

Name _____

Period _____
Due date _____



Enzyme Action

DIRECTIONS: Tear off the Molecule Page (last page) of this lab, then color the three molecules three different colors. Next read the story below and glue the molecules in their appropriate places.

STEP 1 - You just drank a tall, cold glass of milk. Milk contains the sugar **lactose**.

STEP 2 - Your body wants to digest the milk sugar lactose into the simple sugar glucose, so your pancreas releases the enzyme **lactase** into your small intestine.

STEP 3 - Lactase and lactose bond. Lactose fits into the active site of the lactase enzyme and forms the **enzyme-substrate complex**.

STEP 4 - While in the enzyme-substrate complex, lactase speeds up the breakdown of lactose sugar by cutting lactose into **2 glucose** molecules.

STEP 5 - The **glucose molecules now leave the active site** to enter the cells and be used to make ATP energy. The enzyme lactase waits for its next substrate.

ANALYSIS AND CONCLUSIONS:

_____ 1. The other name for the enzyme-substrate complex is:

- A. Cup and saucer model
- B. Car and driver model
- C. Ladder and climber model
- D. Lock and key model

_____ 2. Another way to say enzyme is:

- A. Catalyst
- B. Catastrophe
- C. Caterpillar
- D. Catnap

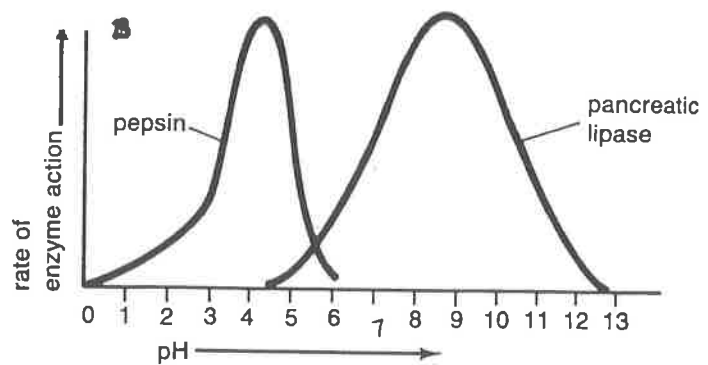
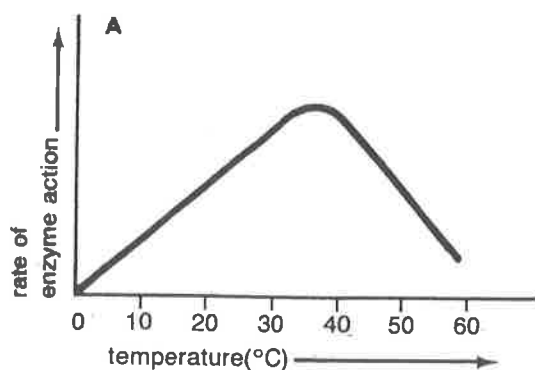
_____ 3. Every chemical reaction requires an enzyme because the enzyme:

- A. Provides products for the reaction
- B. Speeds up the chemical reaction
- C. Stops the reaction when it is complete

_____ 4. What is the name of the enzyme that would digest protein?

- A. Lipase
- B. Amylase
- C. Lactase
- D. Protease

5. TRUE or FALSE: Each enzyme works on one specific substrate based on its shape _____

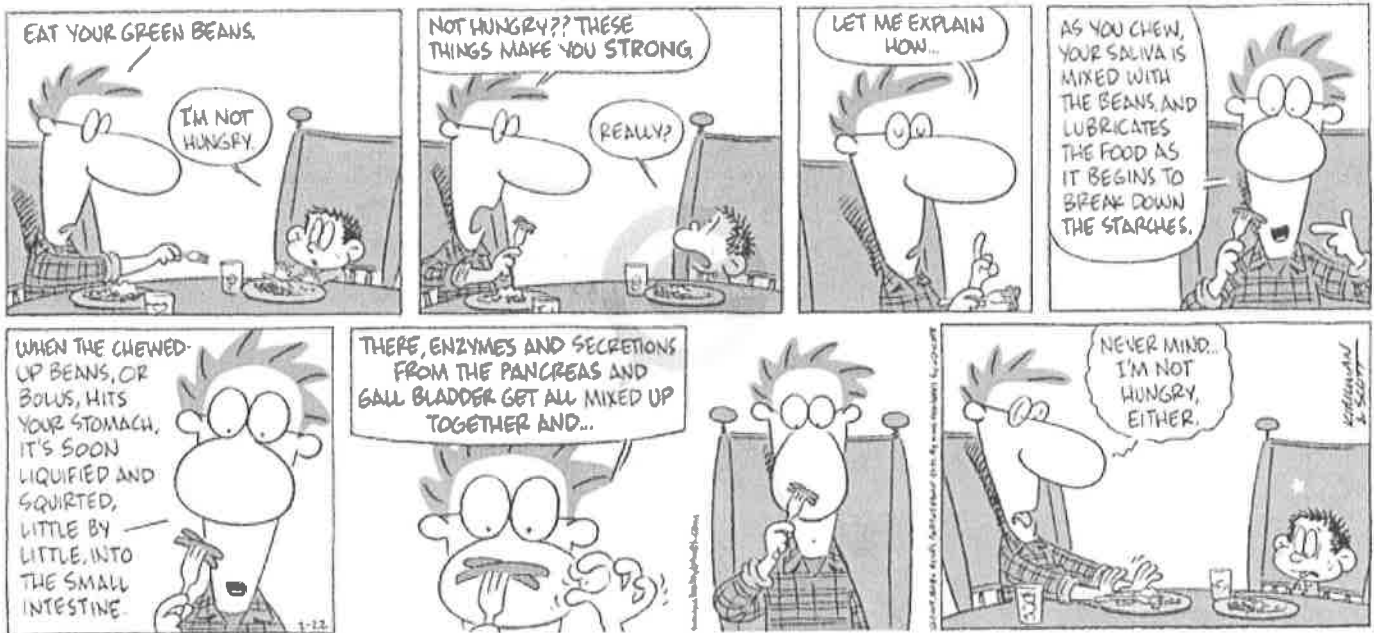


6. According to graph A, at what temperature is enzyme activity the greatest? _____

7. According to graph B, what is the optimum pH for pepsin? _____

BABY BLUES

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MOLECULE PAGE

