

# Oxides and Acids

Name \_\_\_\_\_ Date \_\_\_\_\_

Objective: Devise and carry out a salt preparation

METHODS:

## Materials

- |                        |                      |                     |
|------------------------|----------------------|---------------------|
| - Calcium oxide        | - Magnesium oxide    | - Zinc oxide        |
| - 0.5 M Sulphuric acid | - Boiling tube       | - Spatula           |
| - Filter paper         | - Filter             | - Evaporating basin |
| - 250 mL beaker        | - Bunsen burner      | - Thermometer       |
| - Test tube holder     | - Measuring cylinder | - Test tube clamp   |



## Procedures:

1. Use the 250 mL beaker to prepare a water bath. Fill the beaker  $\frac{3}{4}$  full of water. Heat to 60 - 70 °C, then turn off the burner
2. Measure 20 mL of acid into a boiling tube
3. Warm the acid carefully in a water bath for 5 minutes.
4. Add two small spatulas of calcium oxide to the boiling tube
5. Stir carefully. If all the solid reacts, add some more until there is some solid left over in the bottom of the boiling tube
6. Use the test tube holder to filter your mixture into an evaporating basin
7. Leave to cool. Best crystals can be obtained by slow evaporation over several days
8. Record your observations

## CONCLUSIONS

1. Describe your observations when you added the oxide to the acid
  
  
  
  
  
  
  
  
  
  
2. What separations procedures did you use in this experiment?

3. Describe your observations after the two days

4. Why is the acid warmed before use?

5. What element do all the acids contain?

6. Why is it necessary to stir the mixture?

7. Write out the balanced equation for each reaction?

8. Use your Periodic Table to help you complete the table to name the salts and show the type and number of atoms in the salts. The first one is done for you

Name of salt	Formula of salt	Name of elements in salt	Number of each type of element
Sodium chloride	NaCl	sodium chlorine	1 1
	CuCl <sub>2</sub>		
	MgSO <sub>4</sub>		
	K <sub>2</sub> SO <sub>4</sub>		
	NaNO <sub>3</sub>		
	AgNO <sub>3</sub>		
	CuSO <sub>4</sub>		
	ZnSO <sub>4</sub>		
	CaCl <sub>2</sub>		
	KNO <sub>3</sub>		