Date _____ Name _____

Section _____ Team _____

Instructor _____ _____

Pre-Lab Study Questions

1. In making pickles, a cucumber is placed in a concentrated salt solution. Explain what happens to the cucumber when it is left in the salt solution for some time.

2. Why is it important that cell membranes are semipermeable?

3. What are the differences between solutions, colloids, and suspensions?

4. Indicate the compartment (A or B) that will increase in volume for each of the following pairs of solutions separated by a semipermeable membrane:

	Solution A	**Solution B**	
a.	10% (m/v) starch	4%(m/v) starch	_____
b.	2%(m/v) albumin	5%(m/v) albumin	_____
c.	8%(m/v) sucrose	0.8%(m/v) sucrose	_____

5. Indicate whether a red blood cell will undergo hemolysis, crenation, or no change in each of the following:

a. 10%(m/v) NaCl _____

b. 2%(m/v) glucose _____

c. H_2O _____

d. 5%(m/v) glucose _____

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REPORT SHEET

Properties of Solutions

A. Identification Tests

Test	Observations for Positive Test
Cl^- Test	
Starch Test	
Glucose Test	

B. Osmosis and Dialysis

1. Testing for Cl^-, starch, and glucose

Time	0 min	30 min	Contents of Dialysis Bag
Cl^- Test Observations			
Cl^- present?			
Starch Test Observations			
Starch present?			
Glucose Test Observations			
Glucose present?			

Questions and Problems

Q1 Which substance(s) were found in the water *outside* the dialysis bag?

Q2 How did those substance(s) get into the water outside the dialysis bag?

Q3 What substance(s) were retained inside the dialysis bag? Why were they retained?

C. Filtration

1. Appearance of filter paper _____
2. Substance present on filter paper _____

3.

Identification Test	Observations	Substance Present
Cl^- Test		
Starch Test		
Glucose Test		

4.

Substance	Solution, Colloid, Suspension?	Reason
Cl^-		
Starch		
Glucose		
Charcoal		

Questions and Problems

Q4 State whether each of the following is isotonic, hypotonic, or hypertonic:

a. H_2O _____

b. 0.9% (m/v) NaCl _____

c. 10% (m/v) glucose _____

d. 3% (m/v) NaCl _____

e. 0.2% (m/v) NaCl _____

Q5 Predict the effect on a red blood cell (crenation, hemolysis, or none) that the following solutions would have:

a. 2% (m/v) NaCl _____

b. H_2O _____

c. 5% (m/v) glucose _____

d. 1% (m/v) glucose _____

e. 10% (m/v) glucose _____