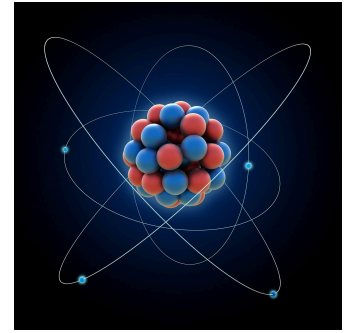


# AP- Chemistry and Cells of Our Body

## How do they help maintain homeostasis?

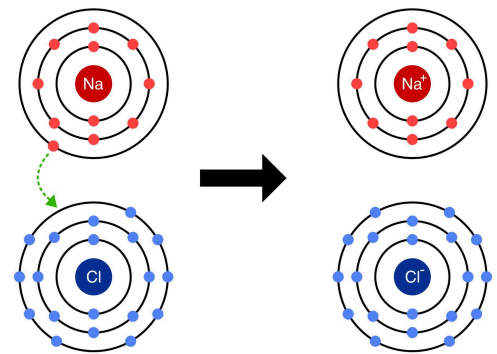


- Let's start with basics...!!
  - The nucleus is in the \_\_\_\_\_, containing protons and neutrons
    - Protons have a \_\_\_\_\_ charge
    - Neutrons have no charge (\_\_\_\_\_)
  - Electrons are arranged around the nucleus in \_\_\_\_\_.
    - Electrons are \_\_\_\_\_ charged

### Now let's talk...Chemical Bonds!!!

- When do they happen?
  - When the \_\_\_\_\_ electrons are transferred or shared between atoms
- What types of atoms do we have?
  - \_\_\_\_\_: charged atoms who is either positive or negative
    - Positive- \_\_\_\_\_ an outer electron
    - Negative- \_\_\_\_\_ an outer electron

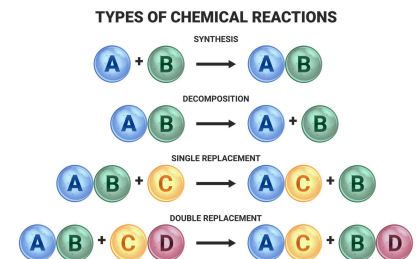
## IONIC BOND



- Why do we have them?
  - They are \_\_\_\_\_ relationships between different atoms and molecules in our body
    - \_\_\_\_\_: when two differently charged atoms are attracted to one another (a \_\_\_\_\_ is attracted to a \_\_\_\_\_)
    - Covalent bonds are when they \_\_\_\_\_ electrons equally
    - \_\_\_\_\_ are weak covalent bonds involving hydrogen atoms
      - Most \_\_\_\_\_ in our body because we are mostly made up of water (\_\_\_\_\_)

### What types of reactions can we have in our bodies with these?

- \_\_\_\_\_
  - \_\_\_\_\_ a new molecule
  - Energy requiring ( \_\_\_\_\_)
  - \_\_\_\_\_.
- Decomposition
  - \_\_\_\_\_ the molecule
  - Energy releasing (working out)
  - \_\_\_\_\_.
- \_\_\_\_\_ Reaction
  - A \_\_\_\_\_ of synthesis and decomposition
  - \_\_\_\_\_.



- Ex: When our stomach acid meets neutralizing agents in the intestine
- What about the Ions in our bodies??
  - Ions play an important role in balancing \_\_\_\_\_ in our bodies
  - pH is measured on a scale of \_\_\_\_\_.
    - The lower the number, \_\_\_\_\_ hydrogen ions
    - Higher the number \_\_\_\_\_ hydrogen ions but more hydroxide ions (OH<sup>-</sup>)
  - Acids donate hydrogen ions ( \_\_\_\_\_ )
    - pH \_\_\_\_\_ 7 on our pH scale
  - Bases( \_\_\_\_\_ ) are willing to accept hydrogen ions (H<sup>+</sup>) or donate hydroxide ions (OH<sup>-</sup>)
    - pH \_\_\_\_\_ 7 on our pH scale
  - Neutral means there is an \_\_\_\_\_ amount of hydrogen and hydroxide
    - pH of 7
- Why is this important?
  - Certain systems in our body only work in certain environments with specific pHs
    - \_\_\_\_\_: HCl- pH of \_\_\_\_\_, depending on the amount of food and type of food
    - \_\_\_\_\_: pH of 7.35-7.45
      - It can become unbalanced if there is a buildup of \_\_\_\_\_ in the body
      - Can lead to \_\_\_\_\_.

## The pH Scale

