

# Mole Conversions: Molar Mass

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Use the statement of equality for each substance and create the conversion factor that you would employ to change grams to moles or moles to grams. Label all numbers with units.

Cpd: H <sub>2</sub> S Molar mass: 1 mole = 34 grams  Convert 8.0 moles to grams	Cpd: Sn (Tin) Molar mass: 1 mole = 119 grams  Convert 52 gram into moles
Cpd: O <sub>3</sub> (ozone) Molar mass: 1 mole = 48 grams  Convert 175 grams into moles	Cpd: Ba(OH) <sub>2</sub> Molar mass: 1 mole = 173 grams  Convert 5.2 moles into grams
Cpd: PbO Molar mass: 1 mole = 223 grams  Convert 56 grams into moles	Cpd: NaOH Molar mass: 1 mole = 40 grams  Convert 0.0025 moles to grams
Cpd: CaCO <sub>3</sub> Molar mass: 1 mole = 100 grams  Convert $2.57 \times 10^{-4}$ moles to grams	Cpd: Li Molar mass: 1 mole = 7 grams  Convert 21 grams into moles

## Mole Conversions

### Mass to mole Conversions

<p>Cpd: H<sub>2</sub>S Molar mass: 1 mole = 34 grams</p> <p>Convert 8.0 moles to grams</p> <p>8 moles x 34 g/mol = 272 grams</p>	<p>Cpd: Sn (Tin) Molar mass: 1 mole = 119 grams</p> <p>Convert 52 gram into moles</p> <p>52 grams x 1 mol/119 grams = 0.44 moles</p>
<p>Cpd: O<sub>3</sub> (ozone) Molar mass: 1 mole = 48 grams</p> <p>Convert 175 grams into moles</p> <p>175 grams x 1 mol/48 grams = 3.6 moles</p>	<p>Cpd: Ba(OH)<sub>2</sub> Molar mass: 1 mole = 173 grams</p> <p>Convert 5.2 moles into grams</p> <p>5.2 moles x 173 grams/mole = 899.6 or 900 grams</p>
<p>Cpd: PbO Molar mass: 1 mole = 223 grams</p> <p>Convert 56 grams into moles</p> <p>56 grams x 1 mol/223 grams = 0.25 moles</p>	<p>Cpd: NaOH Molar mass: 1 mole = 40 grams</p> <p>Convert 0.075 moles to grams</p> <p>0.075 moles x 40 grams/mole = 3.0 grams</p>
<p>Cpd: CaCO<sub>3</sub> Molar mass: 1 mole = 100 grams</p> <p>Convert 2.57 x 10<sup>-4</sup> moles to grams</p>	<p>Cpd: Li Molar mass: 1 mole = 7 grams</p> <p>Convert 21 grams into moles AND atoms</p> <p>21 g x 1 mol/7 g = 3 moles x 6.02 E 23 atoms/mole = 1.8 E 24 atoms Li</p>