

Balancing Chemical Equations

The Law of Conservation of Mass states that "matter cannot be created or destroyed".

What this means is if you add up the mass of all of the reactants, it will be the same as the total mass of the products. Nothing disappears!

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In a chemical reaction the elements just rearrange themselves into different combinations. Balancing the equation just makes sure there are the same number of each element before and after the reaction, since no mass can disappear.

Ex 1:

zinc + hydrogen chloride --> zinc chloride + hydrogen

Numbers are placed in front of the formulas to show how many molecules are needed in the reaction and how many are produced.

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Ex 2:

carbon tetrahydride + oxygen --> carbon dioxide + water

Ex 3:

carbon monoxide + oxygen --> carbon dioxide

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Ex 4:

aluminum + copper (II) chloride --> aluminum chloride + copper

Ex 5:

magnesium + hydrogen nitrate --> hydrogen + magnesium nitrate

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