

# Cell Membrane Online Lab Interactive

Name: \_\_\_\_\_

## Part I:

- Go to website: <http://www.pbslearningmedia.org/resource/tdco2.sci.life.cell.membraneweb/cell-membrane-just-passing-through/>
- What is the structure of the cell membrane?
  - What do you notice about the bilayer in the animation?
- Click on the “Launch” button. Using the box on the right side of the screen (“Move substances”) list the substances below that travel through the bi-layer and the substances that travel through the embedded proteins.

Travel through Bi-layer	Travel through Protein

## Part II:

- Go to website: [http://www.wiley.com/legacy/college/boyer/0470003790/animations/membrane\\_transport/membrane\\_transport.htm](http://www.wiley.com/legacy/college/boyer/0470003790/animations/membrane_transport/membrane_transport.htm)
- Click “Membranes” from the left-hand side

3. Draw a picture of the plasma membrane below and label with the following terms:

- Hydrophilic
- Hydrophobic
- Integral protein
- Peripheral protein
- Carbohydrates
- Cholesterol
- Phospholipid
- Bilayer

## Part III:

- Go to website: <http://www.biomanbio.com/GamesandLabs/Cellgames/celldefense.html>
  - Click on “**Start a New Game**”; then Click the blue box; then “**Build a Membrane**”
    - Follow all directions on the screen and answer the questions below
- What part of phospholipid is hydrophilic? \_\_\_\_\_
    - Repair the cell membrane
  - What molecule helps stabilize the membrane so that is not too fluid or solid? \_\_\_\_\_
  - What is the term to describe the cell membrane? \_\_\_\_\_
  - What does this mean and why is it important?
  - Substances that do NOT pass through the plasma membrane are transported how? \_\_\_\_\_
  - How does diffusion work?

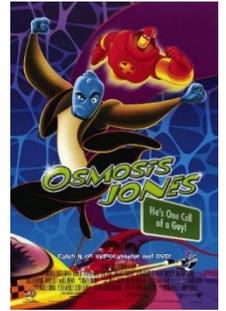
10. How is facilitated diffusion different from simple diffusion?

11. Is ATP required for facilitated diffusion? Why or why not?

- Continue to move through the game until the Urgent Message pops up for **Active Transport**.

12. What is active transport? (in your own words)

13. How does active transport work? Does it require ATP?



*\*\*Answer the following questions from your notes\*\**

14. Osmosis is the movement of \_\_\_\_\_ across the plasma membrane.

15. In a cell, osmosis will move from a \_\_\_\_\_ environment to a \_\_\_\_\_ environment.

16. When does osmosis stop?

- Finish Building the cell membrane until it says Congratulations!

#### Part IV:

- Go to:

<http://highered.mheducation.com/olcweb/cgi/pluginpop.cgi?it=swf::535::535::/sites/dl/free/0072437316/120068/bio02.swf::Endocytosis+and+Exocytosis>

17. What does the prefix “endo” mean? \_\_\_\_\_

18. What does “cyto” mean? \_\_\_\_\_

19. What is endocytosis?

20. What does phagocytosis mean? \_\_\_\_\_

21. What does pinocytosis mean? \_\_\_\_\_

22. How does food get into a cell? (watch the animation)

23. Once the food is inside the cell it is contained in a: \_\_\_\_\_

24. What does “exo” mean? \_\_\_\_\_

25. What is exocytosis?