Relate the terms:

DIFFUSION

OSMOSIS

CONCENTRATION GRADIENT

TONICITY

PASSIVE TRANSPORT

FACILITATED DIFFUSION

Define Active Transport, identify the role of ATP and its terminal phosphate group, and describe(model) the SODIUM-POTASSIUM PUMP

What is a PROTON PUMP, is it active or passive, and describe how it is an example of an ELECTROGENIC PUMP. Include a description of ELECTROCHEMICAL GRADIENTS

How do plant cells use a process called CO-TRANSPORT to load sucrose into the veins of leaves against the concentration gradient. Explain and construct a model.

Create a generalized model of CELL SIGNALING which clearly identifies its three main stages.

What type of signaling molecule could act as a LIGAND for an INTRA-CELLULAR RECEPTOR? Construct a model of the process right through to the synthesis of a new protein.

Explain how a SECOND MESSENGER like cAMP can AMPLIFY the signal in a G PROTEIN SIGNALING PATHWAY. Create a model that includes ADENYLYL CYCLASE.

Describe a PHOSPHORYLATION CASCADE and explain the role of PROTEIN KINASES and terminal phosphate groups. What is DEPHOSPHORYLATION?