SCH3U

Quantities in Chemistry

Stoichiometry - Mole: Mole Ratio

Before we begin, it is important that you review **nomenclature** and **balancing equations**!

Balance the following equation:

$H_{2\,(g)} + O_{2\,(g)} \rightarrow H_2O_{\,(l)}$ The mole ratio is:

For every _____mol of hydrogen, we get _____ mol of water.

For every _____ mol of oxygen, we get _____ mol of water.

*** This MUST be in terms of **moles**! ***

Nitrogen gas reacts with hydrogen gas to produce ammonia. Write a balanced equation:

$N_{2\,(g)} + H_{2\,(g)} \rightarrow NH_{3\,(g)}$ The mole ratio is:

If 2.0 mol of nitrogen reacts with sufficient hydrogen, how much ammonia will be produced?

If 6.0 mol of hydrogen reacts with sufficient nitrogen, how much ammonia will be produced?

Suppose you want to produce 2.75 mol of ammonia. How many moles of nitrogen are needed?