Name:

AP Biology Prelab for Osmosis and Diffusion Lab

Introduction: Dialysis tubing allows molecules to diffuse though microscopic pores in the tubing. Molecules smaller than the pores can diffuse through the dialysis membrane along their concentration gradient while molecules larger than the pore size are prevented from crossing the dialysis membrane.

Answer all of the following questions in complete sentences. For problems, show equations and work with the appropriate significant figures.

Part 1: Predict whether or not each of these to pass through the dialysis membrane:

Water:	Glucose:
I2KI	Starch:

1. How will you know whether or not the iodine solution has crossed the dialysis membrane?

Part 2: In the following situations, assume that sucrose cannot diffuse through the membrane.

1. A dialysis bag containing a 0.20 M solution of sucrose is placed in a beaker of distilled water
    a. Will it gain or lose mass?

    b. Explain why.

2. A dialysis bag has an initial mass of 30.2 grams and a final mass of 26.3 g.
    a. Find the % change in mass.

Part 3: A graph of the % change in mass of a potato core crosses the X axis as a sucrose concentration of 0.4 M at room temperature and 24 degrees C.

1. Find the osmotic potential of the sucrose solution.

2. Find the water potential of the potato cells.