***Life Processes:***

**DO NOW:**

Write down everything you can remember about **enzymes!**

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* Living things have MANY \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that keep them alive.
* Metabolism is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of molecules
* In other words, living things have many different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ keep their cells in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* ENZYMES are special **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** that **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* Enzymes are protein **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* Without enzymes, the chemical reactions of life would not happen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Chemical reactions turn **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** into totally different **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* Each enzyme is designed to work with **\_\_\_\_\_\_\_\_\_\_\_** specific chemical reaction.
* Each enzyme has a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that fits ONE reactant, also known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Enzymes fit reactants (substates) like a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* Only **ONE KEY** will open a **lock**
* Only **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**is catalyzed by an enzyme
* ENZYMES HAVE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!!!!!
* Enzymes **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** things up, or **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** things down.
* An enzyme can turn simple sugars into **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* An enzyme can turn a protein into **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* An enzyme can turn starch into **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* Each enzyme works (**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**) in a SPECIFIC **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* In general, enzymes work **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** as temperature increases.
* If an enzymes goes too far out of its temperature range, it will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**!
* It will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and will no longer catalyze reactions!
* The temperature at which an enzyme works the FASTEST is called the**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** temperature.
* An enzyme is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the most reactions possible at the optimum temperature
* Each enzyme works in a specific **\_\_\_\_\_\_\_\_\_\_\_** range.

If an enzyme goes out of it’s pH range, it will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and will NO LONGER FUNCTION

* It will denature and will **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**reactions.



* Enzymes in the stomach work in a very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pH range. Stomach enzymes would **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** in other parts of the body.

***SO…How are enzymes specific??:***

* They are proteins with specific **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* They catalyze specific **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* They fit a specific **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* They work in specific\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ only
* They work in specific **\_\_\_\_\_\_\_\_\_** levels only

