

EXAM EXPECTATIONS

MYP Biology

“Unit Six-Meeting Life’s Challenges”

STATE that selection of any type can work on traits that are controlled by genes, not by the environment
STATE the ultimate source of all new genes
STATE that a trait's value is relative in both time and place
STATE that evolution requires time and variation in a population
STATE that structure dictates function
STATE that modern classification (evolutionary trees) organizes life but also attempts to show evolutionary relationships
STATE that evolutionary trees are hypothetical
STATE the smallest unit of evolution
STATE that evolution is not deliberate or purposeful
STATE that evolution is not directional nor is it goal orientated
STATE that evolution is a passive process
STATE the core theme that runs through biology
DEFINE evolution
DEFINE taxonomy
DEFINE metabolism
DEFINE allopatric speciation
DEFINE hybridization
DEFINE speciation
DEFINE the following disciplines: paleontology, embryology, biogeography
DEFINE population
DEFINE natural selection in three words
DEFINE allele
DEFINE gene pool
DEFINE paedomorphosis
DEFINE genotype and phenotype
DEFINE diploidy
DEFINE homoplasies
LIST some common vegetables that were bred from the wild mustard plant
LIST assumptions/observations that support Darwin's idea of natural selection
IDENTIFY a given scenario as either directional, stabilizing or disruptive selection
IDENTIFY assumptions/observations that would contradict Darwin's idea of natural selection
IDENTIFY a trait that is likely a result of intersexual selection, or intrasexual selection
IDENTIFY the relative age or complexity of a fossil found in a given strata of sedimentary layers of rock
IDENTIFY a given scenario as either gene flow or genetic drift or adaptive radiation
IDENTIFY a graph of phenotypes (before & after) as either directional, stabilizing or disruptive selection
IDENTIFY homologous structures from a list of choices
OUTLINE adaptive radiation
OUTLINE the inheritance of acquired characteristics
OUTLINE artificial selection
OUTLINE heterozygous advantage
OUTLINE descent with modification
OUTLINE convergent evolution
OUTLINE coevolution
OUTLINE a scientific theory
OUTLINE the relationship between DNA sequences and closely or distantly related species
OUTLINE the idea of a common ancestor
DESCRIBE evolutionary trees (to the level given in the powerpoint)
COMPARE gradualism and punctuated equilibrium
COMPARE founder effect and bottleneck effect
COMPARE intersexual selection and intrasexual selection
COMPARE microevolution and macroevolution

COMPARE the effect of natural selection, genetic drift, gene flow and mutations on the genetic variation in a gene pool

COMPARE genotype and phenotype

COMPARE homologous and analogous structures

EXPLAIN the role of genetic variation in evolution

EXPLAIN gene flow

EXPLAIN genetic drift

EXPLAIN natural selection

EXPLAIN how punctuated equilibrium helps us interpret transitional fossils or lack thereof

EXPLAIN homology

EXPLAIN antibiotic resistant strains of bacteria

EXPLAIN how/why the sickle cell allele has not been eliminated by natural selection

DISCUSS how/why many traits could be considered "trade-offs"

DISCUSS how Charles Darwin was different from others before him that also proposed the idea of evolution