

# Creating a Solution of Known Molarity

## Objective:

Students will make a stock solution of a known molarity. Molarity is the ratio of moles of solute to volume of solution in liters. It is calculated by dividing moles of solute in the numerator by volume of solution in liters in the denominator. Molarity is abbreviated with a capital M.

## Materials:

- (1) 1 L volumetric flask
- copper (II) nitrate
- scoopula
- periodic table
- calculator
- weigh boat
- balance
- water



## SAFETY

Students should wear safety goggles, aprons, and gloves.

## Procedure:

1. Each team will write a simple list of procedures.
2. Students must calculate the molar mass of copper (II) nitrate (187.57 grams).
3. Place one mole of copper (II) nitrate into the volumetric flask, and add water to the fill line.
4. Students should add the solute first, then slowly add distilled water to the fill line.
5. At the end of the procedure, each team will have a one-molar solution of copper (II) nitrate. We will refer to this as the stock solution.