

Name: _____

Reaction Rate Lab

Chemical reactions occur at a number of different speeds. They may be very fast or they may be very slow. The reaction rate can often be sped up or slowed down. In this lab, you will investigate a few factors which affect the rate of a reaction.

Pre-Lab:

Complete the following table about rate of reaction factors.

What happens to the reaction when there is a(n).....

Reaction Rate Factor	Increase in the Factor	Decrease in the Factor
1.		
2.		
3.		
4.		
5.		
6.		

Materials:

Timer (clock, watch or cell phone)
Film Canister
Alka-Seltzer tablet

Procedure:

In this lab you will test the reaction rate of an Alka-Seltzer tablet in 4 different situations.

1. Half a tablet in Cold Water
2. Half of tablet in Hot water
3. Half a tablet in room temp water
4. Half a tablet in room temp water crushed

For each test, you must keep accurate time on how long it takes for the reaction to cause the lid of the film canister to pop off.

Tests:

1. Place $\frac{1}{2}$ of a tablet into the film canister containing **COLD** water. Quickly close the lid and time how long it takes for the lid to pop off. Time: _____
2. Place $\frac{1}{2}$ of a tablet into the film canister containing **HOT** water. Quickly close the lid and time how long it takes for the lid to pop off. Time: _____
3. Place $\frac{1}{2}$ of a tablet into the film canister containing room temperature water. Quickly close the lid and time how long it takes for the lid to pop off. Time: _____
4. Place $\frac{1}{2}$ of a **CRUSHED** tablet into the film canister containing room temperature water. Quickly close the lid and time how long it takes for the lid to pop off. Time: _____

Lab Questions:

1. What was the time difference between hot and cold water reactions?
2. Why was there a difference?
3. What was the time difference between crushed and solid tablets?
4. Why was there a difference?
5. Which of the 4 reaction rate factors you tested today caused the reaction to occur the fastest?
6. Why do you think it made it occur faster than the other 3?