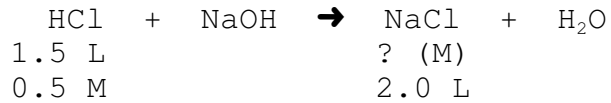


## Stoichiometry with Solutions !!

use  $n=CV$  plus stoichiometry (remember  $n$  = amount(moles))

eg determine the concentration of sodium chloride that will result from combining 1.5 L of 0.5 M HCl with sufficient NaOH to complete the reaction. Assume a final volume of 2.0 L



$$n = ?$$

$$C = 0.5 \text{ M HCl}$$

$$V = 1.5 \text{ L HCl}$$

$$n = CV$$

$$n = 0.5 \text{ mol/L} \times 1.5 \text{ L}$$

$$n = 0.75 \text{ mol HCl}$$

$$0.75 \text{ mol HCl} \times \frac{1 \text{ mol NaCl}}{1 \text{ mol HCl}} = 0.75 \text{ mol NaCl}$$

$$n = 0.75 \text{ mol NaCl}$$

$$C = ?$$

$$V = 2.0 \text{ L}$$

$$C = \frac{n}{V}$$

$$C = \frac{0.75 \text{ mol}}{2.0 \text{ L}}$$

$$C = 0.375 \text{ mol/L}$$

$$C = 0.375 \text{ M NaCl}$$

