

Chemistry Lab: Mass and Change

Purpose: In this lab we will be doing a variety of tests to see how the mass changes as the appearance changes. We will also learn how to draw particle diagrams.

Lab 1: Size Changes

Procedure: Start with a tightly clumped ball of steel wool. Use a balance to find the mass and record this value. Pull the steel wool apart so that it is thin and at least twice its original size. Again use a balance to find the mass and record this as the final mass. Calculate the change in mass and record observations.

Lab 2: Dissolving

Procedure: Begin with a small beaker of water and a small scoop of sugar separate from each other. Find their initial masses (both are on the scale together) and record. Carefully pour the sugar into the water and mix so that all of the sugar is dissolved. Find the final mass, record this value, then calculate the change in mass, and record observations.

Lab 3: Dissolving

Procedure: Begin with a 150 mL beaker that contains about 100 mL of water and one Alka-Seltzer tablet. Find the initial mass of the beaker with water and the tablet. Put the tablet into the water and let it fully dissolve. Find the final mass, record, calculate the change in mass, and record observations.

Lab 4: Steel wool burning

Procedure: Place a small piece of steel wool into an evaporating dish, and find the initial mass of the dish with the steel wool in it. Heat the evaporating dish over a Bunsen burner for a few minutes until you begin to see a color change. Carefully take a match and light the steel wool as it heats over the burner. When you are no longer able to light the steel wool, you are done. Turn off the gas and allow the evaporating dish to cool completely before measuring the final mass, calculate the change in mass and record observations.

Lab 5: Precipitate formation

Procedure: Use the dropper to put three droppers full of calcium nitrate into a small beaker and, then put three droppers full of sodium carbonate into a separate small beaker. Place both beakers onto a balance to find the initial mass. Pour one into the other and observe what happens. Measure the final mass.

Lab 6: Ice Melting

Procedure: Place an ice cube into a small beaker, and find the initial mass. Allow the ice to melt; you can help it along by placing it on a hot plate and heating gently. When it's melted, measure the final mass.