

▪ Example #1:

- If I have 500.0 ml of a 3.0 M solution that I want to dilute to a concentration of 1.5 M, what will be the final volume of the solution?

▪ Example #2:

- If I boil 3.5 L of a 5.00 M solution of Sodium Chloride until the total volume is reduced to 2.9 L, what is the final concentration of the solution?

▪ Example #3:

- How much water would I need to add to 125 ml of a 2.00 M solution in order to dilute its concentration to 1.25 M?

Diluting Aqueous Solutions

- Sometimes, rather than preparing a solution from a solute, we already have a solution of known concentration that we want to _____ to a lower concentration.
- In order to dilute a solution to a _____ concentration, all we have to do is _____ more of the _____.
- We can calculate the _____ (usually water) that we need to _____ or the _____ concentration of a solution to which we have added more water using a formula.

$$M_1 * V_1 = M_2 * V_2$$

- $M_1 =$ _____
- $M_2 =$ _____
- $V_1 =$ _____
- $V_2 =$ _____

**Remember : If you are trying to determine how much additional water to add in order to dilute a solution to a certain concentration, you will need to calculate the difference between the final and initial volume!