

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_ #: \_\_\_\_\_

## Chapter 10: Cell Structure & Function Study Guide

### Chapter 10 Work Packet:

1. List the 3 principles of the cell theory.
  - **Cells are the smallest unit of life**
  - **All new cells come from preexisting cells**
  - **All living things are made of 1 or more cells**

2. Provide an example of a macromolecule.

**DNA, cholesterol, & cellulose**

3. Define RNA and DNA.

**RNA – used to make proteins in the cell**

**DNA – is used to make RNA**

4. Which macromolecules offer energy storage to the cell?

**Lipids and carbohydrates**

5. What is the purpose of a lipid in a cell?

**Serves as a protective membrane**

6. Which substance makes up the carbohydrates?

**Sugar**

7. What is the difference between a prokaryotic cell and a eukaryotic cell?

**Only eukaryotic cells have genetic material surrounded by a membrane**

8. Provide one example of a prokaryotic cell.

**Bacteria**

### Cell Model Project:

9. This organelle prepares the packaging of proteins and transportation: **Golgi apparatus**  
**(bodies)**

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10. This organelle protects the cell from the outside environment and controls what enters and leaves the cell: **Cell membrane**
11. This organelle breaks down materials: **Lysosome**
12. This organelle is usually the largest organelle in the cell and directs all the activities of the cell: **Nucleus**
13. This organelle protects the cells of plants: **Cell Wall**
14. This organelle is where the energy in food is stored: **Mitochondria**
15. This organelle stores food, water, and waste: **Vacuoles**
16. This is the gelatin-like material found inside the cell: **Cytoplasm**
17. These are the structures within the cytoplasm of eukaryotic cells: **Organelles**
18. This is the protective layer around all cells: **Cell Membrane**

### **Cellular Respiration Notes:**

19. Define the term osmosis.

**A type of passive transport of water through a membrane.**

**\*Diffusion is a type of passive transport**

20. Define the term endocytosis.

**Endocytosis is the process that occurs when substances too large to pass through the cell member enter the cell.**

21. What is needed to move substances through a membrane (reference active transport)?

**Energy**

22. Define cellular respiration.

**Is the process in which organisms break down food to release energy.**

23. What three items are necessary for aerobic respiration?

**Carbon dioxide, water and energy**

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24. What is given off during cellular respiration? **Water and carbon dioxide**

25. What is broken down in respiration? **Glucose**

26. Define fermentation.

**The process that releases energy without using oxygen.**

27. Define the term photosynthesis.

**The process in which plants use energy from light to produce food. / stores energy**

28. What three items are involved in photosynthesis?

**Water, carbon dioxide, and chlorophyll**

29. In order for photosynthesis to occur, what type of energy is needed? **Light energy**

30. What substance is released as a waste product during photosynthesis? **Oxygen**

31. What organelle is necessary for photosynthesis? **Chloroplasts**

32. Explain the significance of chlorophyll.

**Chlorophyll is responsible for the color of tree leaves due to green light energy.**

Be able to identify a cell membrane, endoplasmic reticulum, nucleus, & mitochondrion