

Iced Tea Quick Lab

Define the following terms and provide one example for each: (5 marks)

Solute: _____

Example: _____

Solvent: _____

Example: _____

Solution: _____

Example: _____

Meniscus: _____

Example: _____

Molarity: _____

Example: _____

Purpose:

- The purpose of the lab is to determine the effect of diluting juice on color and taste.

Hypothesis: (2 marks)

- Create an proper hypothesis on the effect of adding more solute to a solution on color and taste of juice.

Variables: (4 marks)

Controlled (3)	Manipulated (2)	Responding (2)
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Materials:

- Plastic cups
- Juice crystals
- Stir sticks
- Scale
- Water

Procedure:

FOR ALL EQUATIONS ASSUME THE MOLAR MASS OF ICED TEA TO BE 40g/mol

1. Create 100mL of a 2M Iced tea solution (using proper technique)
2. Create 50mL of a 4M Iced tea solution (using proper technique)
3. Create 75mL of a 3M Iced tea solution (using proper technique)
4. Create 70mL of a 1M Iced tea solution (using proper technique)

Calculations: (8 marks)

Calculate the mass of iced tea required for each solution (1-4)

A large blue crosshair graphic consisting of a vertical line and a horizontal line intersecting at the center, providing a workspace for calculations.

Results: (4 marks)**Table 1:**

Solution #	Color	Taste	Other Observations
1			
2			
3			
4			

Analysis of Results (10 marks)

1. What is the solute used in this experiment? _____
2. What is the solvent used in this experiment? _____
3. What do you call a solution that uses water as the solvent? _____
4. Determine the effect of increasing the solvent on an Iced tea solution. (2)
5. Determine the effect of increasing the solute on an Iced tea solution. (2)
6. Which of the following is more concentrated? (SHOW YOUR WORK) (3)
 - a. 4g of NaOH added to 200mL of water
 - b. 4g of Sucrose added to 200mL of water