EXAM EXPECTATIONS
MYP Biology
"Unit 13- Speciation & Classification"

STATE we have witnessed speciation
STATE that a single mutation may be enough to cause speciation
STATE the rate of speciation varies
STATE the age of the universe
STATE the defining characteristic of allopatric speciation
STATE that over the last 500 million years, 5 mass extinctions occurred that killed nearly half of all species
STATE the Linnaean taxonomic levels differ from one another by inclusivity
STATE that the best classification systems reflect evolutionary relationships
DEFINE systematics
DEFINE cladistics
DEFINE homoplasies
DEFINE paedomorphosis
DEFINE haploid, diploid, polyploid
DEFINE habitat, niche
DEFINE transitional fossils
DEFINE genetic drift
DEFINE exaptation
LIST the taxonomic levels from smallest (least inclusive) to largest (most inclusive) or vice versa
IDENTIFY the correct form of binomial nomenclature from a list of choices
IDENTIFY the scientific discipline involved in naming organisms
IDENTIFY the type of organism and the age of the oldest fossils known
IDENTIFY an example of homology or analogy from a written description or example
IDENTIFY the specific and the general type of reproductive isolating mechanism from a written example
OUTLINE the biological species concept and its limitations
OUTLINE Linnaean taxonomy
OUTLINE the leading hypothesis about life's first genetic instructions
OUTLINE what it means to be a "rooted" phylogenetic tree
OUTLINE the three domains
OUTLINE coevolution
OUTLINE homology and analogy
OUTLINE divergent and convergent evolution
OUTLINE the most common mechanism for sympatric speciation in plants
OUTLINE the most common mechanism for sympatric speciation in animals
OUTLINE gradualism and punctuated equilibrium
OUTLINE adaptive radiation
OUTLINE hybridization
OUTLINE a key contribution(s) of the punctuated equilibrium model (what does it help explain)
OUTLINE the evolution of horses and the type of evolutionary model that best fits these fossils
ANALYZE phylogenetic tree
DESCRIBE the conditions of early earth just after it first formed
COMPARE the original classification systems with those today
COMPARE allopatric and sympatric speciation
COMPARE homology and analogy
COMPARE divergent and convergent evolution
COMPARE gradualism and punctuated equilibrium
EXPLAIN the major factor that promoted the adaptive radiation of mammals
DETERMINE the common ancestor from a phylogenetic tree
DISCUSS how populations respond to changing environments and the possible consequences
DISCUSS how the size of a splinter population effects the likelihood of allopatric speciation
DISCUSS how a tree is used as an analogy for the evolution of organisms over time, include the parts of a tree in your discussion
SUGGEST how the success of one organism might leave to the adaptive radiation of another