

# Using Moles to Check an Equation      Name \_\_\_\_\_

## Introduction

In this lab you will use an equation to determine if the expected number of moles of chromium(III)oxide are produced in the decomposition of ammonium dichromate. We will be checking the basic recipe for this reaction against our own scaled down version.

## Pre-lab Questions:

- 1) Writing the equation: The reaction that you will be running is a decomposition reaction. Ammonium dichromate when heated will break up into nitrogen (diatomic), water, and chromium(III) oxide. Write the balanced equation for this reaction:
- 2) According to the above reaction how many moles of chromium(III)oxide are produced if you start with one mole of ammonium dichromate?
- 3) How many moles of chromium(III)oxide are produced if you start with four moles of ammonium dichromate?
- 4) What relation do you see between the moles of ammonium dichromate used and the moles of chromium(III)oxide produced?

## Running the Reaction:

- 1) Obtain a piece of glass wool from the lab bench.
- 2) Measure the mass of the glass wool and a test tube together.
- 3) Now place a small scoop of ammonium dichromate into the test tube and put the piece of glass wool snugly (bunched up into a ball) into the top of the test tube so that it will not easily be pushed out. **Check with the teacher before continuing.**
- 4) Re-weigh the test tube, glass wool, and ammonium dichromate together.
- 5) Hold the test tube in a test tube holder (from your lab drawer).
- 6) Ignite a Bunsen burner and place the end of the test tube into the flame just until the reaction starts. Then remove the test tube from the flame immediately.

