

Bubbles Lab:

Which Soap Brand Had the Biggest Average Bubble Diameter?

Recipe for bubble solutions:

70 ml liquid dish soap

1000 ml water

15 – 20 drops glycerin

Homework questions:

Do not answer on this sheet. Answer in your COMPOSITION NOTEBOOK.

1. Scientists use a “fair test” to compare solutions. In a fair test, all variables are kept the same or “controlled” except for the variable that is being tested.
 - a. What variable in the soap solution was being tested?
 - b. Did we use the same amount of dish soap in each of our bubble solutions? How much was used?
 - c. List other variable that were “controlled” in the preparation of the dish solutions.
 - d. List variables that were controlled in the **method** used to test each solution.
2. We compared the **quality** of bubble size for each of the solutions. List other qualities that could be compared instead.
3. Describe in a sentence or two an experiment you would use to compare the dishwashing properties of three brands of dishwashing liquid.

BONUS

Express your results as the average *volume* of a bubble dome, rather than an average diameter.

Hints:

1. Determine the length of the bubble dome radius (r) by dividing the diameter in half.
2. Calculate the volume (v) of the sphere:

$$v = \frac{4}{3} \pi r^3$$

3. Assume that a bubble dome is half of a sphere. So divide by two to determine the volume of half of a sphere.