

# Warm Up

Calculate the mass of 0.905 moles of sodium phosphate.



$$0.905 \text{ mol Na}_3\text{PO}_4 \times \frac{163.94 \text{ g Na}_3\text{PO}_4}{1 \text{ mol Na}_3\text{PO}_4} = 148 \text{ g Na}_3\text{PO}_4$$

$$\begin{aligned} \text{Na}_3\text{PO}_4 \\ \hookrightarrow (3 \times 22.99) + (1 \times 30.97) + (4 \times 16.00) \\ = 163.94 \text{ g/mol} \end{aligned}$$

# Homework

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$$1.75 \text{ mol } \text{CHCl}_3 \times \frac{6.02 \times 10^{23} \text{ molecules } \text{CHCl}_3}{1 \text{ mol } \text{CHCl}_3} \times \frac{5 \text{ atoms}}{1 \text{ molecules } \text{CHCl}_3}$$

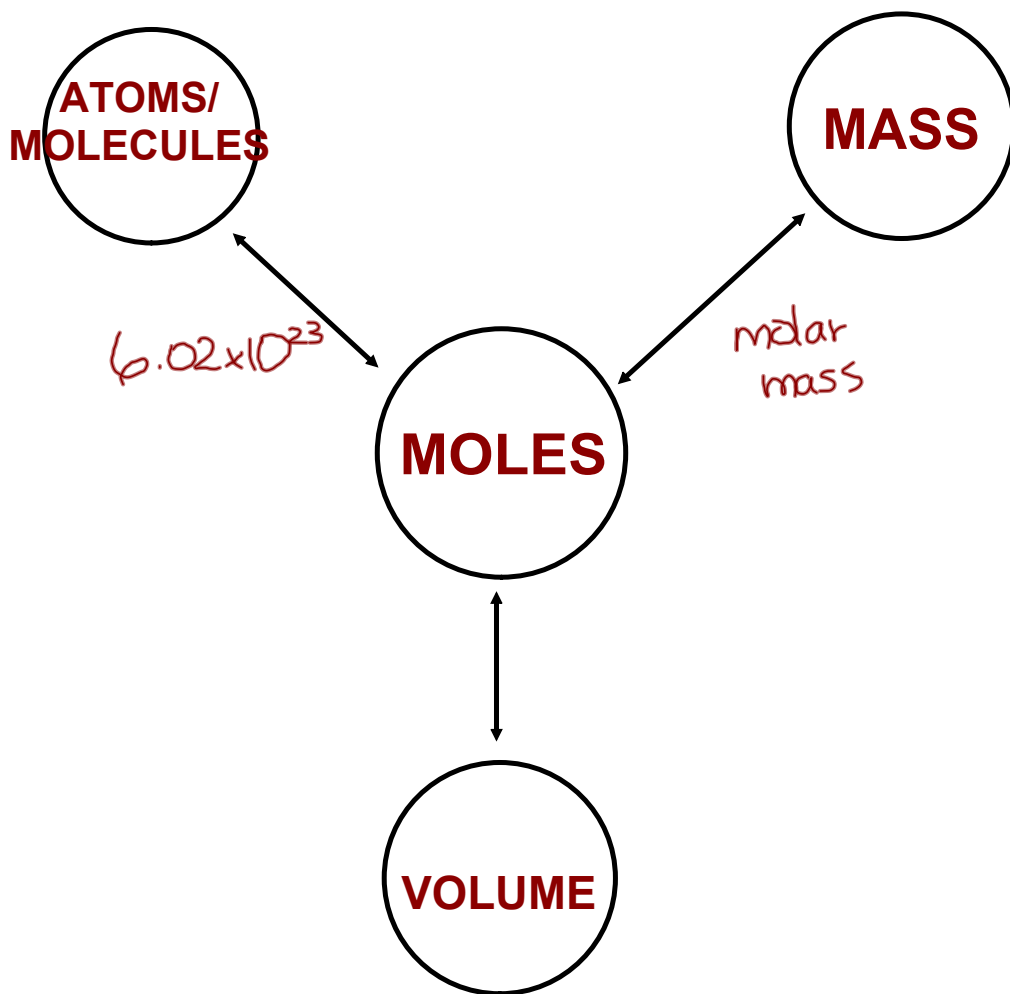
$$= 5.27 \times 10^{24} \text{ atoms}$$

How many moles are found in 124 g of  $C_6H_{12}O_6$ ?

$$124 \text{ g } C_6H_{12}O_6 \times \frac{1 \text{ mol } C_6H_{12}O_6}{180.18 \text{ g } C_6H_{12}O_6} = 0.688 \text{ mol } C_6H_{12}O_6$$
$$C_6H_{12}O_6 \rightarrow (6 \times 12.01) + (12 \times 1.01) + (6 \times 16.00) = 180.18 \text{ g/mol}$$

Determine the number of atoms found in 2.59 moles of silicon.

$$2.59 \text{ mol Si} \times \frac{6.02 \times 10^{23} \text{ atoms Si}}{1 \text{ mol Si}} = 1.56 \times 10^{24} \text{ atoms Si}$$



## Molar calculations worksheet

1.  $8.97 \times 10^{-3}$  mol
2.  $1.49 \times 10^{25}$  atoms
3.  $1.30 \times 10^{26}$  atoms
4. 46.01 g/mol
5. 14 300 mol
6. 342.34 g/mol
7. 159.70 g/mol
8.  $4.24 \times 10^{24}$  molecules
9.  $1.79 \times 10^{25}$  atoms
10. 643 g
11. 0.266 mol
12. 10 900 g
13. 6.26 mol