

# **EXAM EXPECTATIONS**

## **AP Biology Exam**

### **“Unit 7: Cell Topics”**

**DEDUCE** a solution tonicity based the direction of water movement  
**DESCRIBE** the most common for membrane flow in the endomembrane system  
**DESCRIBE** the structure and function of a plasma membrane (fluid mosaic model)  
**DESCRIBE** the pathway that a  $K^+$  would take as it travels from the soil into a plant and up its leaves  
**DESCRIBE** how and why plasma membranes are selectively permeable  
**COMPARE** prokaryotic cells and eukaryotic cells (structure / organelles)  
**COMPARE** mitochondria and chloroplasts  
**COMPARE** plant and animal cells  
**COMPARE** endocytosis and exocytosis  
**COMPARE** phagocytosis and pinocytosis  
**COMPARE** G-protein linked receptor systems with tyrosine kinase systems  
**COMPARE** phosphatases and kinases  
**COMPARE** the effects of hypotonic, hypertonic and isotonic solutions on plant and animal cells  
**COMPARE** simple and facilitated diffusion  
**COMPARE** electrical and chemical potentials  
**COMPARE** local and long distance signaling  
**COMPARE** protein excretion in prokaryotes and eukaryotes  
**COMPARE** synaptic and hormonal signaling  
**EXPLAIN** diffusion  
**EXPLAIN** osmosis  
**EXPLAIN** active and passive transport  
**EXPLAIN** natural selection  
**EXPLAIN** the role of membranes in general and the importance of compartmentalization  
**PREDICT** a dialysis bag's solute concentration based upon its change in mass over time  
**PREDICT** the movement of water in U-shaped tube where each side is separated by a semi-permeable membrane and each side has it own unique composition of solutes  
**PREDICT** a proteins destination based upon its location of production  
**PREDICT** cell's function based upon its unique structure  
**PREDICT** the correct order of cell components found in the pellet after cell fractionation and increasing speeds of centrifugation  
**DISCUSS** the sources of variation in prokaryotes and how this compares to eukaryotes  
**SUGGEST** from given choices molecules likely and unlikely to pass directly through a plasma membrane