

Chemistry 20

Making and Diluting a sucrose solution: Lab Technique

Name _____ Partner _____ Date _____

Purpose:

To demonstrate skill in making and diluting a solution

Equipment:

Beakers, wash bottle, volumetric flask, stir rod, pipette, eye dropper, evaporating dish.

Prelab

You are going to make 250 mL of a 0.50 mol/L solution of sucrose ($C_{12}H_{22}O_{11}$) solution. Calculate the mass of solute necessary. Express the mass in grams.

Procedure:

Part A: Write your own steps for making the solution

Part B:

1. Pour the solution into a clean dry beaker
2. Pipette 15 mL of solution into a clean 250 mL volumetric flask. Add sufficient water to fill the flask.
3. Weigh a clean dry evaporating dish.
4. Pipette 17.4 mL of the solution made in step 2 to the evaporating dish.
5. Leave the evaporating dish to dry for several days .
6. Weigh the new evaporating dish after all the water has evaporated.

Observations:

Mass of empty evaporating dish	
Mass of evaporating dish and the solute	

Analysis:

1. Find the concentration of the new diluted solution made in part B
2. Find the mass of solute that will be transferred when you pipette 17.4 mL of the diluted solution.
3. Find the percentage yield and the percentage error for the mass of solute.
4. Suggest reasons for your error found above.