

Transport Across the Plasma Membrane



Directions:

Insert and install your Interactions: Foundations CD.

- Click the "Contents" button.
- Open the *Cellular Level of Organization* file.
- Click on *Animations*.
- Work through *Transport Across the Plasma Membrane*.

Introduction

1. Briefly describe each of the following plasma membrane functions.

- importing - _____
- exporting - _____
- communicating - _____



Types of Transport

2. Describe two general types of passage through the plasma membrane.



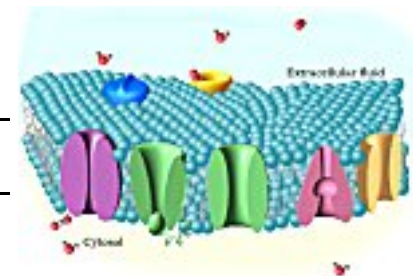
3. Contrast the two types of transport processes.

- passive transport* - _____
- active transport* - _____

Diffusion

3. Describe gas transport across the plasma membrane. _____

4. Describe ion movement across the plasma membrane. _____



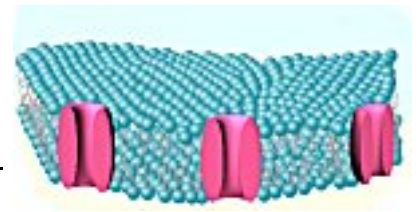
Facilitated Diffusion

5. a. Describe the function of *transporter proteins* in the plasma membrane. _____

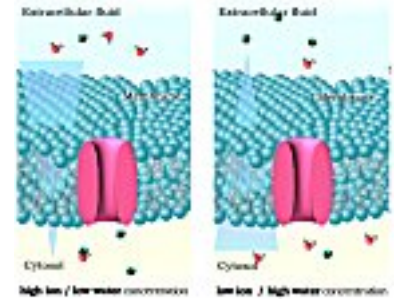
b. Describe how *insulin* affects the plasma membrane. _____

Osmosis

6. Describe the role of *aquaporins* with regard to water movement. _____



7. a. Explain how solute concentrations determine water concentration.



b. Contrast the following types of solutions:

isotonic - _____

hypertonic - _____

hypotonic - _____

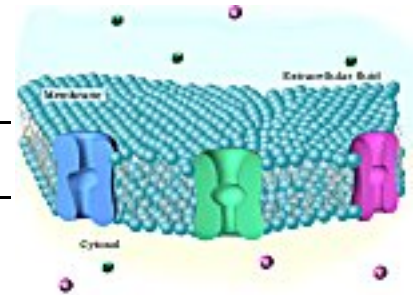
Primary Active Transport

8. Describe *primary active transport* mechanisms using the sodium-potassium pump as an example. _____

Secondary Active Transport

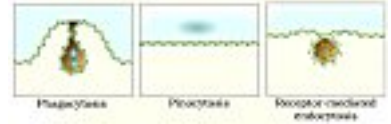
9. a. Define *secondary active transport*. _____

b. How does secondary active transport maintain low calcium concentrations in the cytosol and/or absorption of nutrients into cell?



Endocytosis

10. Contrast each of the following types of endocytosis and describe how each is used by cells.



Phagocytosis - _____

Pinocytosis - _____

Exocytosis

11. What is the function of *exocytosis*? _____
