

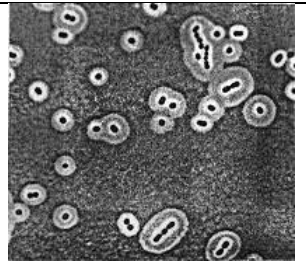
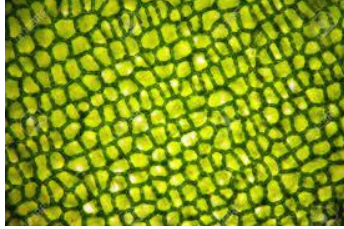
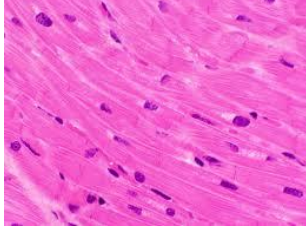
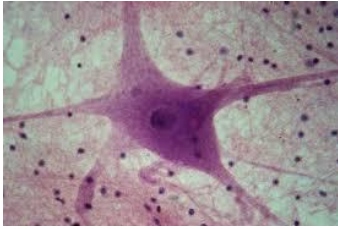
Lesson Plan Template

Day 7

Grade: High School		Subject: Biology	
Materials: Book, notebook		Technology Needed:	
Instructional Strategies: <ul style="list-style-type: none"> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) 		Guided Practices and Concrete Application: <ul style="list-style-type: none"> <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
Standard(s) HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.		Differentiation Below Proficiency: Above Proficiency: Approaching/Emerging Proficiency: Modalities/Learning Preferences:	
Objective(s) Students will be able to identify the different organelles of animal cells. Students will distinguish the difference between animal and plant cells. Students will be able to infer the importance of the cell membrane and its use to the cells.			
Bloom's Taxonomy Cognitive Level:			
Classroom Management- (grouping(s), movement/transitions, etc.)		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)	
Minutes	Procedures		
	Set-up/Prep:		
5	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) Bell work: Identify the following cells:		

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15 **Explain: (concepts, procedures, vocabulary, etc.)**

Students will be completing a reading guide today for the cell membrane section of the unit. The reading guide is at the bottom of the lesson plan.

After students complete the reading guide discuss the following questions.
 Allow for a turn and talk with their reading partner and one other group. Give the students a minute or two for each question.
 Why does the author stress the importance of the plasma membrane being “fluid”?
 How does the size of the molecule affect its ability to permeate the membrane?
 How do the other organelles that function in transportation use the cell membrane?

Discuss the last question from the reading guide (the figure of cell membrane).

30 **Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)**

Reading guide with partner.

Review (wrap up and transition to next activity):

Formative Assessment: (linked to objectives)
 Progress monitoring throughout lesson-clarifying questions, check-in strategies, etc.

follow up questions

Consideration for Back-up Plan:

Summative Assessment (linked back to objectives)
End of lesson:

reading guide

If applicable- overall unit, chapter, concept, etc.:

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

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Cell Membrane Reading Guide

Please write answers on separate sheet of paper and turn in with name, date, and class period.

1. Today's reading section is "Biological membranes". *Infer*: Before reading the section, look at the micrograph and model of the cell membrane. Think about why it has two layers and how this affects the function of the cell. Predict at least 3 functions of this bilayer.

2. The author mentions the fluid mosaic model in the first section of the chapter. **Both Partners**. Read sections "Hydrophobic and Hydrophilic" and "Two Dimensional Fluids".

Partner 1: Write in a sentence how it is possible for membrane lipids to behave s bilayer fashion.

Partner2: Determine the importance of the cell membrane being fluid.

3. Read the section about proteins. The author defines two types of proteins. **Discuss with partner**: What do you think is the importance of each of these types of proteins? How does their location in the membrane change their function?

4. The section "molecules crossing the membrane" discusses the ability of different membranes to enter the cell. **Both partners**: Read independently, then fill in the following table:

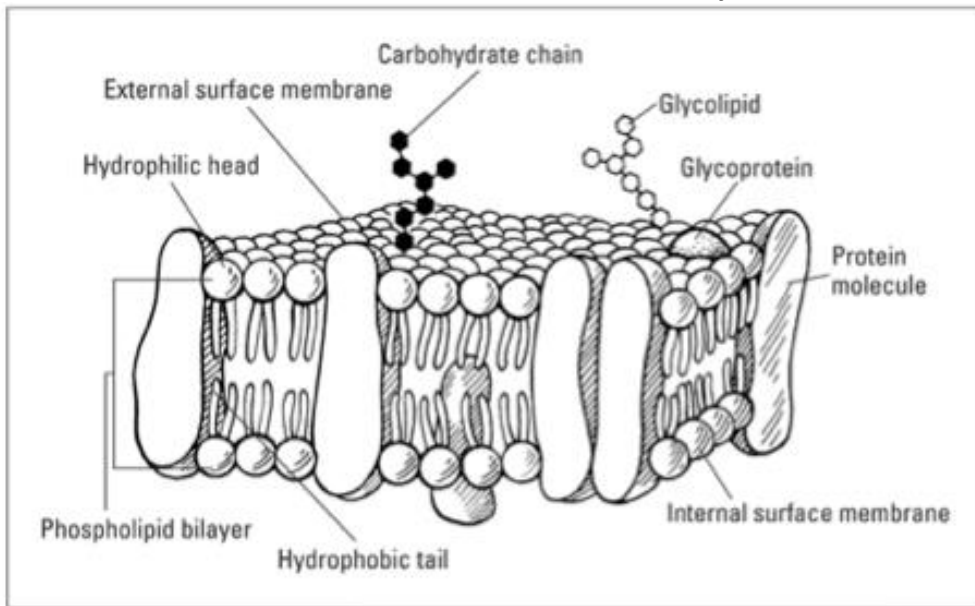
Type of Molecule	Example	Permeability
Hydrophobic		
Small Polar		
Large Polar		
Ions/ Charged Molecules		

5. After reading these sections draw and label a phospholipid.

Word Bank: Fatty Acid, Phosphorus, Glycerol

6. **Work Together**. Label the following figure and then define the following molecules and their function in the membrane.

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Red: Hydrophilic Head

Orange: Hydrophobic Tail

Yellow: Carbohydrate Chain

Green: Protein

Blue: Glycolipid

Purple: Glycoprotein