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. Н Н b. c. Draw Example When an atom gains or lose electrons they become: 3. Electron from hydrogen • Electron from carbon a. b. What type of bond is this? c. Example: Acids and Bases In water, ionic compounds: Example: Substances that release ions in water are: Acids: Example: CI Bases: Example: A sodium A chloride A sodium pH scale: Na CI Na⁺ + A11 acids: What type of bond is this? neutral: bases:

CI-

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: