

Name: \_\_\_\_\_

Partners: \_\_\_\_\_

\_\_\_\_\_

## Stoichiometry of Magnesium Oxide

In this experiment, the measured mass of magnesium metal will be reacted with an excess of oxygen through burning. The data will be used to find the theoretical yield for this reaction to make magnesium oxide. We will then compare the theoretical value to your actual results for this reaction and determine your percent yield.

### Procedure:

1. Determine the mass of a clean, dry crucible or small beaker to the nearest x.xx g.
2. Measure the mass of about 1 gram of magnesium turnings, and the crucible/beaker to the nearest x.xx g.
3. Place the crucible/beaker with the magnesium on a ring stand with a triangle or screen, and begin heating slowly, observing what happens.
4. When the burning has stopped, continue to heat the crucible/beaker for another 2-3 minutes. Then let the crucible/beaker cool.
5. Determine the mass of the contents of the crucible/beaker. The dish should be cool to the touch (be careful).

**Data:** (*Sample data table. Make your own for your lab report.*)

Mass of crucible/beaker: \_\_\_\_\_

Mass of crucible/beaker and magnesium \_\_\_\_\_

Mass of crucible/beaker and product \_\_\_\_\_

### Calculations:

Mass of magnesium reacted \_\_\_\_\_

Mass of final product \_\_\_\_\_

Mass of oxygen reacted \_\_\_\_\_

Moles of magnesium reacted \_\_\_\_\_

Moles of magnesium in product \_\_\_\_\_

Moles of oxygen reacted \_\_\_\_\_

Moles of oxygen atoms reacted \_\_\_\_\_

How much magnesium oxide should  
you have gotten? \_\_\_\_\_

What is your percent yield? \_\_\_\_\_

**Conclusions:**

1. Why did you or did you not get the theoretical amount of magnesium oxide?
2. How do your results compare with other groups?
3. If you did not completely burn the magnesium (that is, all of it did not react), how would your determination be off?