

Enzyme Poster-Academic

Create an annotated diagram of a single reaction that takes place with the help of an enzyme.

Create four diagrams with bullet point descriptions under each diagram to explain what is happening. Use vocabulary terms in your detailed descriptions of each step. Use of color is a requirement!

Diagram 1: Enzyme with active site open ready for reactant. Draw an original shaped enzyme and its matching substrate (reactant) –use your creativity! They are not yet linked. Label the enzyme, the active site and the reactant.

Diagram 2: Reactant attached to Enzyme. Draw the substrate (reactant) as it fits into the enzyme with the lock-key specific fit. Draw a nearby molecule that will not fit and label it non-reactant molecule. Label the enzyme, the active site and the reactant. Note that the bonds on the reactant are stressed so the reaction is easier to happen (the activation energy (E_a) needed to start the reaction is reduced).

Diagram 3: Products released and enzyme with empty active site. Draw the product/s released from the active site and the enzyme ready to be reused. Show another reactant coming near so it can also be catalyzed (helped to react). Label the enzyme, the active site and the products and the incoming new reactant.

Diagram 4: Heat denatures enzyme. Draw an enzyme that has been heated and had its shape damaged. The active site shape no longer fits the substrate (reactant) so it cannot catalyze the reaction anymore. Label the enzyme, the denatured active site and the reactant that will not fit.

FYI Box –add a box of informational facts that explains in detail

- Definition of enzymes (include function and polymer type)

Enzyme characteristics: (define and explain each)

- lock and key specificity
- Re-useability.
- Denatured by...results in..
- Reaction Rate affected by...