

BIOL 1110- 6.1.1



[Ch.6]
Potential is energy not moving
Kinetic is energy moving

Energy is the capacity to do work

ATK/1100 DEF/1200

22699248

© 2017 TRAVIS

BIOL 1110- 6.2.1



[Ch.6]
First Law of Thermodynamics states that energy cannot be created nor destroyed; Also, energy in the universe is constant

ATK/2500 DEF/1900

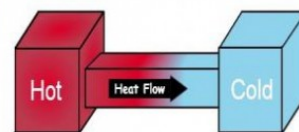
24410840

© 2017 TRAVIS

BIOL 1110- 6.2.2



Second law of Thermodynamics



[Ch.6]
Second Law of Thermodynamics states that disorder increases via the more energy transfers from place to another

ATK/2700 DEF/1500

89517384

© 2017 TRAVIS

BIOL 1110- 6.2.3 #1



ENTROPY AND GIBBS FREE ENERGY

How are entropy and enthalpy related?



Gibbs free energy is the energy that is available to do useful work.

A reaction will spontaneously occur if $\Delta G < 0$ (exergonic reaction)

A reaction will NOT spontaneously occur if $\Delta G > 0$ (endergonic reaction)

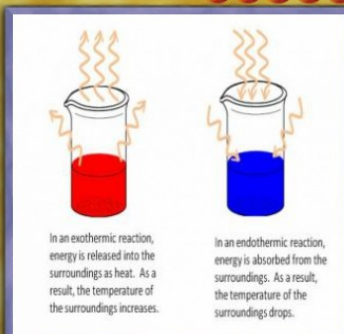
[Ch.6]
Entropy is disorder
Enthalpy is change in heat
Free Energy is energy available to do work
Positive Change in G= More free energy in Products
(-) Change in G= More free energy in Reactants

ATK/1600 DEF/1400

50333683

© 2017 TRAVIS

BIOL 1110- 6.2.3 #2



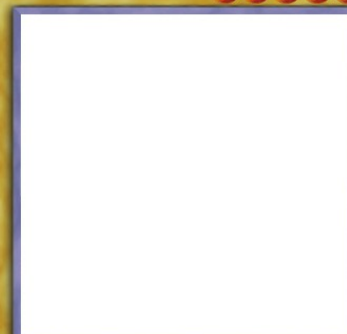
[Ch.6]
Spontaneous means that the reaction occurs completely without outside influence

ATK/1500 DEF/1300

99322961

© 2017 TRAVIS

BIOL 1110- 6.7



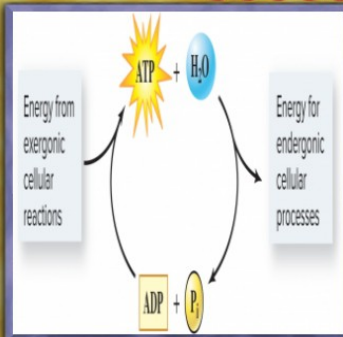
[Ch.6]
3 works done by cells are: Transport, Chemical Reactions, and Movement

ATK/1700 DEF/1600

27222476

© 2017 TRAVIS

BIOL 1110- 6.3.1 #1



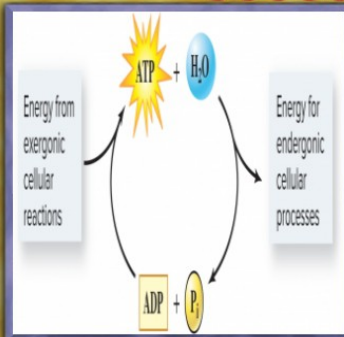
[Ch.6]
ATP Hydrolysis and an endothermic reaction turns into two exergonic reactions because ATP hydrolysis produces more energy than the endothermic consumes

ATK/1500 DEF/1800

17944768

© 2017 TRAVIS

BIOL 1110- 6.3.1 #2



[Ch.6]
Energy Coupling is using ATP hydrolysis and endothermic reactions to make two exergonic reactions that produce a lot of energy for cellular needs

ATK/1800 DEF/1500

99001021

© 2017 TRAVIS