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Physical Measurements

The purpose of this experiment was to familiarize students with the proper way to make routine physical measurements in the laboratory. These measurements include length, volume, mass, boiling point, freezing point depression, and density. Students will use the metric system derived by scientist for all measurements in this experiment. Materials used to determine measurements are a beaker, electric balance, a ruler, a graduated cylinder, large test tube, crucible, hot plate, and a thermometer. Materials being measured are a filter paper, a quarter, water, ice, salt, and magnesium metal. For mass weigh a filter paper, a quarter, and a 50mL beaker on a electric balance and recorded the measurements, (1.045g, 5.489g, 30.815g). Length measurements were conducted with a ruler. Ruler was used to measure length, height, and width of laboratory manual the measurements were recorded respectfully, , (Length 277.5 mm, width 211mm, height 2.3114 m).. Using a 100 mL graduated cylinder volume is measured, by the liquid in the large test tube and do the same thing for the crucible and record the measurements. Using a thermometer in Celsius calculate the different temperatures it takes water to boil with and without salt, (Same temp the whole time 98 degrees Celsius). Then do the same for freezing of water with and without salt. Record and compare the measurements, (with salt -6 degrees Celsius without salt -1 degrees Celsius). To determine the density of magnesium place it in pre-measured and pre weighed water and record the changes in the water to determine magnesium's density, (3.38g/mol). In conclusion students should have effectively been able to learn to conduct measurements. Students should also have a grasp on how to convert units of measurements.