EXAM THREE EXPECTATIONS

ENVIRONMENTAL SCIENCE EXAM THREE
"THE LIVING WORLD"

STATE the microscopic producers in an aquatic ecosystem
STATE the biome that supports most of the commercially valuable seafood at some point in its life cycle
STATE the principle of environmental unity
STATE the first and second laws of thermodynamics
STATE how trophic-level efficiency is measured
STATE the ultimate source of energy for life on this planet
DEFINE ecosystem
DEFINE species diversity
DEFINE adaptations (biological)
DEFINE resilience (ecosystems)
DEFINE succession
DEFINE ecological gradient
DEFINE evolution
DEFINE biomass
LIST traits of immature ecosystems
LIST processes that can change gene frequency in a population
LIST the evolutionary process that eliminates variation from a population
LIST the evolutionary process that introduces variation from a population
LIST traits common to early successional plants
DRAW / LABEL a biomass pyramid with its organisms
OUTLINE the carbon cycle
OUTLINE the most basic processes of ecosystems (2 of them)
OUTLINE the role of genetic drift in evolution
OUTLINE the role of mutations in evolution
OUTLINE photosynthesis from an energy stand point
DESCRIBE ecological succession (terrestrial and aquatic)
DESCRIBE natural selection
DESCRIBE invasive or non-native species and their effects on communities
DESCRIBE energy flow through the biosphere
IDENTIFY an area in the ocean with high productivity
IDENTIFY ecosystem services from a list
COMPARE fundamental and realized niches
COMPARE different predator populations PREDICT which is most stable
COMPARE different populations PREDICT which would have a greater evolutionary response
COMPARE different regions and PREDICT which would have the highest diversity of life
COMPARE closed and open systems
COMPARE primary and secondary succession
COMPARE potential and kinetic energy
COMPARE biological abundance and diversity
SUGGEST / EXPLAIN how organisms gain adaptive advantages over others
DISCUSS the importance of biodiversity and why it should be protected
DISCUSS earth as both a closed and open system (in terms of matter and energy)
DISCUSS the role of sea otters in a kelp forest community
DISCUSS whether or not life is in violation of the second law of thermodynamics
DISCUSS the role of fire in ecosystems
EXPLAIN predator and prey relationships and their effect on each other

EXPLAIN bacterial (or other pests) resistance
EXPLAIN trophic-level efficiency
PREDICT the outcome when two species share a niche
PREDICT the effect of "closing" an initially "open" system
PREDICT which extinction would have the greatest/least effect on the rest of life
PREDICT where primary or secondary succession would occur given locations to choose from
EVALUATE a fictional ecosystem and the likely hood that it could exist in reality
DESIGN a food chain from a list of organisms
ANALYZE a graph of predator and prey relationships
ANALYZE a pyramid of energy DEDUCE the amount of energy/food needed if organisms move from one trophic level to another
ANALYZE a moving object DEDUCE its potential and kinetic energy at various positions
ANALYZE a line graph with error bars