**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hr. \_\_\_\_\_\_**

**Enzymes**

1. **What are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?**

* **Most \_\_\_\_\_\_\_\_\_\_\_\_ are \_\_\_\_\_\_\_\_\_\_\_**
* **Act as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to accelerate a \_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_ permanently \_\_\_\_\_\_\_\_\_\_ in the process**
* **Are \_\_\_\_\_\_\_\_\_\_ for what they will \_\_\_\_\_\_\_\_\_\_\_\_**
* **Are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **End in -\_\_\_\_\_\_**

**---- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**---- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**---- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **How do \_\_\_\_\_\_\_\_\_\_\_\_\_\_ work?**

**Enzymes work by \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ which \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.**

1. **Enzyme-Substrate Complex**

**The \_\_\_\_\_\_\_\_\_\_\_\_\_ (reactant) an \_\_\_\_\_\_\_\_\_\_\_\_\_ acts on is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

1. **Active Site**

* **A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an enzyme molecule which \_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

1. **Induced Fit**

* **A \_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_ of an\_\_\_\_\_\_\_\_\_\_\_ active site.**
* **\_\_\_\_\_\_\_\_\_\_\_\_ by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* **A \_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an enzyme’s \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_ (H+ and ionic \_\_\_\_\_\_\_\_\_\_ are involved).**
* **\_\_\_\_\_\_\_\_\_\_\_\_ by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **What Affects Enzyme Activity?**

* **Three Factors:**

1. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. **Environmental Conditions**
5. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Temperature are the most dangerous**

**----high temps may \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (unfold) the \_\_\_\_\_\_\_\_\_\_\_.**

1. **pH (most like \_\_\_\_\_\_\_\_\_\_\_ pH near \_\_\_\_\_\_\_\_\_\_\_\_ )**
2. **Ionic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (salt ions)**
3. **\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (zinc, iron) and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (respectively) are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ needed for \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ activity**
* **Example: \_\_\_\_\_\_\_\_\_\_\_ must be present in the structure---hemoglobin in order for it to pick \_\_\_\_\_\_\_\_\_\_\_.**

**Two Examples for Enzyme Inhibitors**

* 1. **\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_: are chemicals that resemble an \_\_\_\_\_\_\_\_\_\_\_\_\_\_ normal substrate and compete with it for the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_.**

1. **Inhibitors**
   1. **Noncompetitive inhibitors**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that do not enter the \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_, but bind to another part of the enzyme causing the \_\_\_\_\_\_\_\_\_\_\_\_ to change its \_\_\_\_\_\_\_\_\_\_, which in turn \_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_.**

* **Summary: Write at least 3 sentences summarizing what you learned about enzymes today. (Worth 5 points)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**KEEP THESE NOTES UNTIL YOU FINISH THE FOLDABLE ACTIVITY.**