**Unit H Review #1 KEY**

**H-1**

1. **Metabolism is the amount of energy consumed by the total of all the anabolic (endergonic) and catabolic (exergonic) reactions that take place in your cells.**
2. **An enzyme speeds up a chemical reaction by lowering how much "activation energy" is required for that given reaction.**

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1. **An enzyme (holoenzyme) consists of a Protein portion (apoenzyme) and a non-protein portion (coenzyme/cofactor).**

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1. **The Protein portion bears the ACTIVE SITE.**



1. **The non-protein portion can be an inorganic element (mineral) then it is called a cofactor. If the non-protein portion is organic then it is called the co-enzyme (usually a vitamin).**
2. **Activation energy is the specific amount of kinetic energy that must be put into the reactant molecules to allow them to collide and react.**





1. **Cellular respiration is Exothermic/Exergonic (energy release) and Catabolic (breaking down to release energy) - B**



1. **ENDERGONIC/ENDOTHERMIC**

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**H-3**

1. **The substrates must collide with one another with enough kinetic energy to force them to react.**
2. **According to the "Lock and Key" theory. An enzyme's active site has the perfect complimentary shape for the specific substrate.**

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1. **The more current "Induced Fit" theory suggests that the active site will slightly transform its shape to grab the given substrate and run the rxn.**



1. **Enzyme Substrate Complex is the temporary structure that forms when the substrate is bound into the enzymes active site.**



1. **The enzyme is unchanged after a reaction and it is able to take on more substrate.**



\_\_\_\_9. On the diagram below label the following terms

1. SUBSTRATE A

 3.PRODUCT A

 2. SUBSTRATE B

5. PRODUCT B

4. ACTIVE SITE

COFACTOR (mineral) or COENZYME (Vitamin)

6.

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7.APOENZYME

 8.HOLOENZYME

**PRACTICE QUIZ:**

1. **B**
2. **D**
3. **B**
4. **B**
5. **B**
6. **D**
7. **A**
8. **B**
9. **C**
10. **B**
11. **B**
12. **C**