

High School Science Virtual Learning

Chemistry Stoichiometry April 20, 2020



High School Chemistry Lesson: April 20, 2020

Objective/Learning Target:

Students will continue to practice stoichiometry.



Let's Get Started:

- 1. What equality is used to convert between grams and moles?
- 2. What equality is used to convert between moles and moles?
- 3. What equality is used to convert between moles and liters of a gas at STP?



Let's Get Started: Answer Key

- What equality is used to convert between grams and moles? 1 mole = Molar Mass grams [From periodic table]
- 2. What equality is used to convert between moles and moles? Mole ratio, from coefficients (e.g. 2 mol CO = 1 mol O₂
- 3. What equality is used to convert between moles and liters of a gas at STP? 1 mol=22.4 L



Lesson Activity:

Directions:

- 1. Watch this video.
- 2. Take notes on the examples while you watch it.



Practice

Complete the following questions using the information you learned during the lesson activity.



Questions:
$$C_5H_{12(l)} + 8O_{2(g)} \rightarrow 5CO_{2(g)} + 6H_2O_{(l)}$$

- 1. If 3.5 moles of pentane (C_5H_{12}) react, how many moles of carbon dioxide will be produced?
- 2. What is the mass of 1.25 moles of pentane?
- 3. What mass of water will be produced, if 10.2 L of carbon dioxide are produced at STP?



Once you have completed the practice questions check with the answer key.

- 1. 18 mol CO₂ (17.5 if ignoring sig figs)
- 2. $90.2 \text{ g C}_5 \text{H}_{12}$
- 3. $9.84 \text{ g H}_2\text{O}$

Work is shown on the next slide.



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	3.4 mol C ₅ H ₁₂	5 mol CO ₂			
		1 mol C ₅ H ₁₂			
	1.25 mol C ₅ H ₁₂	72.15 g C ₅ H ₁₂			
		1 mol C ₅ H ₁₂			
	10.2 L CQ ₂	1 mol CO ₂		6 mol H ₂ Q	18.015 g H ₂ O
		22.4 602		5 mol CO ₂	1 mol H ₂ Q



More Practice:

Follow the links below to do more practice.

- 1. This <u>activity</u> will check your answers at the bottom.
- 2. This <u>activity</u> has all types of problems.



Additional Practice: Click on this <u>link</u> for additional practice.