

Bio I

Notes: Enzymes

- Chemical reaction (terms: reactants and products)



- Metabolism: The combination of all chemical reactions in the body.
- Cells regulate chemical reactions through the use of proteins called **enzymes**.
- What are enzymes? (term: Biological catalyst)

Protein containing a region (active Site) which will bind a compound or compounds (Substrate) causing a chemical reaction to occur at a faster rate.

Enzymes are very specific. The active site will only bind a certain substrate.

- How enzymes work
 - enzyme-substrate complex (terms: substrate, active site, product)

- Enzymes and the surrounding environment

Many changes in the environment can change the shape of an enzyme. This change will no longer allow the substrate to bind to the active site. We say the protein has been denatured.

1. pH: small changes in blood pH can denature enzymes. Important that blood be "buffered".
2. Temperature: Small increases or decreases in temperature can denature some enzymes