

## Study Guide - Cell Unit Test

### *Biology*

1. Which cell structure contains the cell's genetic material and controls the cell's activities? ***Nucleus***
2. What do *ribosomes* do? ***Manufacture proteins***
3. Which cell structure is the main producer of energy for the cell? ***Mitochondria***
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. ***Cell wall (provides structure for the cell), chloroplasts (convert sunlight into sugar)***
5. The cell membrane is made up of a \_\_\_\_\_ bilayer.  
***Phospholipid***
6. Which type of cell transport mechanism is characterized by the movement of molecules from an area of high concentration to an area of low concentration? ***Diffusion***
7. Which type of cell transport mechanism is characterized by a cell's membrane wrapping around and engulfs a large particle? ***Endocytosis***
8. What is the definition of *osmosis*? Supplement your answer with a diagram that illustrates what osmosis is and how it happens. ***Osmosis is the diffusion of water from an area of high water concentration to an area of low water concentration***

9. What is the name of the cell transport mechanism used to get substances through the cell membrane using specialized proteins but does NOT require energy input from the cell?

***Facilitated diffusion***

10. Explain the following terms: *isotonic*, *hypotonic*, *hypertonic*. What would happen to a cell if you put it in a solution of each type?

***1. Isotonic: a solution that has the same concentration as the cell – osmosis will not occur***

***2. Hypotonic: a solution that has a higher concentration of water than the cell – in other words, it has a lower concentration of other substances – water will move from the hypotonic solution into the cell***

***3. Hypertonic: a solution that has a lower concentration of water than the cell – in other words, it has a higher concentration of other substances – water will move from the cell into the hypertonic solution***

11. What is the name of the structure found in plant cells that contains *chlorophyll*? ***Choloroplasts (a type of plastid)***

12. The *endoplasmic reticulum* is an extension of which membrane? ***Nuclear envelope***

13. What is the name of the cell structure that serves as the primary “packaging” area for proteins made by the cell? ***Golgi apparatus***

14. Which two cellular structures were clearly visible in the cheek cell slides we made in class? ***Cell membrane and nucleus***

15. What is the most likely cell transport mechanism a cell would use to get rid of an extremely large waste particle?  
***Exocytosis***
16. What is the function of *chromosomes*? ***Store genetic information***
17. What is the main difference between *active transport pumping* and *facilitated diffusion*? ***Active transport pumping requires energy! (Both processes involve proteins embedded in the cell membrane that help transport things in and out of the cell.)***