## High School Science Virtual Learning

## Chemistry

 Stoichiometry April 20, 2020High 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

1. 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. $2 \mathrm{~mol} \mathrm{CO}=1$ $\mathrm{mol} \mathrm{O}_{2}$
3. What equality is used to convert between moles and liters of a gas at STP? $1 \mathrm{~mol}=22.4 \mathrm{~L}$

## 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: $\mathrm{C}_{5} \mathrm{H}_{12(\mathrm{l})}+8 \mathrm{O}_{2(\mathrm{~g})} \rightarrow 5 \mathrm{CO}_{2(\mathrm{~g})}+6 \mathrm{H}_{2} \mathrm{O}_{(\mathrm{l})}$

1. If 3.5 moles of pentane $\left(\mathrm{C}_{5} \mathrm{H}_{12}\right)$ 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. $18 \mathrm{~mol} \mathrm{CO}_{2}$ ( 17.5 if ignoring sig figs)
2. $90.2 \mathrm{~g} \mathrm{C}_{5} \mathrm{H}_{12}$
3. $9.84 \mathrm{~g} \mathrm{H}_{2} \mathrm{O}$

Work is shown on the next slide.


| $10.2 \mathrm{ICQ}_{2}$ | $1 \mathrm{motco}_{2}$ | $6 \mathrm{molH}_{2} \mathrm{O}$ | $18.015 \mathrm{~g} \mathrm{H}_{2} \mathrm{O}$ |
| :---: | :---: | :---: | :---: |
|  | $22.4 \backslash \mathrm{SQ}_{2}$ | 5 motcer | $1 \mathrm{mOH}_{2} \mathrm{O}$ |

## More Practice:

Follow the links below to do more practice.

1. This activity will check your answers at the bottom.
2. This activity has all types of problems.

Additional Practice:
Click on this link for additional practice.

