

Name: _____
Mr. Willis
Biology: _____
Date: _____

Unit III
Biology – Resources
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Diffusion and Osmosis Webquest

Directions:

Open <http://nwr1biology.com> Click on the Biology Book. Look under Semester 1 Assignments until you see the link to “Diffusion and Osmosis Web quest”

Click on each link found in the Web quest to complete all parts of the activity. **Use vocabulary from class and the information on each website in order to answer the following questions.**

Diffusion animation

<http://www.biosci.ohiou.edu/introbioslab/Bios170/diffusion/Diffusion.html>

1. What happens when the lid is removed? Where do the particles want to go?
2. In your own words, what do you think is meant by the term “diffusion”?

Diffusion thru Membrane

<http://www.indiana.edu/~phys215/lecture/lecnotes/diff.html>

3. At the beginning of the animation, which side of the membrane has a larger amount of particles?
4. Which direction are most of the particles moving overall?
5. Click on the second animation (you may need to click the BACK button on your browser). Watch the animation for 2 minutes, or until it reaches NO NET FLOW. How many particles are on each side of the membrane?
6. What term can be used to describe your observations for the previous question?
7. What is meant by the website author when he states, “diffusion goes from the higher concentration side to the lower concentration side”?

Osmosis effects on the cell

8. What is osmosis?
9. What happens to the cell in a hypertonic solution?
http://student.ccbcmd.edu/courses/bio141/lecguide/unit1/prostruct/hypertonic_flash.html
10. What happens to the cell in a hypotonic solution?
http://student.ccbcmd.edu/courses/bio141/lecguide/unit1/prostruct/hypotonic_flash.html
11. What happens to the cell in an isotonic solution?
http://student.ccbcmd.edu/courses/bio141/lecguide/unit1/prostruct/isotonic_flash.html

Passive transport

http://www.wiley.com/legacy/college/boyer/0470003790/animations/membrane_transport/membrane_transport.htm

Click on **Passive Transport (on the left)**. Then click **CONTINUE** in order to read the slides about passive transport.

12. Which direction do molecules move during passive transport?

Continue by clicking on **Active Transport (on the left)**. Then click **CONTINUE** in order to read the slides about active transport.

13. What is Active Transport (define)?
14. What kind of molecule is used to transport molecules across the membrane? Does this require energy?
15. Which direction do molecules move during Active Transport?

Summary (not on the internet): Use your knowledge from this activity to answer the following questions:

1. Osmosis is a form of Passive/Active Transport. (Circle one) Explain.
2. Diffusion is a type of Passive/Active Transport. (Circle one) Explain.
3. Is Osmosis a form of diffusion? Why or Why not?
4. Why is energy required to move molecules across a membrane during Active Transport?