

Unit 1 Handout 58

IBI Lesson 9: Lifesaver Lab Results

Purpose: To collect your data from the Lifesaver lab

- Guiding Question:**
- How do scientists conduct a controlled experiment?
 - What affects the rate at which a substance dissolves?

Data Table

Use the space below to create a table for your experiment.

Time (min)	Mass (g)
0:00	3.9
1:00	3.5
2:00	3.2
3:00	2.8
4:00	2.5
5:00	2.3
6:00	2.0
7:00	1.6
8:00	1.1
9:00	0.7
10:00	0.3
11:00	0.0

Concluding

Write a short paragraph that describes the outcome of the experiment. Ideally, you'll have 1 sentence for each group that includes specific data revealing what happened in the lab.

The crushed lifesaver took 11 minutes to dissolve in room temperature water. It lost about 0.35g/min. This is faster than the control which took 18 minutes to dissolve and lost 0.22g/min. This shows crushing the lifesaver decreases the time it takes the lifesaver to dissolve in room temperature water.

Reflecting

1. Why was this lab an example of a controlled experiment?

Our experiment is an example of a controlled experiment because we are comparing one variable against a control to see if that variable causes any changes.

2. What did we do to ensure that we could connect the loss of mass to our independent variables and not anything else?

By only introducing **one** variable (or changing one factor between the control and experimental groups), we can attribute any change to that variable.

This doesn't mean we have absolute certainty that the variable caused the change, but it gives us very good reason to believe so.