*

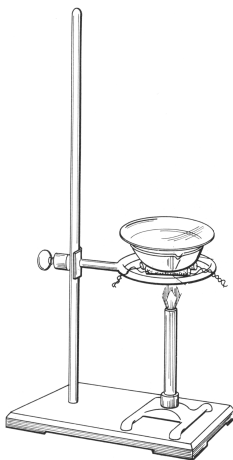
Purpose: To break bonds and make bonds by conducting chemical reactions. To analyze the properties which characterize compounds containing different types of bonds.



Materials:	safety glasses	dropper	Bunsen burner
	evaporating dish	ring stand	matches
	watch glass	wire gauze	tongs
	iron ring	candle (hydrocarbon)	beaker

Chemicals:	baking soda (NaHCO_3)	conc. HCl	Mg
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Apparatus:



Procedure:

1. Add $\frac{1}{3}$ of a teaspoon of baking soda (NaHCO_3) to the evaporating dish. Record observations about the NaHCO_3 in the space provided.
2. Cover the evaporating dish with the watch glass so that only the spout of the evaporating dish is exposed.
3. Use the dropper to drip conc. HCl down the spout and into the dish until the fizzing ceases.
4. Record observations in your observation table.
5. Leaving the watch glass in place, boil off the $\text{H}_2\text{O}(\text{l})$ until only $\text{NaCl}(\text{s})$ remains in the dish. (see Figure above)
6. Record observations about the product left in the dish in your observation table.
7. Clean up by rinsing your equipment with water and wiping dry with a paper towel.
8. Obtain a strip of Magnesium (Mg) and hold at one end with tongs. Record observations about Mg in the space provided.
9. Place the Mg into the Bunsen burner flame until the ribbon catches fire, and then immediately move the strip over an evaporating dish. Record observations in your observation table. **RESIST THE URGE TO LOOK DIRECTLY INTO THE LIGHT.**
10. Record observations about the product left on the evaporating dish in your observation table.
11. Clean up by discarding the Mg and the MgO powder in the trash and wiping the dish with a paper towel.
12. Light the candle (hydrocarbon). Record observations about the candle in the space provided.
13. Hold a beaker upside down above the flame to collect some of the product from the reaction. Record observations about the product on the sides of the beaker in your observation table.

Observation Table: (please resist the urge to write interpretations!)

Reaction	Before Reaction	During Reaction	After Reaction
NaHCO₃			
Mg			
Candle			

Interpretations/Analysis:

Reaction 1	NaHCO ₃	HCl	NaCl	CO ₂	H ₂ O
Bonds Broken? Ionic, Covalent, or Metallic					
Bonds Formed? Ionic, Covalent, or Metallic					
Properties of compound you observed					

Reaction 2	Mg	O ₂	MgO
Bonds Broken? Ionic, Covalent, or Metallic			
Bonds Formed? Ionic, Covalent, or Metallic			
Properties of compound you observed			

Conclusion: Write two or three sentences which summarize the three types of bonding you explored in this lab. Stay away from generalities; instead use examples from this lab to support your conclusions.

Reaction 3	Candle	O ₂	CO ₂	H ₂ O
Bonds Broken? Ionic, Covalent, or Metallic				
Bonds Formed? Ionic, Covalent, or Metallic				
Properties of compound you observed				