

Study Guide - Cell Unit Test

Biology

In preparation for the test over cells and cell structures, make sure you can answer all of the following questions. You should also make sure you review any other relevant information from your notes. Finally, remember that the test will consist in part of “what if” questions and make sure to study accordingly. You may bring one sheet of notes to this test; this study guide should help you determine what information to include on your note sheet.

1. Which cell structure contains the cell’s genetic material and controls the cell’s activities?
2. What do *ribosomes* do?
3. Which cell structure is the main producer of energy (in the form of ATP) for the cell?
4. List two structures you would expect to find in plant cells but not animal cells and identify the function of each of these structures.
5. Describe the structure and function of the cell membrane.
6. Which types of cell transport mechanism are characterized by the movement of molecules from an area of high concentration to an area of low concentration?
7. Which type of cell transport mechanism is characterized by a cell’s membrane wrapping around and engulfing a large particle?
8. What is *osmosis* and how is it related to diffusion? Supplement your answer with a diagram that illustrates what osmosis is and how it happens.

9. What is the name of the cell transport mechanism used to get substances through the cell membrane using specialized proteins WITHOUT energy input from the cell?
10. Do some research into the following terms: *isotonic*, *hypotonic*, *hypertonic*. How do these terms relate to osmosis, and what would happen to a cell if you put it in a solution of each type?
11. What is the name of the structure found in plant cells that contains *chlorophyll*?
12. The *endoplasmic reticulum* is an extension of which membrane? What is the main function of the ER?
13. What is the name of the cell structure that serves as the primary “packaging” area for proteins and other biochemical made by the cell?
14. Explain the similarities and differences between a cell wall and the cell membrane.
15. What is the most likely cell transport mechanism a cell would use to get rid of an extremely large waste particle, and why?
16. What is the function of *chromosomes*?
17. What is the most important difference between *active transport pumping* and *facilitated diffusion*?