



High School Science Virtual Learning

Chemistry

Mole → Gram Stoichiometry Continued

April 15th, 2020



Chemistry

Lesson: April 15th 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

Tin metal reacts with hydrogen fluoride to produce tin (II) fluoride and hydrogen gas according to the following balanced equation.

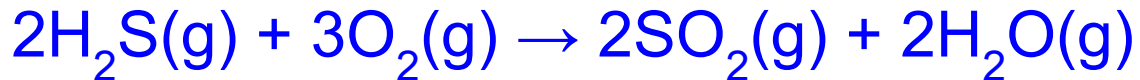


How many moles of hydrogen fluoride are required to react completely with 75.0g of tin?

Bell Ringer

Question 2

Hydrogen sulfide gas burns in oxygen to produce sulfur dioxide and water vapor.



What mass of oxygen gas is consumed in a reaction that produces 4.60 mol SO_2 ?

Bell Ringer Answers:

$$1. \quad 75.0 \text{ g Sn} \times \frac{1 \text{ mol Sn}}{118.69 \text{ g Sn}} \times \frac{2 \text{ mol HF}}{1 \text{ mol Sn}} = 1.26 \text{ mol HF}$$

$$2. \quad 4.60 \text{ mol SO}_2 \times \frac{3 \text{ mol O}_2}{2 \text{ mol SO}_2} \times \frac{32.00 \text{ g O}_2}{1 \text{ mol O}_2} = 221 \text{ g O}_2$$



This is a continuation of the previous lesson. If you need a refresher, rewatch the video below. If you are ready you can jump to the practice.

[Stoichiometry 4: Mole to Mass Stoichiometry \(Mole to Grams\)-Beals Science](#)



Practice



How many moles of water are produced from 19.2 g of B_2H_6 ?

2. Given the following reaction:



How many moles of $\text{Na}_2\text{S}_2\text{O}_3$ are needed to react completely with 42.7 g of AgBr?



Practice

3. How many grams of CO_2 are produced if 2.09 mol of HCl are reacted according to this balanced chemical equation?





Practice: Answers

1. 1.39 mol H_2O
2. 0.455 mol $\text{Na}_2\text{S}_2\text{O}_3$
3. 46.0 g CO_2



Try this practice below.

[Worksheet #1- Answers](#)

[Worksheet #2- \(Answers are found at the end of the document\)](#)



Additional video to help you out.

[Moles to Grams Stoichiometry- SmarterTeacher](#)