Metabolism

Anabolism
Biosynthesis

Catabolism
Degradation

All cells do both types of metabolic reactions

Energy Conversions

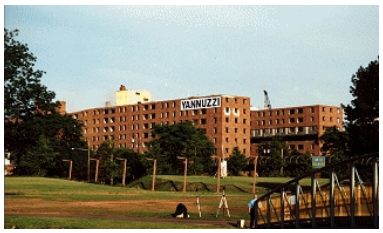
Anabolism
Biosynthesis
Build Up

Energy Conversions

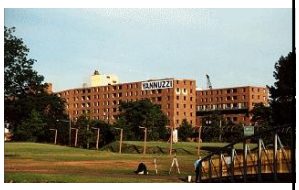
Potential Energy

Energy Conversions

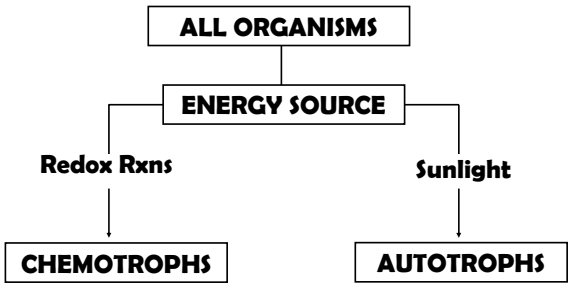
Catabolism
Degradation

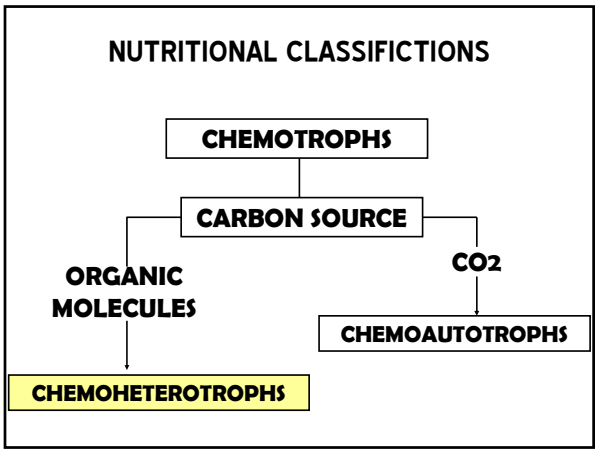


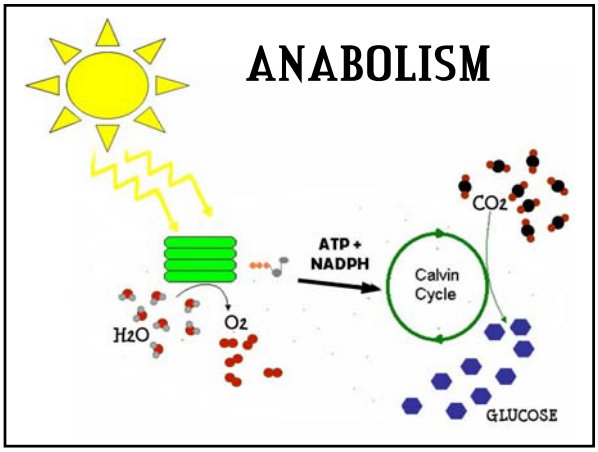
Potential Energy

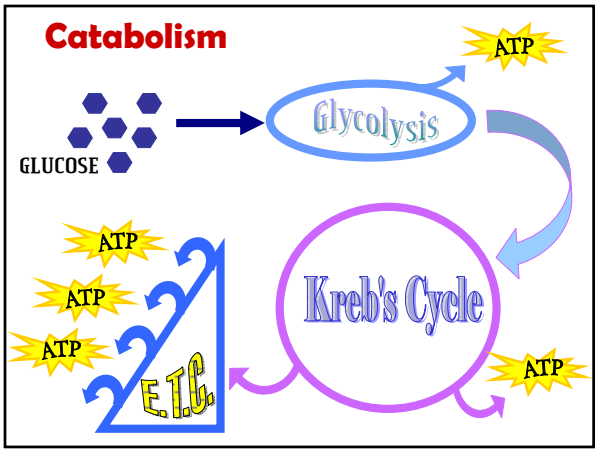


NUTRITIONAL CLASSIFICTIONS

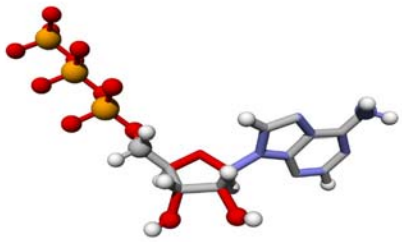


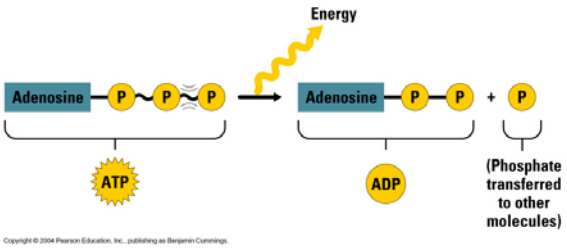

NUTRITIONAL CLASSIFICTIONS
CHEMOTROPHS
CARBON SOURCE
ORGANIC MOLECULES
CO2
CHEMOAUTOTROPHS
CHEMOHETEROTROPHS


ANABOLISM
CO2
ATP + NADPH
Calvin Cycle
H2O
O2
GLUCOSE


Catabolism
ATP
GLUCOSE
