EXAM EXPECTATIONS
AP Biology
“Unit 8 Cellular Energetics”

OUTLINE why ATP is an important molecule in metabolism
OUTLINE energy coupling
OUTLINE photorespiration
OUTLINE the active site on enzymes
OUTLINE allosteric regulation
OUTLINE feedback inhibition in metabolic pathways
OUTLINE redox reactions
OUTLINE reduction, oxidation
OUTLINE phosphorylation
OUTLINE the production of ATP at the site of the inner mitochondrial membrane
OUTLINE the induced fit hypothesis
OUTLINE activation energy
OUTLINE the 1st and 2nd Laws of thermodynamics
IDENTIFY a reaction from a list that could be coupled to given reaction (given the delta G)
IDENTIFY the pathway that electrons in our food take from the beginning to the end of cellular respiration
IDENTIFY metabolic pathways that are and are not oxygen dependent (cell respiration)
IDENTIFY the location of metabolic pathways associated with ATP production
IDENTIFY the most common route that proteins take when through the endomembrane system
IDENTIFY membrane activities that do and do not require ATP
IDENTIFY physical factors / conditions that affect enzymes ability to catalyze reactions
IDENTIFY wavelengths of light that best power photosynthesis
COMPARE exergonic and endergonic reactions
COMPARE catabolic and anabolic reactions
COMPARE spontaneous and non-spontaneous reactions
COMPARE substrate level phosphorylation and oxidative phosphorylation
COMPARE coenzymes and cofactors
COMPARE competitive and noncompetitive inhibition
COMPARE mitochondria and chloroplasts
COMPARE aerobic respiration and anaerobic respiration
COMPARE fermentation and aerobic respiration and anaerobic respiration
COMPARE lactic acid fermentation and alcohol fermentation