

Name: _____ Period: _____ Seat #: _____ Date: _____

LAB: Dissolving Sweetness

Objective/Instructions:

The purpose of this lab is to illustrate how surface area and chemical properties affects dissolving rate. You will be monitoring dissolving rates in several different solvents and with differing surface areas of solute.

Materials:

- 1 Stopwatch
- 1 Zip-Loc Bag
- 1 Mortar and Pestle
- 1 Piece of Graph Paper
- 3 Pieces of assigned Candy per team member plus 3 additional pieces (Name of Candy: _____)

Part I:

Hypothesis: (What effect do you think the surface area of the solute will have on the dissolving rate of the solute. Why?)

Experiment:

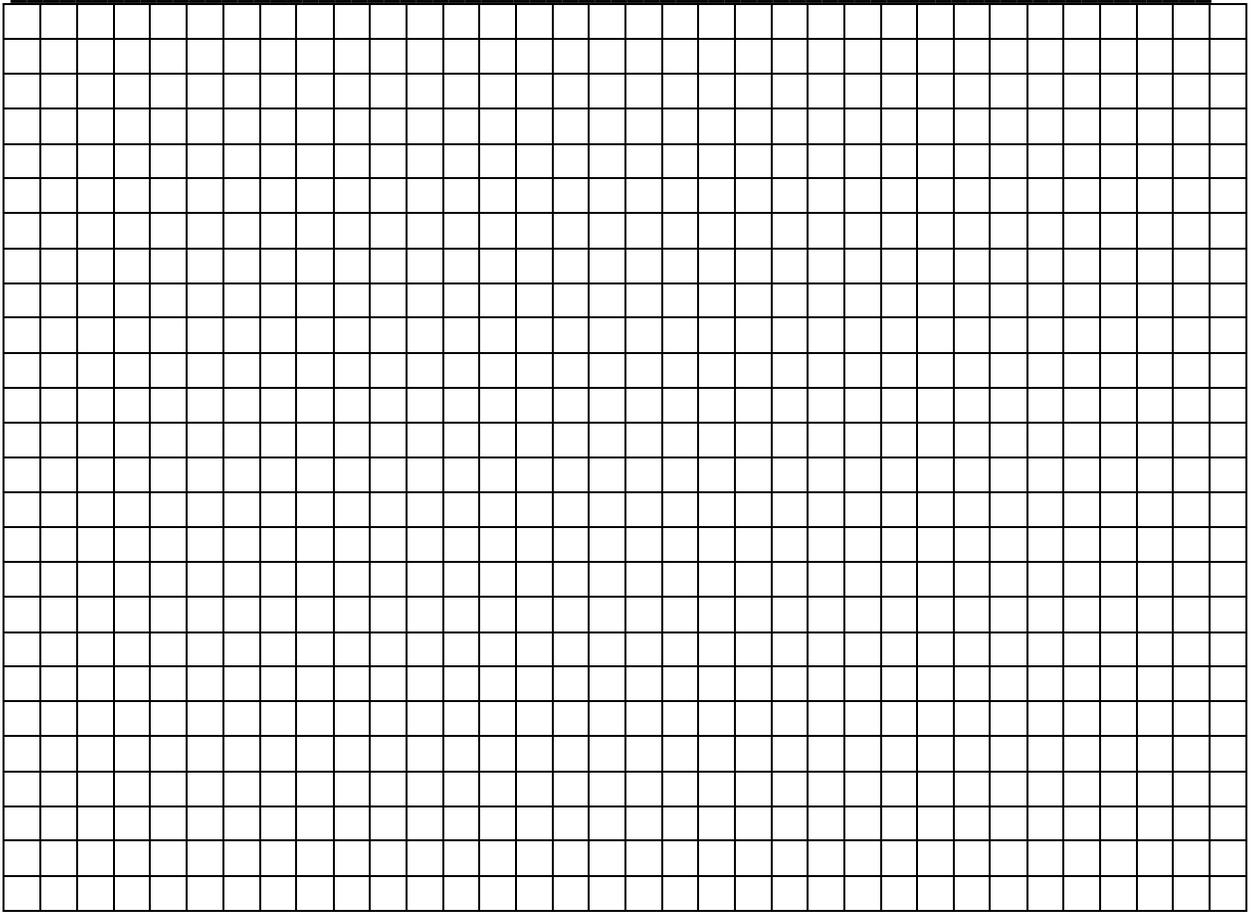
- (a) In the first row of the data table place a lab team members name at the top of each column.
- (b) Unwrap 1 whole piece of candy per lab team member.
- (c) Reset the stopwatch to zero.
- (d) At the same time place the candy onto your tongue and start the stopwatch.
- (e) DO NOT CHEW OR SWALLOW THE CANDY OR USE YOUR TOUNGE.
- (f) Once all the candy is has dissolved note the time and place it in the data table.
- (g) Repeat step (e) for each team member.
- (h) Calculate the average time and place it in the data table.
- (i) Unwrap another piece of candy per lab team member and place it in the Zip-Loc bag (one at a time.)
- (j) Place the Zip-Loc bag in the mortar and gently break the candy into 3 or 4 small pieces using the pestle. (Labeled COARSE on data table.)
- (k) Repeat steps (b) through (f).
- (l) Unwrap another piece of candy per lab team member and place it in the Zip-Loc bag (one at a time.)
- (m) Place the Zip-Loc bag in the mortar and gently pulverize the candy into a powder using the pestle. (Labeled FINE on data table)
- (n) Repeat steps (b) through (f).
- (o) Draw a Bar Graph to represent your data. (HINT: Time on Y-Axis.)
- (p) Answer the analysis questions and conclusion.

Data:

Data Table:

Particle Size	Person 1:	Person 2:	Person 3:	Person 4:	Person 5:	Person 6:	Average
Whole							
Coarse							
Fine							

Analysis:
GRAPH TITLE:



1. In this experiment what was the solute and what was the solvent?
2. Compare the mass and surface area of each trial.
3. List 3 factors that contributed to the dissolving of the solute.
4. If you were allowed to chew the candy how would it have affected the dissolving rate of the candy?

Conclusion: (Was your hypothesis supported? Why or why not?)