

Name: _____

Period: _____

Cell Processes Review
Cell Transport, Photosynthesis, Respiration

PreConcept Mastery: Prefixes

Fill in the meaning of the prefixes below:

Prefix	Meaning
Chloro-	
Pro-	
Endo-	
Exo-	

Cell Transport

Fill in the graphic organizer below:

Cell transport process	Diagram	Energy required?	Example
Passive transport			
Exocytosis			
Facilitated diffusion			
Endocytosis			
Osmosis			
Active transport			
Diffusion			

Match the descriptions with the following types of membrane transport:

Active Transport	Passive Transport
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1. Molecules travel from high to low concentration _____
2. Requires ATP/energy _____
3. Osmosis is an example _____
4. Does not require ATP/energy _____
5. Molecules travel from low to high concentration _____

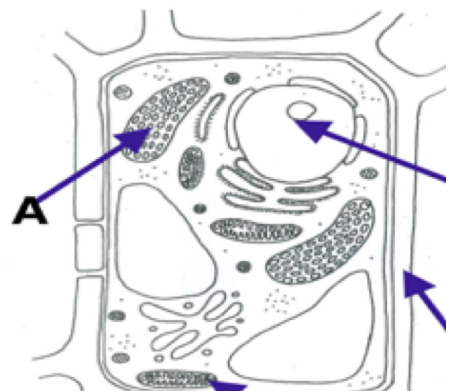
Fill in the blanks below (note all terms will not be used). Use the following terms:

active transport transport diffusion endocytosis exocytosis osmosis passive

6. _____ is the process during which a cell takes in a large molecule by surrounding it with the cell membrane.
7. _____ is the movement of substances from an area of higher concentration to an area of lower concentration.
8. _____ is the movement of substance through a cell membrane only by using the cell's energy.
9. _____ is the process during which a cell's vesicles release their contents outside the cell.
10. _____ is the diffusion of water molecules only through a membrane.

Match the cell process to the organelle in which it occurs by writing the letter from the picture on the right

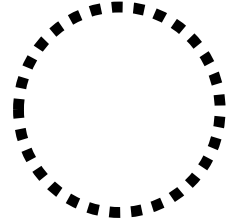
11. Photosynthesis- _____
12. Osmosis- _____
13. Cellular Respiration- _____



Answer the following questions based on the statements below:

14. The paramecium is a fresh water microorganism. The salt content of its cytoplasm is greater than that of the surrounding environment. **Draw a picture to help you.**

a. Does water tend to enter or leave the paramecium? _____



b. Is this process of passive or active transport? _____

15. Where does the energy for active transport come from?

16. This movement of oxygen molecules from an area of higher concentration to an area of lower concentration is known as _____.

- a. diffusion
- b. osmosis
- c. respiration
- d. photosynthesis

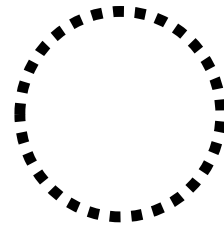
Answer the following questions below:

Draw a picture to help you.

