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| Biology Cornell Notes: Enzyme Notes Date: |
| Study Questions/ Vocabulary:1. What are the two functions of enzymes?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2. Define catalyst. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_3. Do enzymes raise or lower the energy needed to activate a reaction? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_4. List three things that can affect an enzymes function\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **What are enzymes?*** Most enzymes are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* They act as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to accelerate (speed up) a reaction
* Enzymes are \_\_\_\_ \_\_\_\_\_\_\_\_\_\_ changed in the process

**Two functions of enzymes**1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : to build (synthesis) a polymer you must first remove some water (Dehydrate)
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: to break (lysis) a polymer you must add water (Hydro)

**Dehydration synthesis*** Metabolism & Enzymes ppt downloadDehydration synthesis: Removal of \_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_ a bond
* This is how you make muscles in your body. Muscles are made by combining two amino acids together to make protein. Proteins make up your muscles.

**Hydrolysis*** Hydrolysis: Addition of \_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_ a bond
* This is how you digest your food. The polymers are broken down into their monomer groups. Thick of the cracker

**Enzymes*** Enzymes are specific for what they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* They are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* All enzyme names end in \_\_\_\_\_\_\_\_\_\_\_ ( Sucrase, Lactase, Maltase)

**How do enzymes work?** * Enzymes work by \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which \_\_\_\_\_\_\_\_ activation energy

Active site - Wikipedia**Active Site*** The active site is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an enzyme molecule where the substrate binds

**Enzyme substrate complex*** The enzyme substrate complex is a \_\_\_\_\_\_\_\_\_\_\_\_\_ molecule formed when an enzyme comes into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with its substrate

**What affects enzymes activity?** * Three different factors
1. Temperature
2. pH
3. Enzyme Inhibitors
4. Temperature
* Extreme \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the most dangerous
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ may denature the enzyme
* When an enzyme is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ its active site is \_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. pH
* Changes in \_\_\_\_\_\_\_\_ also \_\_\_\_\_\_\_\_\_\_\_ the shape of an enzyme’s \_\_\_\_\_\_\_\_\_\_\_ site
* Each enzyme works best at a specific pH value
1. Enzyme inhibitors
* Enzyme inhibitors: are chemicals that \_\_\_\_\_\_\_\_\_\_ an enzyme’s normal substrate and \_\_\_\_\_\_\_\_\_\_\_\_\_ with it for the active site
	+ - If it fits….it sits…
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| SUMMARY : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |