

2.A Exam Expectations

STATE the energy transformation that takes place in plants after absorbing solar energy

STATE the changes (+ or -) in free energy, entropy and total energy in an anabolic rxn

STATE the changes (+ or -) in free energy, entropy and total energy in a catabolic rxn

STATE the temperatures at which water: boils, freezes and is the densest

LIST all mechanisms of thermoregulation in terrestrial mammals (from ppt.)

LIST indicators of an animal's metabolic rate

LIST the reactants and products of the light reactions

LIST the reactants and products of the Calvin cycle

OUTLINE the relevance of the first law of thermodynamics to living organisms

OUTLINE entropy and its relationship to the second law of thermodynamics

OUTLINE energy coupling

OUTLINE life histories

OUTLINE chemiosmotic phosphorylation

OUTLINE why most cells are "bathing" in a liquid environment

DESCRIBE the pathways that electrons take in cellular respiration (substrate glucose)

DESCRIBE the evolution of life histories

DESCRIBE carrying capacity

DESCRIBE Redox Reactions

DESCRIBE all biologically important properties of water

DESCRIBE the immediate outside environment for most cells of a multicellular organism

IDENTIFY symbols for: free energy, entropy and total energy

IDENTIFY reaction as either an anabolic or catabolic reaction from a written description

IDENTIFY a coupled reaction when given total energy amounts for the possible choices

IDENTIFY molecules that can and cannot be converted to an intermediate of glycolysis

IDENTIFY the most direct source of energy in ATP production from chemiosmotic phosphorylation

COMPARE the structures of prokaryotic and eukaryotic cells

COMPARE anabolic and catabolic pathways

COMPARE mitochondria and chloroplasts

SUGGEST more reliable and less reliable indicators for an animal's metabolic rate

DISCUSS the consequence(s) of the evolution of oxygenic photosynthesis

EXPLAIN the logistic model of population growth

EXPLAIN the exponential model of population growth

EXPLAIN why the number of trophic levels are usually limited in number (3-5max)

PREDICT the effect(s) of changing: K, N, r, b, or d might have on each other

EVALUATE a model of the Krebs cycle to DEDUCE numbers of molecules produced