# Stoichiometry

## Grams

*Molar Mass (g/mol)*

Avogadro's #
$6.02 \times 10^{23}$

## Moles

## Molecules, Atoms, Formula units

*To figure out whether to divide or multiply, set up your conversion and remember to cancel units.

Ex. Grams to Moles → $5g\ O_2 * \frac{1\ mol}{32\ g} = 0.16\ mol$

Started with grams, canceled grams by dividing by molar mass, ended up with moles.

The same can be done when using Avogadro's number. Avogadro's number will have units of molecules, atoms, or formula units per mole

Ex. Moles to Molecules → $0.16\ mol * \frac{6.02 \times 10^{23}\ molecules}{1\ mol} = 9.63 \times 10^{22}\ molecules$

Started with moles, canceled moles by multiplying by Avogadro's number, ended up with molecules.

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