

Chapter 2: Chemical Level of Organization Lecture Outline

Atoms:

Nucleus:

Electron cloud or shell includes:

Subatomic Particles

- 1.
- 2.
- 3.

Atomic Number:

Same as:

Example:

Electron Cloud or Shell

Different _____ in an atom

Each electron has its own _____ ()

Each shell:

The outside shell of e^- are called _____

Valence e^- determine:

How do they bond?

Examples:

Kinds of Bonds

1.
 - a.
 - b.
 - c. Draw Example
2.
 - a.
 - b.
 - c. Draw Example

When an atom gains or lose electrons they become:

3.
 - a.
 - b.
 - c. Example:

Acids and Bases

In water, ionic compounds:

Example:

Substances that release ions in water are:

Acids:

Example:

Bases:

Example:

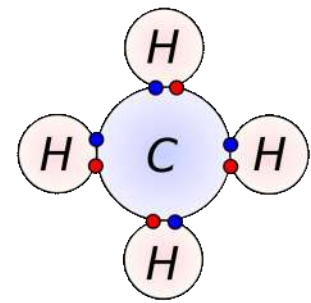
pH scale:

acids:

neutral:

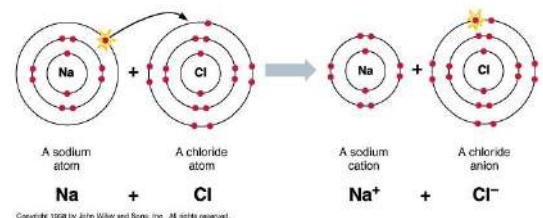
bases:

Salts:



● Electron from hydrogen
● Electron from carbon

What type of bond is this?



What type of bond is this?

Hydrophilic:

Example:

Hydrophobic:

Buffers:

Electrolytes:

What do they do?

How do you lose them? How can you replace them?

Some examples?

Inorganic Substances:

Found in cells

- 1.
- 2.
- 3.
- 4.

Organic Substances (_____)

_____ =

Polymer = repeated, linked units

Large polymers –

- 1.
- 2.
- 3.
- 4.

1. Carbohydrates:

Monomer:

Functions:

Examples:

2. Lipids:

Monomer:

Functions:

Examples:

3. Proteins:

Monomer:

Functions:

Examples:

Enzymes:

Biological catalysts:

- 1.
- 2.
- 3.

Unchanged so:

Effects of Temperature and pH:

Activation Energy:

Enzymes do what to activation energy?

4. Nucleic Acids:

Monomer:

Functions:

Examples: