

EXAM EXPECTATIONS

MYP Biology

“Unit 8 Bacteria, Viruses & Origins”

STATE that bacteria are prokaryotes
STATE the role of a nuclear envelope
STATE that DNA is chemically more stable than RNA
STATE the fossil record dates back to 3.5 billion years ago
STATE the most common approach for preventing viral infections in humans
STATE that antibiotics are used for bacterial infections and useless against viral infections
STATE that oxygen was the least abundant gas in the early (billions years ago) earth's atmosphere
STATE that a solution with a pH of 7 is neutral, less than 7 is acidic and greater than 7 is basic
STATE the most likely candidate for life's first genes
DEFINE bacteriophage
DEFINE pathogens
DEFINE binary fission
DEFINE capsids, capsomeres
DEFINE genomes
DEFINE sex pilus
DEFINE flagellum
DEFINE glycoproteins
DEFINE prophage, provirus
DEFINE viroids
DEFINE retroviruses
DEFINE antiseptics, antibiotics
DEFINE methane
DEFINE meiosis, mitosis
DEFINE crossing over (during meiosis)
DEFINE haploid, diploid
DEFINE gametes
DEFINE thermoacidophile
DEFINE primary producer
LIST ways in which animals obtain nitrogen for their use
LIST in chronological order the major events in earth's history (limited to our powerpoint)
LIST evidence that supports the endosymbiotic theory
LIST the order of events that lead to the origin of life (limited to the powerpoint)
LIST the products produced in the Miller-Urey Experiment
IDENTIFY the free living cells that provided earth with its oxygen
IDENTIFY the function / role of reverse transcriptase
IDENTIFY the freezing point and boiling point of water in Celsius
OUTLINE mitochondria
OUTLINE nitrogen fixation
OUTLINE nitrogen cycle
OUTLINE bacterial reproduction
OUTLINE the structure of viruses
OUTLINE the different types of viruses
OUTLINE the reproduction of viruses
OUTLINE ocean and air currents
OUTLINE the role that bodies of water play on surrounding land temperatures
OUTLINE why early genetic systems switched from RNA to DNA
OUTLINE host range
OUTLINE the primary ecological role of bacteria
OUTLINE the location and structure of a prokaryotic flagellum
OUTLINE hypotonic, hypertonic and isotonic solutions
OUTLINE the endosymbiotic theory
OUTLINE lytic and lysogenic cycles
OUTLINE protobionts

COMPARE gram positive and gram negative bacteria (keep it simple)
COMPARE the structure and function of bacterial endospores and bacterial capsules
COMPARE the structure and function of bacterial cell walls and their own plasma membrane
COMPARE autotrophs, heterotrophs, chemotrophs and phototrophs
COMPARE lytic phages and lysogenic phages
COMPARE the effects of hypotonic solution on a cell with cell wall versus one without a cell wall
COMPARE the effects of hypertonic solution on a cell with cell wall versus one without a cell wall
COMPARE a typical prokaryotic genome with a typical eukaryotic genome (shape, size, composition, etc)
COMPARE parasitism, mutualism and commensalism
EXPLAIN why viruses are considered obligate parasites
EXPLAIN why someone with the herpes virus could have “flare-ups” for the rest of their life
EVALUATE whether a given statement would support or not support the abiotic synthesis of life
DISCUSS the genetic variation found in bacteria and the source of this variation
DISCUSS the event(s) surrounding snowball earth
DISCUSS the event(s) surrounding the formation of pangea
DISCUSS the types of features of living organisms that are more and less likely to become fossilized
SUGGEST the effects of removing all bacteria from earth
SUGGEST the effects of plate tectonics, specifically the effects of two continental land masses converging
SUGGEST ways in which bacteria could be considered more successful on earth than humans