Glycolysis
ATP
ATP
ATP
E.T.C.
Kreb's Cycle
ATP

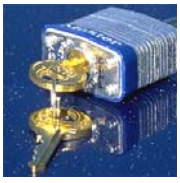
Adenosine Triphosphate



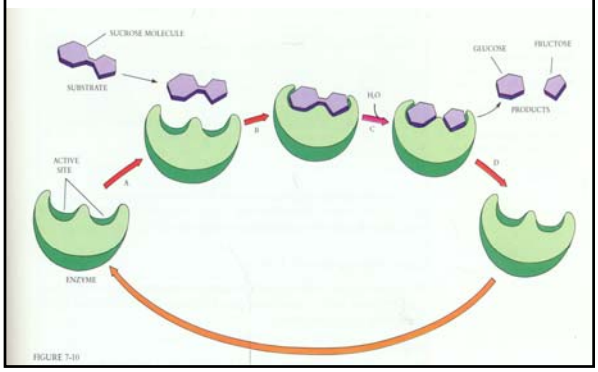


ENZYMES

Increase rate of metabolic reactions by lowering the activation energy required to start the reaction



ENZYME ACTION

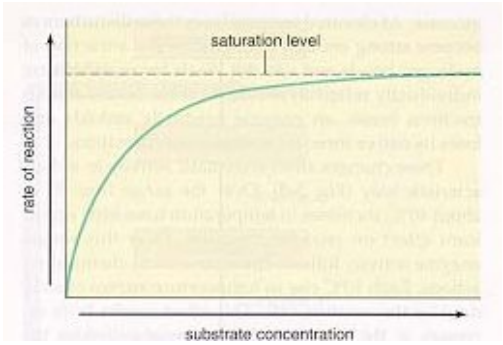


Factors Affecting Enzyme Function

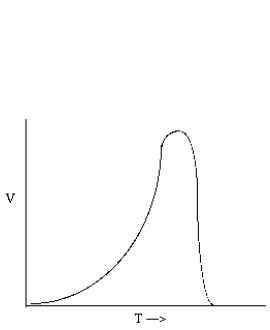
- **Substrate or Enzyme Concentration**
- **Temperature**
- **pH**
- **Allosteric Regulators**
- **Product Inhibition**
- **Phosphorylation state**

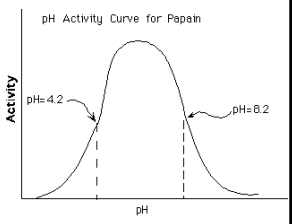
Concentration

Factors Affecting Enzyme Function

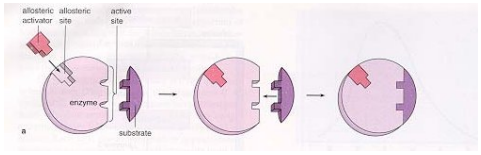


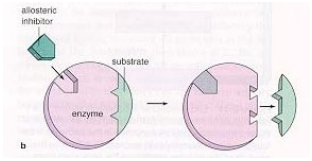
Temperature & pH





Allosteric Regulation





Can be Product Inhibition

Phosphorylation