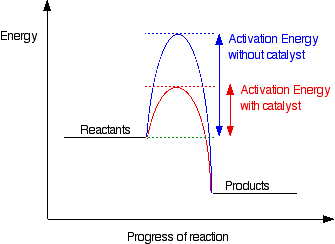
2.5 Enzymes

2.5 Key Concept: Enzymes are catalysts for chemical reactions in living things.

A catalyst lowers activation energy

* Catalysts are substances that speed up chemical reactions
  + Decrease activation energy ( amount of energy needed to start a reaction)
  + Increase reaction rate



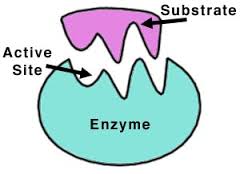
Enzymes allow chemical reactions to occur under tightly controlled conditions

* Enzymes are catalyst in living things
  + Enzymes are needed for almost all processes
  + Most enzymes are proteins.

Disruption in homeostasis can prevent enzymes from functioning

* Enzymes function best in a small range of conditions
* Changes in **temperatures** and **pH** can break hydrogen bonds.
* An enzyme function depends on its structure

An enzyme structure allow only certain reactants to bond to an enzyme.

* Substrates
* [](http://sofbiology.blogspot.com/2012/04/notes-36-enzymes-and-useful-enzyme.html)Active site

The lock and key model help illustrate how enzymes function

* Substrates brought together
* Bonds in substrates weakened.

