

An Experiment on Density

You need to create your own data table.

- Include any and all relevant information you think you'll need to answer the lab's questions.
- The data can be organized in any form you want.
- It is usually a good idea to read the lab's questions to see what information is needed.
- Be sure to have your data table signed before you leave class.

Tap water for the experiment may be gotten from the sinks between the lab stations.

Hints for answering some of the questions:

Q1: Estimate to the nearest degree using the hydrometer at your lab station.

Q2: You will need to know the dry mass of your volumetric flask as well as the mass of the flask with the salt water solution in it. Record all masses to the nearest 0.1 gram.

Q4: If your freeze point is -30°F using 100% salt water and $+30^{\circ}\text{F}$ using 0% salt water, what percentage of salt water and what percentage tap water would you need to get to 0°F (the point halfway between -30°F and $+30^{\circ}\text{F}$)?

Q6: Please allow the lab instructor to put the volumetric flasks in the boiling water bath.

- This is a safety issue.
- If a student is scalded, this is bad.
- If the lab instructor is scalded, this is funny.

Q7: Sketch an outline of your hydrometer. On the new temperature scale, show where 180°F , 30°F , and -30°F would fall.

Extra credit is worth 1 point this week.

Textbook References

- Note: These are meant as a rough guide only.
- Conceptual Physics - Ch. 12: 232-33, Ch. 16: 308-10
- Physics, A World View - Ch. 12: 228-30, Ch. 13: 258-9

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