

NEED HELP WITH CHEMISTRY HOMEWORK?

MOLES TO GRAMS & GRAMS TO MOLES CONVERSIONS WORKSHEET

CONVERSION FORMULA

To convert from moles to grams:

$$\text{grams} = \text{moles} \times \text{molar mass}$$

To convert from grams to moles:

$$\text{moles} = \text{grams} / \text{molar mass}$$

INSTRUCTIONS

For each of the following problems, use the steps below to convert between grams and moles:

1. Write down the given value.
2. Use the molar mass of the substance to convert between grams and moles.
3. Write down the final value.

QUESTIONS

1. Convert 5.00 moles of H_2O to grams.
2. Convert 20.0 grams of NaCl to moles.
3. Convert 3.50 moles of O_2 to grams.
4. Convert 15.0 grams of CaCO_3 to moles.
5. Convert 2.00 moles of $\text{C}_6\text{H}_{12}\text{O}_6$ to grams.
6. Convert 25.0 grams of Fe_2O_3 to moles.

ANSWERS

1. $5.00 \text{ moles of H}_2\text{O} \times 18.015 \text{ g/mole} = 90.075 \text{ grams}$
2. $20.0 \text{ grams} / 58.443 \text{ g/mole} = 0.342 \text{ moles of NaCl}$
3. $3.50 \text{ moles of O}_2 \times 32.00 \text{ g/mole} = 112.00 \text{ grams}$
4. $15.0 \text{ grams} / 100.09 \text{ g/mole} = 0.150 \text{ moles of CaCO}_3$
5. $2.00 \text{ moles of C}_6\text{H}_{12}\text{O}_6 \times 180.16 \text{ g/mole} = 360.32 \text{ grams}$
6. $25.0 \text{ grams} / 159.69 \text{ g/mole} = 0.157 \text{ moles of Fe}_2\text{O}_3$

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