

Name _____

Plasma Membrane Modeling Activity

1. Could water move through the plasma membrane without the aquaporin? Why or why not?
2. Based on the number of water molecules on either side of the membrane, which way will water flow through the protein? How do you know?
3. Is this an example of passive or active transport? Explain.
4. How could the cell prevent movement of the glucose in the opposite direction?
5. Is this an example of passive or active transport? Explain.
6. Place the K⁺ leak channel on the membrane. Which would be the best protein to use if moving potassium AGAINST the concentration gradient? Explain why.



7. Record the initial ion concentrations in the table below. Fill in as you complete the steps

Ion Types	Initial Amount	Amount after Second Cycle
Intracellular Na ⁺		
Intracellular K ⁺		
Extracellular Na ⁺		
Extracellular K ⁺		

8. Why is an input of energy required in this process?
9. Is the Na/K pump a channel or a carrier protein? Explain.