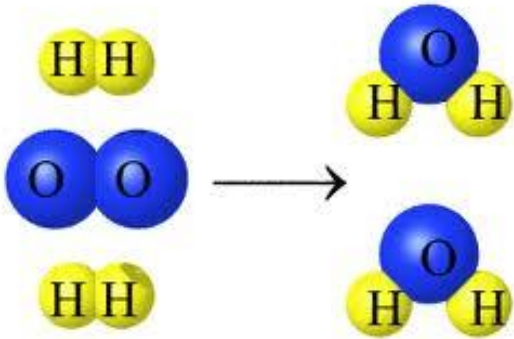
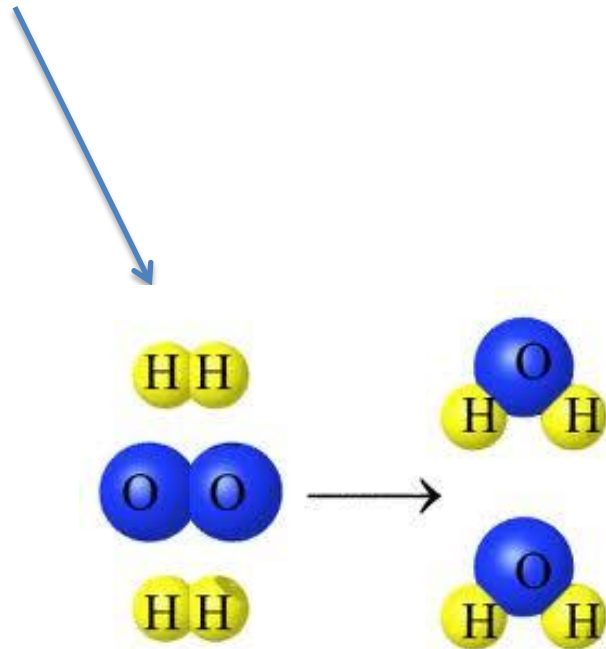


# Chemical Reactions



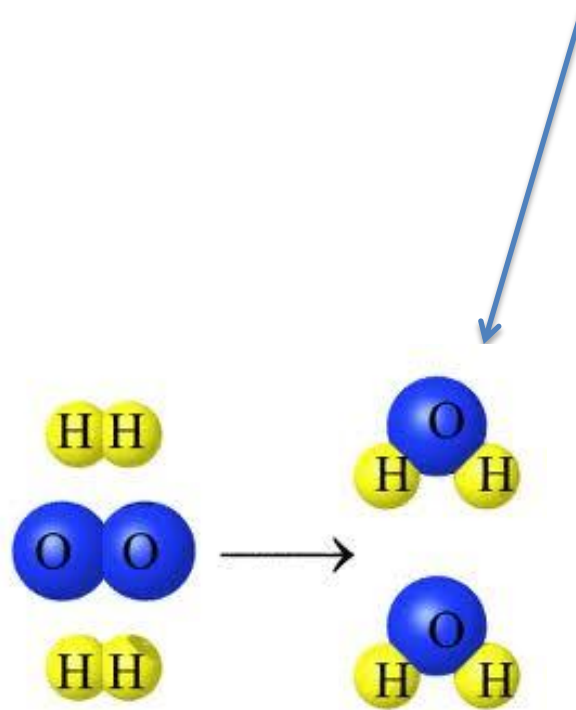
# Reactants

- Substance that exists before a chemical reaction happens



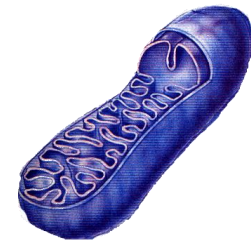
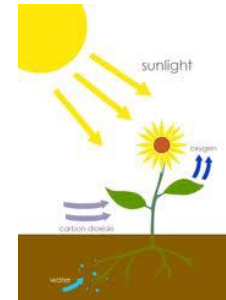
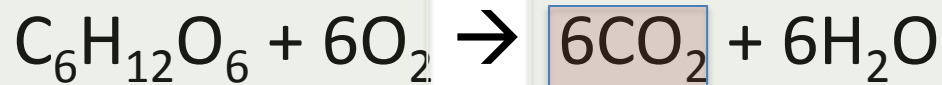
# Products

- Substances that form as the result of a reaction.



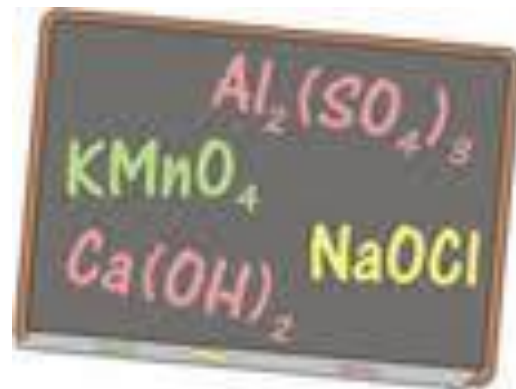
# Chemical Equations

- Shows the reactants, products, physical states, and proportion for each substance.
- Examples:



# Common and Chemical Names

- Many substances have names that are commonly used. These substances also have chemical names based on their chemical formula.



# Examples

- Baking soda → sodium bicarbonate
- Vinegar → acetic acid and water
- Antifreeze → ethylene glycol



# Chemical Names and Formulas

- Some chemical names are simply descriptions of a chemical formula
- Examples:
  - Sodium bicarbonate (baking soda) –  $\text{NaCO}_3$
  - Sodium Chloride (salt) –  $\text{NaCl}$
  - Calcium Sulfate (plaster of Paris) -  $\text{CaSO}_4$

# Energy and Chemical reactions

- Some chemical reactions give off or absorb energy





# Exothermic

- Chemical reaction that gives off heat (energy)



# Examples of Exothermic reactions

- A candle flame
- Nuclear fission
- Mixing water with strong acids
- Rusting iron

# Endothermic

- Chemical reaction that absorbs heat (energy)



# Examples of Endothermic Reactions

- Baking bread
- Cooking an egg
- Melting solid salts
- Splitting a gas molecule apart