

NAME: _____ PERIOD: _____ DATE: _____

Changes During Redox Reactions – 1 hour

Problem

What changes occur during redox reactions?

Materials:

- Reaction plate
- Micropipettes containing the following solutions:
 - 1.0 M HCl
 - 1.0 M $\text{Cu}(\text{NO}_3)_2$
 - 1.0 M $\text{Zn}(\text{NO}_3)_2$
- small pieces of Mg, Cu, and Zn

Procedure:

1. Place 10 to 12 drops of HCl into three of the wells on the chem-plate. Add one piece of magnesium to one of the wells, Copper to a second well, and zinc to a third well. Record your observations in the data table below.
2. Place 10 to 12 drops of copper nitrate in a clean well. Add a piece of zinc to the well. After 5 minutes, record your observations in the data table.
3. Place 10 to 12 drops of zinc nitrate in a clean well. Add a piece of copper to the well. After 5 minutes, record your observations in the data table.
4. Following your teacher's instructions, discard all solutions and clean all chem-plates.

Data Table:

Reactants	Observations
HCl + Mg	
HCl + Cu	
HCl + Zn	
$\text{Cu}(\text{NO}_3)_2 + \text{Zn}$	
$\text{Zn}(\text{NO}_3)_2 + \text{Cu}$	

Observations:

1. Which metal did not react with HCl? _____
2. Which metal did not react in steps 2 and 3? _____