

Purpose: To model how heat and surface area affects chemical reactions in nature.

Procedure.

1. You will be working in groups of 2 for this activity, but you will collect data in groups of 4.
2. If you are an ODD table you will work with COLD water.
If you are an EVEN table you will work with HOT water.
3. Designate one person in your group as TIMER and one as DROPPER.
4. When told to start, the DROPPER will place one whole (unbroken) tablet into the water in the beaker. The TIMER will measure how long it takes for the table to completely dissolve.
5. Record this data in the correct spot on the data table.
6. Ask the table next to you for the data for the other water temperature.
7. Repeat steps 3-6 but this time use a CRUSHED tablet.

Data Table

	Cold Water	Hot Water
Time (in sec.) to completely dissolve a WHOLE tablet		
Time (in sec.) to complete dissolve a CRUSHED tablet.		

Questions. Use your data and notes to complete the questions below.

1. Which reaction happened faster (finished first): the whole tablet in the cold water or warm water? _____
2. Which reaction happened faster (finished first): the crushed tablet in the cold water or warm water? _____
3. Based on your answers above, how does heat affect the rate (how long it takes) of a chemical reaction? _____
4. Which happened faster (finished first): the whole table in hot water or the crushed tablet in hot water? _____
5. Based on your answer to number 4, how does surface area (the crushed tablet had a greater surface area) affect the rate of a chemical reaction?
