|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Results:** | Table2:ClassData |  |  |  |  |  |  |
|  |  | Solution I (white) (cm) | Solution II ( blue ) (cm) | Solution III (yellow) (cm) |  |
|  | Group 1 |   |   |   |   |   |   |  |
|  | Group 2 |   |   |   |   |   |   |  |
|  | Group 3 |   |   |   |   |   |   |  |
|  | Group 4 |   |   |   |   |   |   |  |
|  | Group 5 |   |   |   |   |   |   |  |
|  | Group 6 |   |   |   |   |   |   |  |
|  | Group 7 |   |   |   |   |   |   |  |
|  | Group 8 |   |   |   |   |   |   |  |
|  | Group 9 |   |   |   |   |   |   |  |
|  | Group 10 |   |   |   |   |   |   |  |
|  | Group 11 |   |   |   |   |   |   |  |
|  | Group 12 |   |   |   |   |   |   |  |
|  | Group 13 |   |   |   |   |   |   |  |
|  | Group 14 |   |   |   |   |   |   |  |
|  | Group 15 |   |   |   |   |   |   |  |
|  | Class  |   |   |   |   |   |   |  |
|  | Avg. |   |   |   |   |   |   |  |
|  |  |  |  |  |  |  |  |  |

Name Bubble Lab

Hypothesis: If

then

because

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Data:** |  |  | Table1:GroupData |  |  |  |  |
|  |  | Solution I ( white) (cm) | Solution II ( blue ) (cm) | Solution III (yellow)(cm) |
|  | Bubble 1 |   |   |   |   |   |   |
|  | Bubble 2 |   |   |   |   |   |   |
|  | Bubble 3 |   |   |   |   |   |   |
|  | Bubble 4 |   |   |   |   |   |   |
|  | Bubble 5 |   |   |   |   |   |   |
|  | Avg. Bub |   |   |   |   |   |   |

To get the class average: add all the groups in each solution, hit equals, then divide the number by the number of groups.

1. Which soap solution made the biggest bubble in **your group**?
2. Which soap solution made the biggest bubble in the **class?**
3. There are sources of error in any lab. Try to name at least four possible sources of error in this lab (why do results vary so much from group to group).
4. Most of you should have found that Solution I yielded the smallest averages and Solution III yielded the largest averages. This is not due to anything special about the soap solutions. Regardless of the order in which you used the solutions, whichever one was used last should yield the largest bubbles. Explain why the last solution should give the largest bubbles.
5. List the variables in this lab:

Independant-

Dependant-

Constants (3)-

Control-

1. The Bubble Lab was not designed well. Write a conclusion statement that describes what was wrong with the design of the lab.
2. What changes would you make to this lab to get rid of some of its design flaws? (Make a list)(refer back to question 3)