

4.A Exam Expectations

STATE the two greatest limiting factors in aquatic and terrestrial ecosystems
STATE the most productive ecosystem and most productive ecosystem per area
STATE the function(s) of cell organelles (limited to those in ppt)
LIST common plant defense mechanisms
LIST all possible types of target cells of neurons
LIST sources of information that cells get that control development
LIST characteristics of gas exchange surfaces or any exchange surface for that matter
LIST places in an animal cell where you might find DNA
LIST the classes of molecules where you might find: nitrogen, sulfur and phosphorous
OUTLINE the function and role of sodium potassium pumps
OUTLINE mimicry
OUTLINE induction
OUTLINE the structure of mitochondria and chloroplasts
OUTLINE cell differentiation
OUTLINE the tertiary structure of proteins
OUTLINE the interaction of nutrient absorption in human digestive tracts
OUTLINE the mechanism of breathing in humans
OUTLINE each of the different interactions seen in a community between species
DESCRIBE the competitive exclusion principle
DESCRIBE synaptic transmission
DESCRIBE the interactions between the circulatory and respiratory system in human lungs
CALCULATE the amount of biomass a certain trophic level given the biomass of another trophic level
IDENTIFY an example of coevolution from examples
IDENTIFY examples of primary and secondary succession
IDENTIFY examples of facilitation, inhibition and toleration
IDENTIFY digestive processes that are dependent upon enzymes
IDENTIFY a peptide bond in a polypeptide
IDENTIFY different levels of protein structure
IDENTIFY the function of a cell based upon its structure or organelle make up
COMPARE the movement of energy and matter in ecosystems
COMPARE gross and net productivity
COMPARE pluripotent and totipotent cells
COMPARE nucleotides
COMPARE amino acids
COMPARE plant and animal cells
COMPARE prokaryotic and eukaryotic cells
COMPARE ecological pyramids (biomass, energy and numbers)
SUGGEST the minimal components needed to recycle nutrients in the simplest of ecosystems
SUGGEST possible outcomes of competition between two species
SUGGEST digestive processes that require high surface areas
DISCUSS the implications of the biodiversity crisis
DISCUSS why food chains are limited in their length

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PREDICT the effect of population density of each species given a type of interaction
(ex. mutualism)

PREDICT future social conditions (like health care costs) using age structure diagrams

PREDICT the class of molecule based upon a molecular or structural formula

EXPLAIN the biodiversity crisis

EXPLAIN keystone predators

EXPLAIN logistic growth

EXPLAIN the endomembrane system

EXPLAIN why most cells are surrounded by fluid or watery environment

DEDUCE population growth using the logistic growth equation

ANALYZE the logistic growth equation to determine relationships between the variables

ANALYZE a food web