**CELLS UNIT TEST REVIEW**

1. Understand the three parts of the cell theory (pg 62):
2. Be able to describe the differences between different cell types. Fill in the table below with information about the different cell types (pgs. 63-64, 66):

|  |  |
| --- | --- |
| Cell type | Characteristics |
| Prokaryotic |  |
| Eukaryotic: Animal Cell |  |
| Eukaryotic: Plant Cell |  |

1. Make sure you understand the function of the following cell organelles (pgs. 64-66):
2. Cell Membrane
3. Cell wall (plant cell)
4. Cytoplasm
5. Ribosomes
6. Mitochondria
7. Chloroplasts (plant cell)
8. Endoplasmic Reticulum (both smooth and rough)
9. Golgi apparatus
10. Lysosomes
11. Vacuole
12. Chromatin/chromosomes
13. Nucleus
14. Nucleolus
15. Centrioles (animal cell)
16. Flagella/Cilia (animal cell)
17. Make sure you understand how the cell membrane is able to transport materials into or out of the cell (pgs. 72-75). Know the following terms or processes:
18. HOMEOSTASIS
19. Osmosis
20. Diffusion
21. Passive transport
22. Facilitated diffusion
23. Active transport
24. Hypo-, hyper- and isotonic solutions

5. Explain the differences in photosynthesis and cellular respiration. (pages 52-57)

**Practice Problems**:

1. Which of the following is NOT part of the cell theory?
2. All living things are composed of cells
3. All organisms are composed of cells
4. Cells are the most basic unit of life
5. Cells cannot come from pre-existing cells
6. One important difference between prokaryotic and eukaryotic cells is that prokaryotic cells DO NOT have:
7. Ribosomes
8. DNA/RNA
9. Cell membranes
10. Nucleus
11. Which of the following is found in plant cells but not in animal cells?
12. Vacuoles b. Nucleus c. Mitochondria d. Chloroplasts

Use the diagram to the right to answer questions 4-7:

1. What kind of cell is this? What about the structure of this cell

helps you to know that?

1. What structure labeled has the job of producing all the

cell’s energy (ATP)?

1. The structure labeled “A” has the function of:
2. Converting sunlight to sugars (photosynthesis)
3. Holding the cell’s DNA/RNA
4. Storage
5. Packages cell materials and ships them to other areas
6. This structure has ribosomes on it and is also the site of other chemical reactions:
7. Structure “B”
8. Structure “C”
9. Structure “F”
10. Structure “H”
11. **Circle the words that correctly complete the sentence:** In animals, oxygen (enters/leaves) cells while carbon dioxide (enters/leaves) the cells. Cells utilize (active transport/simple diffusion/osmosis) to move both into and out of the cells.
12. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transport is the process where molecules move from a **low** concentration to a **high** concentration and requires energy from the cell to take place. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transport does not require energy because the molecules move from **high** concentration to **low** concentration.
13. Draw the following scenarios and indicate with arrows which direction water will move:
14. A plant cell placed in a high sugar solution
15. An animal cell placed in a solution of pure water
16. Both plant and animal cells placed in isotonic solutions
17. Write the chemical formulas for both photosynthesis and respiration and explain how they are related.
18. In which cell organelles do photosynthesis and cellular respiration take place?