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| --- | --- | --- | --- | --- |
| Biomolecule | Elements | Purpose | Types/Examples | Monomers/Parts |
| Carbohydrates | C, H, O | Short-Term Energy | Mono – Glucose Di – Sucrose Poly – Cellulose | Monosaccharides |
| Lipids | C, H, O\* | Long-Term Energy | Saturated Fats  Unsaturated Fats | Glycerol 3 Fatty Acids |
| Nucleic Acids | C, H, O, N, P | Store Information | DNA  RNA | Nucleotides |
| Proteins | C, H, O, N, S\* | Structure | Enzymes  Muscles | Amino Acids |

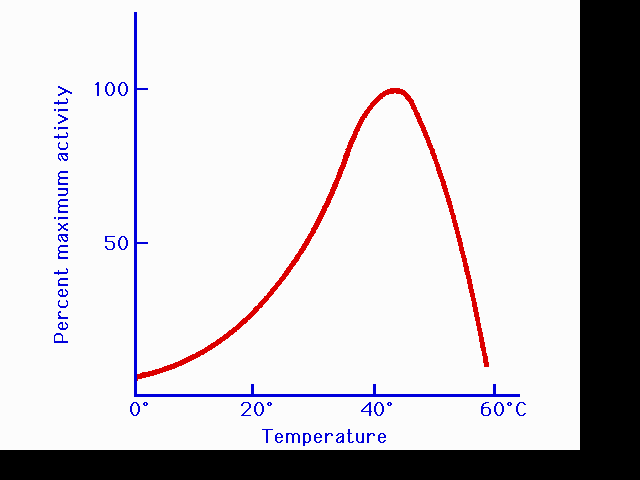
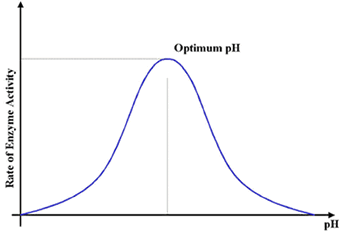
**Study Guide Unit One Notes:**

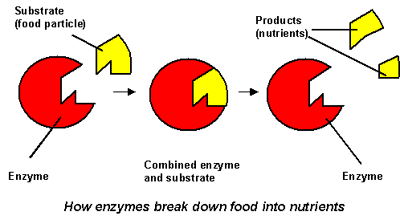
**1:**  
**2:**

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| Vitamin | Primary Use |
| Vitamin C | Wound Healing |
| Vitamin D | Strong Bones |
| Vitamin K | Blood Clotting |

**3-4:**  
Organic Substances - contain the element Carbon (Ex: CO2, CH4, CO)  
Inorganic Substances - do not contain the element Carbon (Ex: H2O, NaCl, HCl)

**5:**Temperature - enzymes work at different rates depending on temperature (hot or cold)   
pH - enzymes work at different rates depending on pH (acidic or basic)

**6:**Enzymes - Enzymes fit with their substrates like a key fits a lock. Only the correct subsrate will allow the enzyme to work correctly.   
   
  
**7:**Carbohydrates - are needed for short term energy. They are found in foods like pasta, bread, potatoes.  
Lipids - are needed for long term energy. They are found in foods like French fries, cheeseburgers, chicken wings.  
Nucleic Acids - are needed for the storage of information in the form of a code. They are not found in any foods, you already have them in every cell in your body.  
Proteins - are needed for structure. They are found in foods like meats, fish and eggs.  
  
**8:**Monomer - the basic building block of a polymer (Monosaccharides , Nucleotides, Amino Acids).  
Polymer - made up of many monomers, at least 3 or more (Carbs, Nucleic Acids, Proteins).  
  
**9:**

|  |  |
| --- | --- |
| Properties of Water | |
| Polarity | One end of the molecule is + and the other end is -. |
| Cohesion | The ability of molecules to stick to the same molecules. |
| Adhesion | The ability of molecules to stick to other molecules. |
| Capillary Action | Using cohesion, adhesion and surface tension – moving a liquid upward |
| Surface Tension | Cohesion of molecules on the surface of a liquid. |
| Temperature | Water is resistant to temperature changes, homeostasis. |
| Ice | Water is less dense as a solid than its liquid form, ice floats. |

**10:**Solute – anything that can dissolve in water. (Kool Aid, Sugar, Salt)  
Solvent – Water is the universal solvent, most things dissolve in water.

**11:**  
Elements most commonly found in organisms – Carbon (C), Hydrogen (H), Oxygen (O)

**12:**pH Scale (0-14):  
Acids: 0-6 on pH scale (Examples: 0 = Battery Acid, 3 = Soda, 6 = Urine)  
Bases: 8-14 on pH scale (Examples: 8 = Sea Water, 11 = Milk of Magnesia, 14 = Drain Cleaner)  
Neutral: “7” on pH scale (Examples: 6.5 = Milk, 7 = Spring Water, 7.5 = Blood)