1. What is the **KEY CONCEPT** for section 2-5? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Main Idea: A catalyst \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ activation energy.

Choose the best answer to the question.

\_\_\_\_\_\_2. Activation energy is the energy required to

a. complete a chemical reaction. c. produce a catalyst.

b. start a chemical reaction. d. produce the reactants.

\_\_\_\_\_\_3. Which of the following can reduce the amount of energy needed for a chemical reaction to take place?

a. reactant b. product c. catalyst d. hydrogen bond

\_\_\_\_\_\_4. What happens to the speed of a chemical reaction when a catalyst is present?

a. It speeds up. c. It stays the same.

b. It slows down. d. It becomes erratic.

5. Using Figure 4.3 and Figure 5.1, draw an energy diagram below of an exothermic reaction. Be sure to include the following labels: *activation energy catalyzed, activation energy un-catalyzed, catalyzed reaction, energy absorbed* OR *released, normal reaction, products,* and *reactants.*

**Energy**

**Reaction progress**

Vocabulary Check - Circle the word or phrase that best completes the sentence.

6. A catalyst can *increase* / *decrease* the amount of energy needed to start a chemical reaction.

7. Substrates are to *catalysts* / *enzymes* as keys are to locks.

8. *Enzymes* / *substrates* are catalysts for chemical reactions in living things.

Main idea: Enzymes \_\_\_\_\_\_\_\_\_\_\_\_\_ chemical reactions to occur under tightly controlled conditions.

9. Take notes about enzymes by filling in the Main Idea Web below.

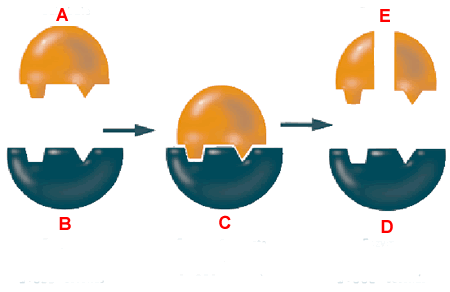
How does a substrate affect an enzyme?

How do enzymes affect the   
speed of chemical reactions in   
the body?

Enzymes

What physical factors affect the action of enzymes?

Where do enzymes act as catalysts?

10. Label the following diagram of an enzyme. After labeling give an example

11. **Connect to Homeostasis:** Organisms need to maintain homeostasis, or stable internal conditions. Why is homeostasis important for the function of enzymes?

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12.Go to your online student edition of the text and go to “interactive review” and then on “self-checks”. Take the 2-5 Self-Check Quiz and record your score below. Write out the question AND answer to the ones you missed or the most difficult one. \_\_\_\_\_\_\_ / \_\_\_\_\_\_\_