NOTE-TAKING GUIDE
Unit 6, SEGMENT B

Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas and big questions.

Objective(s):

- To relate Avogadro’s number to both mass and volume of a substance.
- To use dimensional analysis to solve mole conversions.

Notes:

During the video segment, use words, phrases or drawings to take notes.

Summary:

After watching the video segment, write at least three sentences explaining what you learned. You can ask yourself: “If I was going to explain this to someone else, what would I say?”
QUESTIONS TO CONSIDER:
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After watching the video and performing any associated labs and/or experiments, you should be able to answer the following:

1. “Avogadro’s Number” was named in honor of Amedeo Avogadro. What is Avogadro’s number?

2. How many atoms are found in one mole of atoms?

3. Show the dimensional analysis conversion chart for this question: How many molecules of water are there in 0.360 moles of water?

   \[ \frac{\text{molecules of water}}{\text{mol H}_2\text{O}} } = \text{______ molecules of water} \]

4. Show the dimensional analysis conversion chart for this question: How many moles of Mg are in 1.25 \times 10^{23} \text{ Mg atoms}?

   \[ \frac{\text{mol Mg}}{\text{Mg atoms}} } = \text{______ mol Mg} \]

5. How many grams of carbon are found in 1 mole of carbon atoms?

6. Define molar mass.

At this point in the lesson, the teacher should pass around the classroom some containers filled with one mole of some well-known substances (iron, aluminum, zinc, salt, water, etc.)

7. Show the dimensional analysis conversion chart for this question: How many grams are in 9.45 moles of \text{N}_2\text{O}_3\?\]

   \[ \frac{\text{grams \text{N}_2\text{O}_3}}{\text{mol \text{N}_2\text{O}_3}} } = \text{______ grams \text{N}_2\text{O}_3} \]

8. Show the dimensional analysis conversion chart for this question: How many moles are in 92.2 g \text{Fe}_2\text{O}_3\?\]

   \[ \frac{\text{mol \text{Fe}_2\text{O}_3}}{\text{g \text{Fe}_2\text{O}_3}} } = \text{______ mol \text{Fe}_2\text{O}_3} \]

Make sure you complete the Weighing Moles Lab before you continue to the next video. This activity will clarify the dimensional analysis used in mole conversions.