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**Unit 3: Cells Study Guide**

1. List all the organelles and the KEY word for the function of each.

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1. Draw a Venn diagram on the differences and similarities between a plant and animal cell. Be sure to include the 2 organelles found in plant but NOT animal and 2 organelles found in animal and NOT plant.
2. Draw a Venn diagram on the differences and similarities between prokaryotic & eukaryotic cells.
3. What is another name for a prokaryotic cell?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What are the parts of the cell membrane and the function of each?

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1. Why is the plasma (cell) membrane called a phospholipid bilayer?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Why is the plasma (cell) membrane known as selectively permeable?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. How does the cell membrane help the cell maintain homeostasis?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Polar head that loves water is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?
2. Non- Polar tail that hates water is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?
3. Draw a picture of the cell membrane, label the parts and identify which are hydrophobic and

hydrophilic.

1. What is active transport? List the types of active transport and give a description of each.\_\_\_\_\_\_\_\_\_\_

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1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Does active transport go with or against the concentration gradient? Explain.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is passive transport? List the 3 types of passive transport and give a description of each.\_\_\_\_\_\_

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B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

C. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Does passive transport go with or against the concentration gradient? Explain.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What part of the cell membrane assists with the process of facilitated diffusion?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. List and describe the 3 types of solutions. Draw a picture of a cell that is placed in EACH type of solution, showing arrows in the direction of the flow of **water**. Also, WRITE what happens to the cell AFTER **osmosis** has taken place.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What would happen to a population of salt water fish that are placed in a tank filled with freshwater?

Explain why this would occur.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Draw a cell before diffusion and after diffusion. What is the cell trying to reach?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How does ATP provide energy? Draw a picture.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Write the equation for photosynthesis. Underline the reactants and put a box around the products. Where in the cell does this occur? Write what each part means.

1. Write the equation for cellular respiration. Underline the reactants and put a box around the products. Where in the cell does this occur? Write what each part means.

1. How are the process of photosynthesis and cellular respiration related?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Approximately How many ATP are produced from cellular respiration?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the 2 types of fermentation?

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1. What organisms undergo alcohol fermentation?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. If no oxygen is present in cellular respiration, this is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ respiration?

*Previous Unit Concepts to Remember:*

* Enzymes/activation energy
* Organic Molecules Testing for foods
* Macromolecules Functions
* Control group in experiments
* Energy transfer and Trophic levels
* Population growth curves and carrying capacity