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**FACTORS AFFECTING RATE REACTION LAB**

**Intro:**

Chemical reactions occur at different rates. In this experiment you will consider some of the key factors that influence the rate of a reaction: *particle size, temperature, and concentration.*

According to the collision theory, the rate of a reaction depends on the frequency of collisions between reacting particles. The more frequent the collisions, the faster the rate of the reaction. However, in order for the collisions to be effective, the particles must collide with sufficient energy and with the proper orientation. The factors that will be examined in this lab influence reaction rate either by increasing how often collisions occur or by making collisions more effective.

**YOUR TASK:** Given provided materials, devise a procedure to examine factors that increase reaction rate. YOU & YOUR LAB PARTNER MUST HAVE YOUR PROCEDURE APPROVED FOR EACH STEP BEFORE STARTING!

You will need to come to lab prepared with procedures and relevant data tables for each part of the experiment.

**PART A: EFFECT OF PARTICLE SIZE**

* Materials to be provided: electronic balance, 2 test tubes, 1 M HCl, Solid Magnesium Strips, Magnesium Powder

**Part B: EFFECT OF TEMPERATURE**

* Materials to be provided: 3 Alka-Seltzer tablets, 3 250 mL beakers, hot plate, ice

**Part C: EFFECT OF CONCENTRATION**

* 2 M HCl, 3 M HCl, 6 M HCl, 3 pieces of Mg metal strips, 3 test tubes

HINTS:

* PART A: think about how quickly the reaction proceeds/lasts
* PART B: think about how quickly the reaction proceeds/lasts
* PART C: think about how quickly the reaction proceeds/lasts

*After you complete the lab, you will receive additional questions to include in your*