

SR

## Introduction

Lab group: RH, SR

The purpose of this soap experiment is to measure and weigh different sizes of soaps. We measured the length, width, and height, calculated the volume, and measured the mass of each soap. By the end of our experimentation, we were able to tell if our soaps would float or sink. Actually, the green harmony soaps sank but the white ivory soaps were able to float.

## Equipment

- Soaps
- Knives
- Rulers
- Scales
- Paper towels

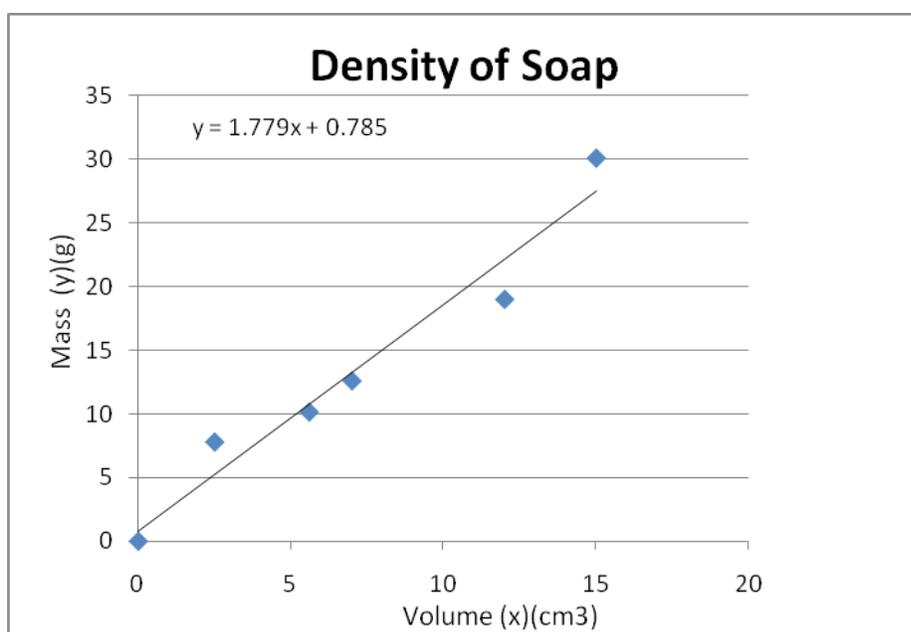
## Procedure

R. and I used a ruler to measure and a scale to weigh each sizes of soaps. First, we had a bar of green harmony soap. We placed it on a neat paper towel and cut the sides of the soap carefully to form a perfect square. We had five pieces of different sizes. Second, we measured each of the soaps using a ruler and calculated the volume. Then, we used the scale to weigh the soaps.

Data table

Length (cm)	Width (cm)	Height (cm)	volume(x)(cm <sup>3</sup> )	Mass (y)(g)
0	0	0	0	0
5	3	1	15	30.1
4	3	1	12	19
3.5	2	1	7	12.6
2.8	2	1	5.6	10.15
2.5	2	0.5	2.5	7.8

Data chart



Analysis

The data plots roughly through a straight line. The following analysis was made based on the data gathered above.

1. The data shows that there is a mathematical relationship.
2. The mathematical relationship is linear.
3. The y-intercept is not necessarily zero.
4. The slope was 3.7 g/cm<sup>3</sup>

5. The y-intercept was 0.35g.

#### Conclusion

There is a linear relationship between the volume and the mass. The goal of the laboratory was to determine if the soaps would float or not. According to our experiments, the green harmony soap sank into the water while the white ivory floated. The test showed that the white ivory soap had a density of less than 1 g/cm<sup>3</sup>. On the other hand, the density for the green harmony soap is more than 1g/cm<sup>3</sup>.