Enzymes Study Guide

All of the reactions occurring in a cell require enzymes. Cells are sometimes described as "bags of enzymes" because enzymes are so critical to every cellular process and each cell contain many thousands of them. Besides the other roles they play in cells, proteins also serve as enzymes.

(Refer to Chapters 2 and 3

Enzymes

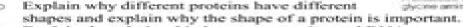
- Draw and label an energy hill diagram for reactions with and without an enzyme.
- Define activation energy.
- Define the term catalyst. Distinguish between a catalyst in general and an enzyme
- Describe the chemical makeup of an enzyme.



- Describe and/or draw a "lock and key" model of enzyme function. Define the active site of an enzyme
- Identify the enzyme, substrate, and products in an enzymatic reaction.
- Interpret graphs showing the reaction rates of enzymes under various conditions.
- Explain the relationship between enzymes and substrates.
 Identify enzymes and substrates for labs performed in class.
- Explain and/or describe the results of lab activities and/or demos.
- Explain the effect of the following factors on enzyme function: pH, temperature, heavy metal.
- Explain why an enzyme no longer functions if it is denatured (i.e.: if its shape is changed).

Proteins

- Describe the chemical structure of proteins. (i.e.: know the "building blocks")
- Know the structure of an amino acid. Know what makes each one different.
- Draw and/or recognize a dehydration synthesis (condensation) reaction to create a dipeptide (2 a.a. linked together).
 - Locate peptide bonds within a picture of a polypeptide.



Explain the relationship between proteins and DNA.



A molecular of unitar is semicired from two plycine amino acids to form a pegside board.

Enzymes Study Guide Answers

Scott C. Dulebohn

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