

Name _____ Period _____ Date _____

Lab Partner(s): _____

AP Chemistry: Molarity/Solution/Dilution Lab

Students will be able to:

- Determine the amount of grams of solute to make a given volume of specified molarity .
- Create a dilution from a concentrated solution.

Materials:

Each student group has access to:

Graduated cylinders

Beakers

Balances, electronic, 0.01-g precision

Weigh boats

Plastic wash bottle with distilled water

Screw top bottle (for storage)

Pipettes

Hot plates

Mortar & Pestle

Stirring Rod

Scoopula/Spatula

Label

Safety Precautions

Wear chemical splash goggles. Chemical-resistant gloves and chemical-resistant apron are optional. Wash hands thoroughly with soap and water before leaving the laboratory. Follow all laboratory safety guidelines. Make sure that your lab station is cleaned up before you leave.

Procedure:

Part A: Make a solution

Make _____ mL of a _____ M _____ solution.

1. Write the chemical formula and calculate the molar mass of your solute.

2. Calculate how many grams of your solute you will need to make your solution.

3. Show your calculation to your teacher for approval.

4. Describe, in detail, the process of making your solution, now that your calculations are done. When you are finished, you will need to store and label your solution in a screw top bottle (located at the front).

**The label should include: molarity, chemical formula, names of people who made the solution/dilution, date it was made.

Part B: Dilute your solution

Make _____ mL of a _____ M of your solution.

1. Calculate the amount of solution you will need for the dilution. (Use the dilution formula)

2. Describe, in detail, the process of making the dilution, now that your calculations are done. When you are finished, you will need to store and label your dilution in a screw top bottle (located at the front).

**The label should include: molarity, chemical formula, names of people who made the solution/dilution, date it was made.

Clean up:

Bring your bottles to the front and ask your teacher where to store/dispose of them.

Clean all glassware and place on a paper towel at your lab station to dry.

Wipe down the counter tops and wash your hands.