

_To MODEL evidence for the Law of Conservation of Matter & Mass during Chemical Reactions.

____1) Use chemical equations illustrated with diagrams of atoms and molecules. Use a different color for each element.

____2) Include a KEY, a COUNT of atoms and the total MASS for each reactant and product.

_Background:

__1) Atoms of reactants are regrouped into different molecules, resulting in products and are written as a chemical equation.

___2) The total number of each type of atom, and the total mass, stays the same (Laws of Conservation of Matter and of Mass).

___3) The new substances (products) have different properties than the properties of the original substances (reactants).

_1. Hydrogen burning in oxygen (oxidation):

Hydrogen = oxygen \rightarrow water

- _2. Photosynthesis: Plants change the energy of the sun to glucose (sugar or food): Water + Carbon Dioxide \rightarrow Glucose (sugar or food) + Oxygen
- _3. Respiration: Animals use glucose (sugar or food) and oxygen (oxidation) for energy: Glucose + Oxygen \rightarrow Water + Carbon Dioxide
- _4. Nitrogen and Hydrogen combine to form Ammonia. Nitrogen + Hydrogen → Ammonia
- _5. Sodium burning in chlorine forms sodium chloride.