

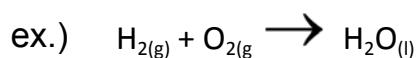
Lesson 10: Chemical Equations

- Show reactants and products
- Chemical change is accompanied by one of the following events; production of gas (bubbles), release of energy(heat), change in colour, slightly soluble(cloudy)

Equations may start as **word equations** or **skeletal equations**:

ex.) Solid magnesium metal reacts with aqueous hydrochloric acid to produce aqueous magnesium chloride and hydrogen gas.

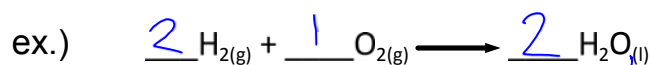
magnesium + hydrochloric acid \longrightarrow magnesium chloride + hydrogen gas





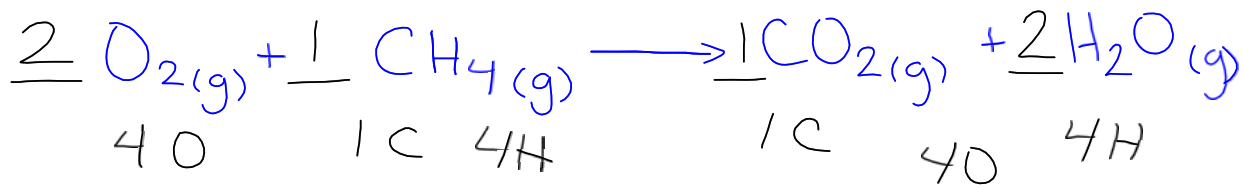
All equations we write must end up as **balanced equations**:

- correct proportions of reactants and products due to the Law of Conservation of Mass. Our goal is to have the same number of atoms on each side of the equation.

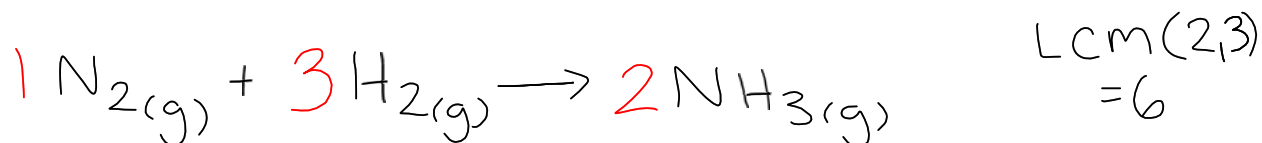


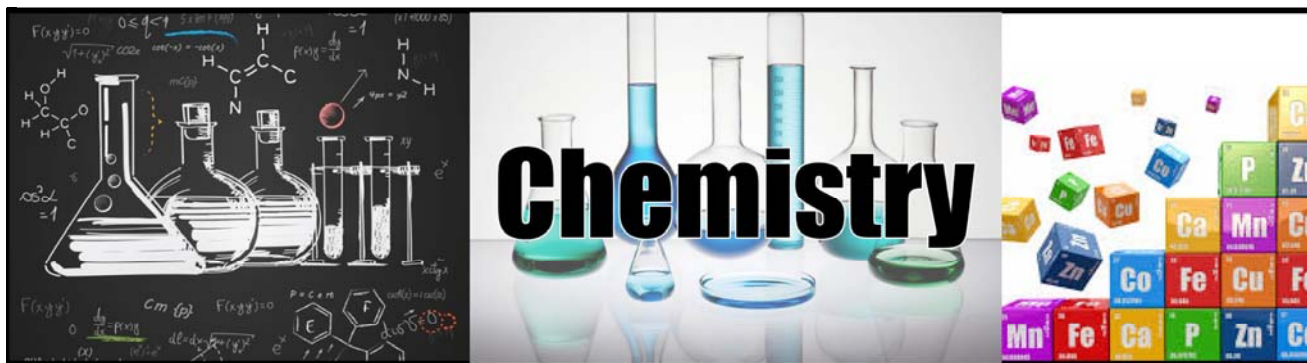
Ex.) Balance the following equations:

a) oxygen + methane \rightarrow carbon dioxide + water

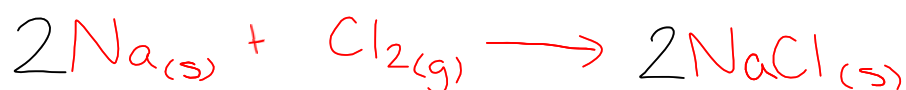


b) nitrogen + hydrogen \rightarrow ammonia

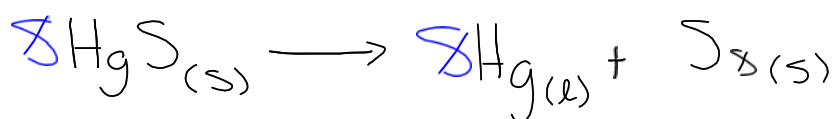




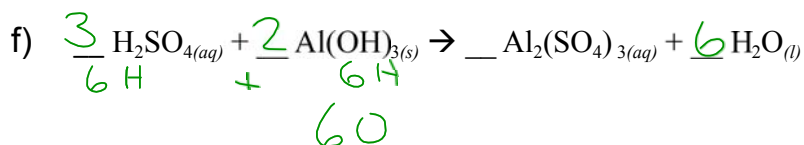
c) solid sodium metal reacts with chlorine gas to produce solid sodium chloride



d) mercury (II) sulfide is decomposed into liquid mercury and solid sulfur



e) methane gas reacts with oxygen gas to produce carbon dioxide and water vapour



1	2	1	2
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