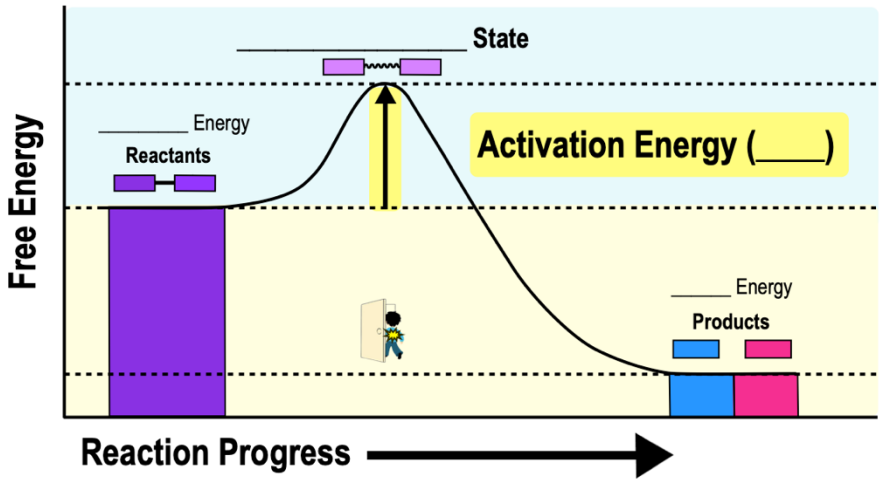
CONCEPT: ENZYME ACTIVATION ENERGY

●**Activation Energy** (_____): the *difference* in energy between the *reactants* & the *transition state* of a reaction.

□ E_A is the minimum amount of *energy* required to _____ a chemical reaction.

□ The *higher* the E_A, the _____ the reaction.

□ **Transition State**: a temporary state of _____ energy in a reaction.

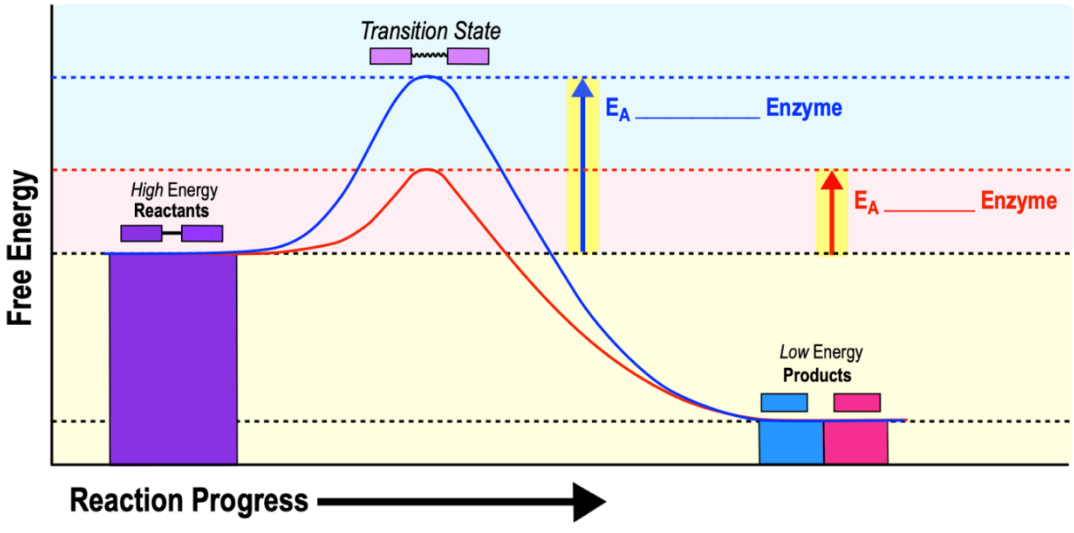


Enzymes Lower E_A

●Enzymes *catalyze* chemical reactions by _____ their *activation energy* barrier (or *transition state* energy).

□ Reactions occur much _____ in the presence of an enzyme.

EXAMPLE: Reaction coordinate for enzymatic catalysis.



PRACTICE: Which of the following statements is TRUE regarding an enzyme's function?

a) It is generally increased if the structure or conformation of an enzyme is altered.

b) It is independent of factors such as pH and temperature.

c) It increases the rate of chemical reactions by lowering activation energy barriers.