EXAM EXPECTATIONS
MYP Biology
“Common Challenges-Sense & Respond”

STATE the relationship between body size and energy efficiency in any mode of locomotion
STATE the relative energy efficiencies of different modes of locomotion (per distance) and (per time)
STATE the origin of neurotransmitters in the sliding filament theory
STATE that diversity in locomotion is a result of diverse skeletal and muscular systems
STATE the role of statoliths in gravitropism
STATE that prokaryotic flagella structurally and functionally resembles an outboard motor on a boat
STATE that neurotransmitters leave the presynaptic terminal by exocytosis
STATE the structure that has a 9+2 arrangement of microtubules
STATE the two main forces friction and gravity that organisms must overcome to move
STATE three general functions of the nervous system
DEFINE a coral
DEFINE a sponge
DEFINE a barnacle
DEFINE sessile and motile
DEFINE a node of Ranvier
DEFINE antagonistic muscles
DEFINE tension
DEFINE air resistance
DEFINE autotrophic and heterotrophic
DEFINE starch
LIST the types of protein fibers that make up the cytoskeleton
LIST examples of plant movements
LIST examples of stimuli that cause plants to respond
LIST movement(s) unique to hydras
LIST the cost and benefits of locomotion
LIST important adaptations necessary for flight
LABEL (names) and OUTLINE (events) on a graph of an action potential
LABEL the parts of a neuron
LABEL the parts of a sarcomere
IDENTIFY a type movement that a animal with a hydroskeleton can not perform
IDENTIFY a type movement that a animal with a exo/endoskeleton can not perform
IDENTIFY examples of sessile organisms
IDENTIFY a presynaptic vesicle
IDENTIFY the parts/organization of muscle from gross anatomy to the sarcomeres
IDENTIFY a scenario as depicting a benefit or cost of locomotion
IDENTIFY roles of actin and myosin in locomotion
IDENTIFY cellular structures that are directly involved in locomotion from a list
IDENTIFY cellular proteins (fibers) that are directly involved in locomotion from a list
IDENTIFY kingdom with organisms that might use the sliding filament theory to describe their movement
IDENTIFY an illustration of a sarcomere
OUTLINE the role of calcium in muscle contractions
OUTLINE plant’s general response to stimuli
OUTLINE the movement in an amoeba
OUTLINE the movement in an earthworm
OUTLINE the role of presynaptic vesicles
OUTLINE general fungal mechanisms of response to stimuli
OUTLINE the role of the axon hillock
OUTLINE the role that dyneins play in cilia function
OUTLINE the structure of eukaryotic cilia and flagella
OUTLINE the structure of prokaryotic flagella
OUTLINE the function of prokaryotic flagella
OUTLINE directional movement in prokaryotes
OUTLINE the all the parts of an actin filament

OUTLINE the body shape of aquatic mammals and most fish
DESCRIBE the role and function of sodium/potassium pumps
DESCRIBE the events of an action potential
DESCRIBE the sequence of events (in order) from muscle excitation to contraction
DESCRIBE how the skeletal system and the muscular system work together in locomotion
COMPARE the response to gravity in roots and shoots (stems)
COMPARE positive and negative tropisms
COMPARE extensors and flexors
COMPARE positive and negative taxis / tropisms
COMPARE the structure, function and composition of exoskeletons and endoskeletons
COMPARE ligand gated and voltage gated channels and their role in nervous signal transmission
COMPARE your arm to a third class lever
COMPARE eukaryotic and prokaryotic flagella
COMPARE movement between animals with hydroskeletons and exo/endoskeletons
COMPARE the folding of Mimosa leaflets and closing stomata
EXPLAIN gravitropism
EXPLAIN thigmotropism
EXPLAIN sliding filament theory
EXPLAIN the role of calcium in muscle contraction
EXPLAIN how resting potentials are restored after an action potential
EXPLAIN phototropism
PREDICT which animal would have to overcome the greatest friction based upon its mode of movement
PREDICT the effect of low calcium levels on muscles
DISCUSS why sessile animals are not "strictly immobile"
SUGGEST why one body shape may be suited for one type of movement over another
SUGGEST why a mature tree(s) might appear to be growing sideways