

# Active Transport, Endocytosis and Exocytosis “Check Your Outline” Worksheet

*When providing the best possible answer to the following questions please apply all learned scientific techniques and procedures, do not use abbreviations, use proper scientific terminology, show work for all mathematical calculations, use all significant figure and scientific notation rules, apply S.E.E.C. writing strategies, and note that at all times spelling counts. Your ability to meet these and all established classroom expectations, including labeling of BINs, providing heading information, and your ability to follow directions may be included in computation of grade.*

1. Active transport, Endocytosis and Exocytosis are used when material cannot simply \_\_\_\_\_ across the cell membrane.
2. Transport proteins, often called \_\_\_\_\_, move materials against a concentration gradient.
3. When materials are being moved against a concentration gradient they are being moved from an area of \_\_\_\_\_ concentration to an area of \_\_\_\_\_ concentration.
4. Active transport is important because cells need molecules regardless of the concentration gradient to maintain \_\_\_\_\_.
5. All transport proteins span the \_\_\_\_\_ and most \_\_\_\_\_ when they bind to a target molecule(s).
6. Define active transport.
7. What form of chemical energy is used during active transport?
  - a. \_\_\_\_\_
8. An example of a protein pump is the \_\_\_\_\_ which pumps three sodium ions or of a nerve cell for every two potassium ions it pumps in.
9. The big difference between passive transport and active transport is that active transport requires \_\_\_\_\_.

10. A cell may also use processes known as \_\_\_\_\_ or \_\_\_\_\_ to move large substances or large amounts of substances in vesicles into or out of the cell without crossing through the membrane.

11. Define Endocytosis

12. In the space below DESCRIBE the 3 steps involved in Endocytosis and DRAW A DIAGRAM representing each step.

13. Define phagocytosis

14. What does the word phagocytosis mean literally?

a. \_\_\_\_\_

15. What is an example of a phagocyte in the human body?

a. \_\_\_\_\_

16. What is an example of a material a phagocyte might engulf in order to destroy it?

a. \_\_\_\_\_

17. Define Exocytosis
18. In the space below DESCRIBE the 3 steps involved in Exocytosis and DRAW A DIAGRAM representing each step.
19. How do transport proteins that are pumps differ from those that are channels?
20. How does Endocytosis and Exocytosis differ from diffusion?
21. Small lipid molecules are in high concentration outside a cell. They slowly cross the membrane into the cell. What term describes this action? \_\_\_\_\_ Does it require energy?  
\_\_\_\_\_
22. Ions are in low concentration outside a cell. They move rapidly into the cell via protein molecules. What term describes this action? \_\_\_\_\_ Does it require energy? \_\_\_\_\_
23. Suppose molecules were unable to diffuse into and out of cells. How might life be different if cells had to use active transport to move every substance? Explain your reasoning.