

Purpose _____

Equation for the reaction: _____

Procedure:

1. Get a clean, dry 250 mL beaker from your lab drawer. Label your beaker with a wax marking pencil. Obtain the mass of the beaker and record it on your data table (below).

2. Obtain 4-5 marble chips (CaCO_3) and add them to your beaker. Determine the mass of the beaker and the chips. Record this on your data table.

3. Each lab group should use the following volume of the HCl (unknown conc.) to use in the experiment.

Those closest to the goggle cabinet should use 45.0 mL (lab table 1)

Those at the middle lab table should use 40.0 mL (lab table 2)

Those closest to the stockroom should use 35.0 mL (lab table 3)

Measure your quantity of HCl in your graduated cylinder (record the volume), and add it to the beaker with the chips. Observe the reaction; lock the beaker in your lab drawer for day 2 of this lab. Rinse your graduate; lock up.

Observations: _____

Day 2: The reaction should be done by now; what do you see?

observations: _____

Decant the clear solution and rinse the remaining chips 1-2 times with distilled H_2O . Pour the rinse water into the sink each time.

Be sure your beaker is marked with your locker # and your name (or initials); then take it to the oven (by the outside door) for drying.

Day 3: Find your beaker in the oven (watch it -- it may be hot) Weigh your beaker; Record its mass on your data sheet. Discard the marble chips in the "used chips" beaker by balance #2; return your beaker to your lab drawer after rinsing and drying it.

Data Table: (watch units & sig figs)

Mass of empty beaker	
Mass of beaker & chips (day 1)	
Volume of HCl used	
Mass of beaker & chips (final-dry)	

Observation:

1. (day 2) How could you know that the reaction was completed? _____

Calculations:

1. Calculate the grams of marble chips that were used up in the reaction:

3. Calculate the number of moles of CaCO_3 (marble chips) used up.

4. Use the moles ratio (sought over given) and calculate the moles of HCl in your sample:

5. Since "molarity" is the number of moles/liter, you can now calculate the moles per liter for your sample. Do this below; show your work with units and sig figs please.