# Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Brockport High School NY USA Formula of Magnesium Oxide Mr Keefer

**A. Objective:** Determine the chemical formula of magnesium oxide (MgXOY) by experiment using the mole concept.

**B. The Experiment:** Run a reaction between magnesium (Mg) and oxygen (O2) by heating magnesium in a crucible with the cover partially ajar. Use a 20 cm. strip for trial 1 and a 25 cm strip for trial 2. The empty crucible should be heated to dryness and allowed to cool before beginning.

**C. The Data**

|  |  |  |
| --- | --- | --- |
|  | trial 1 | trial 2 |
| mass of crucible and cover before reaction |  |  |
| mass of crucible, cover, Mg, before reaction |  |  |
| mass of crucible, cover, MgXOY after reaction |  |  |

**D. The Results (Show all calculations)**

|  |  |  |
| --- | --- | --- |
|  | trial 1 | trial 2 |
| mass of magnesium |  |  |
| mass of oxygen |  |  |
| mass of magnesium oxide |  |  |
| moles of magnesium (Mg) |  |  |
| moles of oxygen molecules (O2) |  |  |
| moles of oxygen atoms (O) |  |  |
| ratio of moles of O atoms to moles of Mg atoms |  |  |
| formula of magnesium oxide (from above ratio of moles of O to moles of Mg atoms) |  |  |
| MW of magnesium oxide (from formula above) |  |  |
| moles of magnesium oxide (from mass and MW) |  |  |
| balanced equation for reaction 1 | | |
|  | | |
| balanced equation for reaction 1 | | |
|  | | |