*Use the information in Chapter 7 (p.125-139) as well as the Bozeman podcasts on the* [*Cell Membrane*](http://www.bozemanscience.com/015-cell-membrane) *and* [*Transport Across Cell Membranes*](http://www.bozemanscience.com/016-transport-across-cell-membranes) *to complete the reading guide.*

**Concept 7.1 Cellular membranes are fluid mosaics of lipids and proteins**

Draw and label a single phospholipid molecule. Explain why these molecules are amphipathic and how that enables them to form a lipid bilayer.

Why must membrane proteins be amphipathic like the phospholipids?

Produce a detailed, labeled drawing of the plasma membrane (Figure 7.5) in the space below.

Discuss how evolution has favored different membrane lipid composition.

*Complete the following table to organize the various functions of membrane proteins (Figure 7.10).*

|  |  |  |
| --- | --- | --- |
| **Function** | **Description** | **Diagram** |
| Transport |  |  |
| Enzymatic Activity |  |  |
| Signal Transduction |  |  |
| Cell-Cell Recognition |  |  |
| Intercellular Joining |  |  |
| Attachment to ECM |  |  |

**Concept 7.2 Membrane structure results in selective permeability**

How does membrane structure allow selective permeability?

Describe the role of a transport protein and discuss the function of an aquaporin.

**Concept 7.3 Passive transport is diffusion of a substance across a membrane**

Explain how diffusion works to restore equilibrium across a permeable membrane. Include a diagram to help your explanations.

Discuss how a hypotonic, isotonic, and hypertonic solution would impact the tonacity of an animal and plant cell. Include a diagram to help your explanations.

Compare and contrast the structure and function of channel proteins and carrier proteins.

**Concept 7.4: Active transport uses energy to move against gradients**

Discuss how active transport differs from facilitated diffusion. Describe an example of active transport in a plant and an animal cell and include diagram to help your explanation.

Describe the process of exocytosis and endocytosis. Include a diagram to help your explanations.