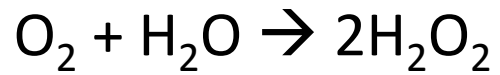


Catalyst

Label the parts of the chemical reaction below:



Using these terms:

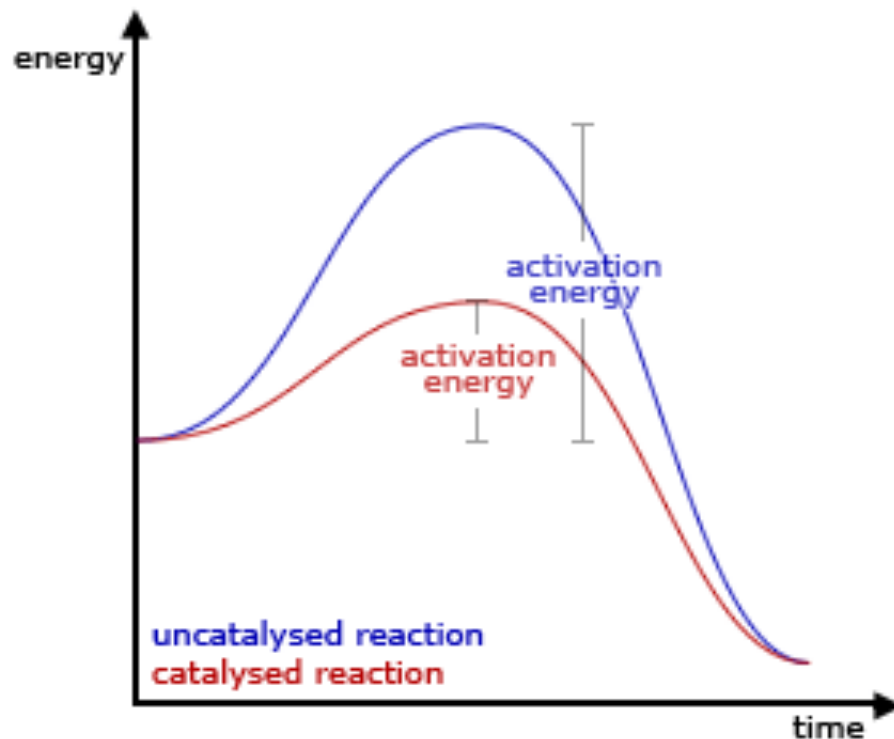
- Product
- Reactant

ARTILVOSK



A catalyst
lowers
activation
energy

- Catalyst
 - Substance that decreases the activation energy needed to start a chemical reaction
 - Increases the rate of a chemical reaction



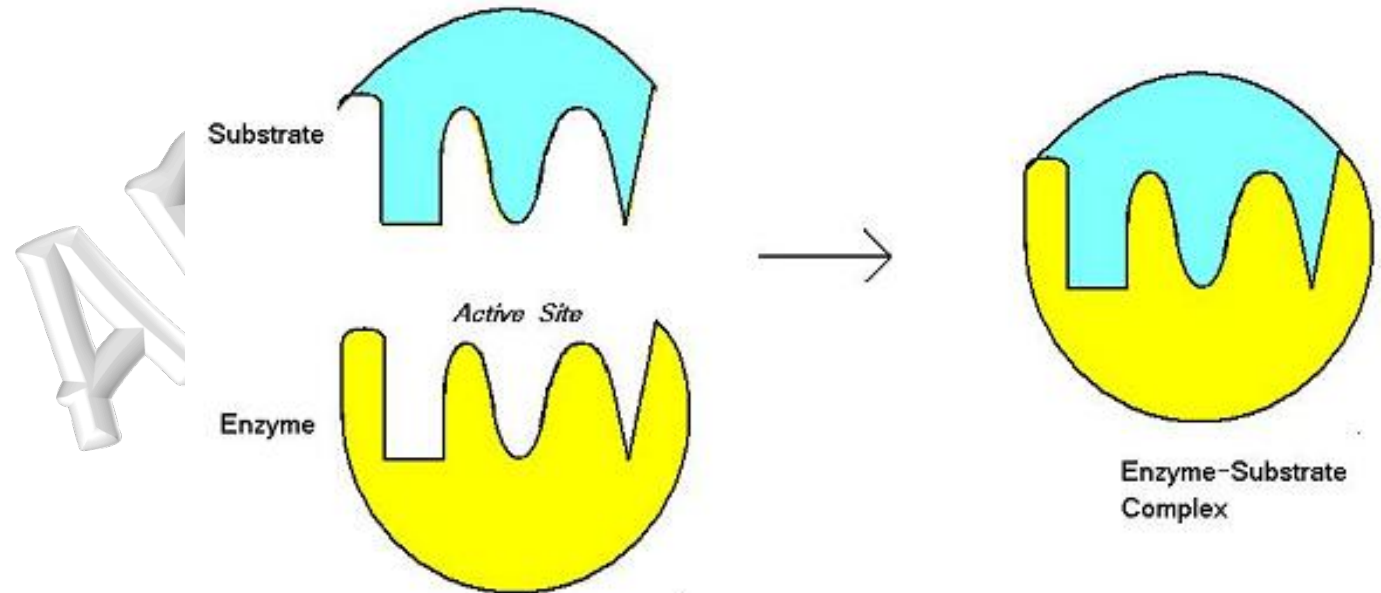


Enzymes allow
chemical
reactions to
occur under
tightly
controlled
conditions

- Enzymes
 - Catalysts for chemical reactions in living things
 - Allow reactions to take place quickly despite low concentrations of reactants
 - Don't affect equilibrium
 - Don't affect the direction of a reaction, just the amount of time
 - Are proteins made up of amino acids
 - Must maintain its structure in order to function properly (temperature/pH affect it!)

- Substrates

- Specific reactants that bind to specific enzymes
- Temporarily bind to enzymes at active sites
- LOCK AND KEY!!!



Lock-and-key Model.- The substrate and enzyme active site have complementary shapes

Virtual Lab

[http://www.mhhe.com/biosci/genbio/
virtual_labs/BL_11/BL_11.html](http://www.mhhe.com/biosci/genbio/virtual_labs/BL_11/BL_11.html)

ARTICLE

Exit Question

- Suppose the amino acids that make up an enzyme's active site are changed. How might this affect the enzyme?
- Organisms need to maintain homeostasis. Why is homeostasis important for the function of enzymes?