17. A cell has 20% salt and 80% water is in a solution that has 10% salt and 90% water.

a. Where will water move? _____

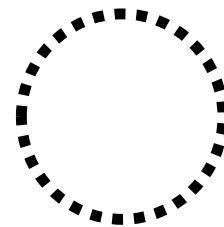
b. What will happen to the cell? _____



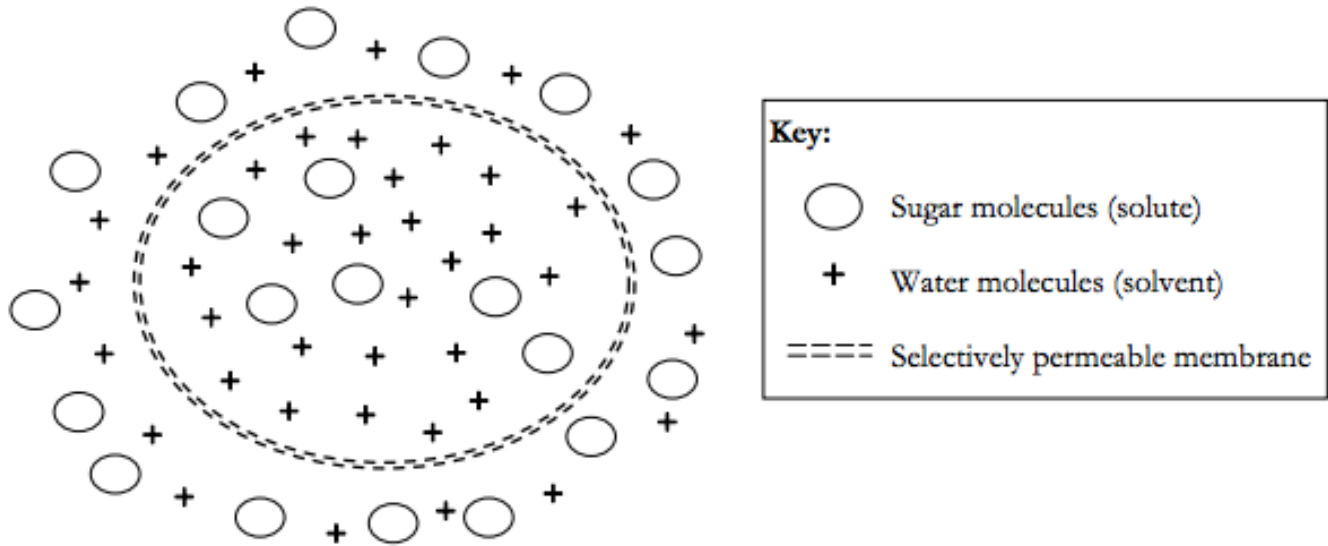
18. A cell has 20% salt and 80% water is in a solution that has 30% salt and 70% water.

a. Where will water move? _____

b. What will happen to the cell? _____



Model 2 shows a cell bounded by a selectively permeable membrane. There is a sugar solution inside the cell and outside the cell. Answer the following questions below:



19. Which side of the membrane has a more concentrated sugar solution? Inside/outside
20. In a concentrated solution there is more/less water.
21. Which side of the membrane has a more water? Inside/outside
22. In which direction will water move? Inside/outside
23. Looking only at the diagram and key:
 - a. Which molecule(s) will be able to move through the membrane? **Explain your reasoning.**
 - b. Which molecule(s) will NOT be able to move through the membrane? **Explain your reasoning**

Cell Energy: Photosynthesis and Respiration

Multiple Choice:

24. Using a microscope, a student observes a small, green organelle in a plant cell. Which energy transformation most likely occurs first within the observed organelle?
 - a. light to chemical
 - b. heat to electrical
 - c. chemical to chemical
25. Name two examples of species that make their own food:

1. _____

2. _____

26. What cell processe(s) do organisms that make their own food use to utilize energy?

27. Name two examples of species that must eat other organisms for food:

1. _____

2. _____

28. What cell processe(s) do organisms that must eat other organisms for food use to utilize energy?

29. List three ways plants' ability to photosynthesize benefits animals.

1. _____

2. _____

3. _____

Questions 30-32: Complete the following table.

	Photosynthesis	Cellular Respiration
Reactants		
Products		
Organelle		

Fill in the blank to complete each statement.

**cellular respiration fermentation lactic acid mitochondria
reactants**

33. Pain and weakness in human muscles cells are often the result of the buildup of _____.
34. Plant and animal cells release energy from food as a result of the process of _____.
35. The energy-releasing process that does not require oxygen is _____.
36. _____ are the powerhouses of the cell because they are the organelles in which the second stage of cellular respiration takes place.
37. The products of photosynthesis are the _____ of cellular respiration.