The mass of 1 mole of a substance is called the…

MOLAR MASS

What is the molar mass of H₂O?

How many moles are in 36 g of H₂O?  
1  2  3

How many water molecules are in 36 g of H₂O?

How many moles are in 54 g of H₂O?  
1  2  3

How many water molecules are in 54 g of H₂O?

How many moles are in 27 g of H₂O?  

How many water molecules are in 27 g of H₂O?

What is the mass of 5 moles of H₂O?

What is the mass of 3.01 x 10²³ molecules of H₂O?

What is the mass of 0.01 moles of H₂O?

How many molecules are in 10 g of H₂O?
Calculate the number of water molecules in 1 cup of water. The density of water is 1.00 g/mL, and 1 cup = 236.6 mL.

<table>
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<th>1 cup</th>
<th>mL</th>
<th>g</th>
<th>moles</th>
<th>molecules</th>
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</table>

Calculate the volume of $3.56 \times 10^{25}$ molecules of water.

Name, then determine the molar mass of the following substances:

MgO

CaSO$_4$

$(\text{NH}_4)_3\text{PO}_4$

$\text{P}_4\text{O}_{10}$
How many moles of O are in 3 moles of CO₂?

How many grams of O are in 3 moles of CO₂?

How many grams of O are in 11 g of CO₂?

How many grams of iron (Fe) are in 5 grams of Fe₂(SO₄)₃?

Suppose you burn 10 g of sugar, C₆H₁₂O₆. How many grams of water are produced?

Step 1: Determine the balanced equation:

\[ C₆H₁₂O₆ + O₂ \rightarrow \]

Step 2: Determine the number of moles of sugar.

Step 3: Determine the number of moles of water produced. (Use the mole ratio of H₂O to C₆H₁₂O₆ from the balanced equation.

Step 4: Determine the number of grams of water produced.
You mix 10 g of aluminum in a beaker of copper (II) chloride. Assuming there is enough copper (II) chloride to react with all of the aluminum,

1. What are the products that form?

2. How many grams of each product will be produced?