High School Science Virtual Learning

Chemistry
Mole→ Gram Stoichiometry

April 14th, 2020

Chemistry
Lesson: April 14th 2020

Objective/Learning Target:
The Learner will be able to apply stoichiometric principles to perform Mole to Gram calculations in chemical reactions.

Bell Ringer

Question 1

What do the coefficients in a balanced Chemical equation represent?

Question 2

What is the Molar Mass of H_2SO_4?

Bell Ringer Answers:

1. The coefficients represent the Mole-to-mole ratio of the substances involved in the Chemical reaction.
2. H - 2 x   1.0 =   2.0
   S - 1 x 32.1 = 32.1
   O - 4 x 16.0 = 64.0
                  98.1 g/mol

In this lesson we expand on stoichiometry. In lab we measure things out by grams on a scale. Each substance has a different molar mass (g/mol) so we must either perform the conversion from g→ mole in the beginning or mole→ grams at the end. Watch the following video be sure to take notes.
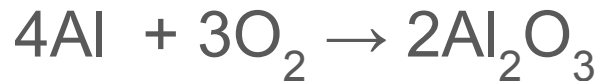
Stoichiometry 4: Mole to Mass Stoichiometry (Mole to Grams)-Beals Science

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$

1. If 7.34 mol of O_2 reacts completely, calculate the grams of CO_2 produced.
2. 14.3 moles of methane (CH_4) burns completely, find the grams of H_2O would be produced.

$$4Al + 3O_2 \rightarrow 2Al_2O_3$$

3. If you want to produce 6.83 mol of Al_2O_3 , with how many grams of Al must you start.

4. If you want to completely react 9.54 moles of Al, how many grams of O_2 are required?

1. 161 g CO_2
2. 515 g H_2O
3. 369 g Al
4. 229 g O_2

Try this practice below.

Quizezz Mole to gram stoichiometry

Worksheet (answers are at the bottom of opposite pages)

Additional video to help you out.

Moles to Grams Stoichiometry- SmarterTeacher