EXAM EXPECTATIONS
MYP Biology
“Unit Four- Water & Waste”

STATE one property of water that could account for its unique and important properties
STATE the vascular tissue in plants that carries water from the roots to leaves
STATE the type of symbiotic relationship that exists between most plants and myccorrhizal fungi
STATE the functional unit of the human kidney
STATE that hydrogen bonds can occur between atoms or between molecules
STATE the major function of the colon
DEFINE hyphae, mycelium
DEFINE phagocytosis
DEFINE impermeability
DEFINE solvent, solute
DEFINE kinetic molecular theory
DEFINE covalent bonds, ionic bonds
DEFINE mold, sporangia
LIST characteristics of molecules that allow them to pass freely through plasma membranes
LIST examples of molecules that allow them to pass freely through plasma membranes
LIST four important properties of water
LIST the pulling and pushing forces that move water through a plant
LIST important functions of the human kidney
IDENTIFY intermolecular hydrogen bonds and intramolecular hydrogen bonds
IDENTIFY a model of a water molecule
IDENTIFY the type of nitrogenous waste that a given organism excretes
IDENTIFY and animal/plant cell that is placed in a isotonic, hypertonic or hypotonic solution from a model
IDENTIFY transpiration from a model of the water cycle
OUTLINE mycorrhiza
OUTLINE isotonic , hypotonic and hypertonic solutions
OUTLINE osmoregulation in freshwater and saltwater fish
OUTLINE concentration gradients
OUTLINE chemical equilibrium with respect to diffusion
OUTLINE root hairs
OUTLINE the role of vacuoles
OUTLINE natural selection
OUTLINE mammal’s mechanism(s) for eliminating nitrogenous waste
OUTLINE how plasma membranes are selectively permeable
OUTLINE how roots might increase their surface area
OUTLINE reverse osmosis
PREDICT the size of a “ special water balloon” after in spends sometime in a solution you will be given the solute concentrations of the balloon and the surrounding water
DESCRIBE solutions, in particular the mechanics of dissolving solute
DESCRIBE the trade-offs associated with each form of nitrogenous waste: ammonia, urea, uric acid
DESCRIBE four important properties of water and their relevance to biology
DESCRIBE how water moves from the soil into plants, through plants and exits from the leaves
COMPARE endocytosis and exocytosis
COMPARE active and passive transport
COMPARE osmoconformers and osmoregulators
COMPARE polar and nonpolar molecules
COMPARE the heat and/or temperature of two given containers of a a fluid
COMPARE adhesion and cohesion
EXPLAIN why animal cells lyse in distilled water, while plant cells do not
EXPLAIN diffusion, osmosis
DISCUSS the role of contractile vacuoles in certain protozoans
SUGGEST why drought like conditions effect crop yields
SUGGEST why aquatic organisms & terrestrial organisms excrete different forms of nitrogenous waste