

Name: _____

Group Members: _____

3D Cell Membrane Modelling & GIF Rubric

You have learned about the structures that make up the cell membrane and how their individual properties help them carry out the important functions of the cell membrane. Your job is to show these individual parts and how they work together to carry out these main functions: to create a barrier between the outside and inside of the cell and control what can enter and leave the cell.

As a Group: (2-3 people)

- Create 1 model showing **EACH** of the structures listed in the chart.
- Structures should represent actual shape & function
- Label all structures
- Take **ONE photo** that includes **ALL** requirements.
 - Upload image to D2L – include group names in message box. **Only 1 person** needs to upload.

Structures to Include	Transport Processes
<input type="checkbox"/> Phospholipid <ul style="list-style-type: none"><input type="checkbox"/> Polar Head (Hydrophilic region)<input type="checkbox"/> Nonpolar Tails (Hydrophobic region)	<input type="checkbox"/> Passive Transport <ul style="list-style-type: none"><input type="checkbox"/> Simple Diffusion<input type="checkbox"/> Osmosis<input type="checkbox"/> Facilitated Diffusion
<input type="checkbox"/> Cholesterol	<input type="checkbox"/> Active Transport <ul style="list-style-type: none"><input type="checkbox"/> Pump<input type="checkbox"/> Endocytosis<input type="checkbox"/> Exocytosis
<input type="checkbox"/> Aquaporin	
<input type="checkbox"/> Protein Carrier	
<input type="checkbox"/> Channel Protein	
<input type="checkbox"/> Pump (Protein for Active Transport)	
<input type="checkbox"/> Glycoprotein	
<input type="checkbox"/> Glycolipid	

Individually:

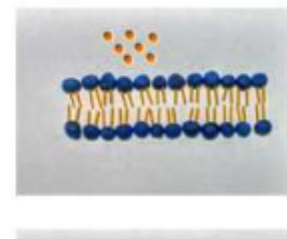
Pick **ONE** of the **transport process** listed in the chart and create an animation with 8-10 images showing how the process works.

Everyone from the group must select a **different** process.

Take the photos

Arrange your membrane model in the best way to illustrate your chosen transport process.

- Take a photo of the model, or a simplified version of it.
- Add a few molecules of one type
- Take a photo
- Move the molecules a little
- Take another photo
- Continue until you have about 10 photos
- Be sure images have labels



Make the animation

Go to <http://ezgif.com/maker> OR use a program of your choice

- Choose files from Photo Library
- Press - Upload & make a GIF
- Press – Make a GIF
- Select **SAVE**
- Send file OR copy & paste link into D2L assignments
- Include a brief description of the process in the message box

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Criteria	Emerging/ Beginning 5	Developing 6-7	Proficient 7.5-8	Advanced 8.5-10
<p>Structure <i>Group Images</i></p> <p>/10</p>	<p>Model does not accurately depict the required components of the cell membrane.</p> <p>Structures are minimally detailed.</p> <p>No labels</p>	<p>Model accurately depicts some of the required components of the cell membrane.</p> <p>All structures are fundamentally detailed.</p> <p>Some of the labels needed in order for the structure to be understood.</p>	<p>Model accurately depicts most of the required components of the cell membrane.</p> <p>All structures are adequately detailed.</p> <p>Many of the labels needed in order for the structure to be understood.</p>	<p>Model accurately depicts <i>all</i> required components of the cell membrane.</p> <p>All structures are thoroughly detailed.</p> <p>All labels needed in order for the structure to be understood.</p>
<p>Animation <i>Individually</i></p> <p>/10</p>	<p>Process includes no/few key labels and is not demonstrated through the images.</p> <p>No example is used.</p>	<p>Process includes some relevant labels and is explained incompletely demonstrated using images.</p> <p>Example used is unclear or incorrect.</p>	<p>Process includes most relevant labels and is proficiently demonstrated using images.</p> <p>An example is included.</p>	<p>Process includes all relevant labels and is thoroughly demonstrated through images.</p> <p>A specific example is demonstrated.</p>

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