PHYSICAL SCIENCE
CHEMICAL EQUATIONS

NAME *KEY*
DATE _____ CLASS _____

LAB 6 – SINGLE DISPLACEMENT

Question and Hypothesis: *How does one determine if an element will replace another? An element's property determines whether it will replace another element.*

Procedure:

1. *Label the beakers A, B, C, D, E, F, G, H, & I.*
2. *Pour 10 mL of O.1M $Al_2(SO_4)_3$ into beakers A, B, & C.*
3. *Pour 10 mL of 0.1M $CuSO_4$ into beakers D, E, & F.*
4. *Pour 10 mL of 0.1M $ZnSO_4$ into beakers G, H, & I.*
5. *Add 1 g of Al to beakers A, D, & G. Record observation.*
6. *Add 1 g of Cu to beakers B, E, & H. Record observation.*
7. *Add 1 g of Zn to beakers C, F, & I. Record observation.*
8. *Clean-up.*

Data:

	Solution: $Al_2(SO_4)_3$	**Solution: $CuSO_4$**	**Solution: $ZnSO_4$**
Solid added: Al	*no reaction*	*Al turns red*	*Al turns gray*
Solid added: Cu	*no reaction*	*no reaction*	*no reaction*
Solid added: Zn	*no reaction*	*Zn turns red*	*no reaction*

Analysis:

1. What did aluminum replace?
   Aluminum replaced both zinc and copper.

2. What did copper replace?
   Copper did not replace anything.

3. What did zinc replace?
   Zinc replaced copper.

4. What trends did you observe about single displacement and the position of the elements on the periodic table?
   Elements replaced other elements that were to the left of them.

Conclusion: *Position of an element on the periodic table (a property) affected whether one element replaced another.*

ESubjects
© 2003 ESubjects Inc. All rights reserved.