

Name: Key

Period: _____

Cell Processes Review
Cell Transport, Photosynthesis, Respiration

Pre-Concept Mastery

Fill in the meaning of the prefixes below:

Prefix	Meaning
Chloro-	Green
Pro-	Before, early
Endo-	Enter
Exo-	EXIT

Cell Transport

Match the descriptions with the following types of membrane transport:

active transport

passive transport

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

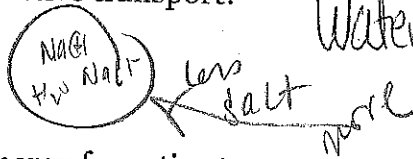
Fill in the blanks below (note all terms will not be used). Use the following terms:

active transport diffusion endocytosis exocytosis osmosis passive transport

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

Answer the following questions based on the statements below:

11. The paramecium is a fresh water microorganism. The salt content of its cytoplasm is greater than that of the surrounding environment. Does water tend to enter or leave the paramecium? Is this process of passive or active transport?



Water enters, passive transport

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

ATP

13. 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

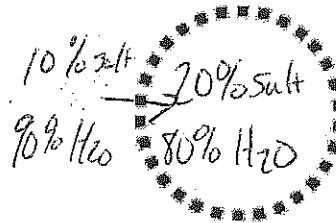
Answer the following questions below:

Draw a picture using an arrow to help you determine the direction of osmosis

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

a. Where will water move? Into

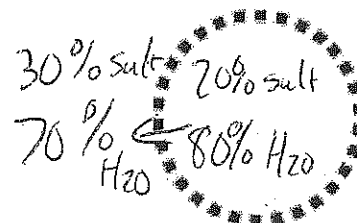
b. What will happen to the cell? swell



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

a. Where will water move? Out of the cell

b. What will happen to the cell? shrink



Cell Energy: Photosynthesis and Respiration

Answer the following questions below:

16. 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

17. What are two names for organisms that make their own food?

~~Heterotrophs~~ Autotrophs producer

18. Name two examples of species that make their own food:

- 1. Flowers
- 2. Trees

19. What cell process(es) do organisms that make their own food use to utilize energy?

Photosynthesis Cell Respiration

20. What are two names for organisms that must eat other organisms for food?

Heterotrophs Consumers

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

- 1. Dogs
- 2. Cat

22. What cell process(es) do organisms that must eat other organisms for food use to utilize energy?

Cell Respiration

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

- 1. Provide Oxygen
- 2. Gets rid of CO₂
- 3. Provides Food.

Questions 24-29 Complete the following table:

	Photosynthesis	Cellular Respiration
Reactants	Sunlight Water Carbon Dioxide	Oxygen Glucose
Products	Oxygen Glucose	Water Carbon Dioxide ATP
Organelle	Chloroplast	Mitochondria

Fill in the blank to complete each statement:

cellular respiration fermentation lactic acid mitochondria reactants

30. When the oxygen levels are low, carbohydrates are broken down for energy and

lactic acid is produced, which can produce a burning sensation in muscles while they're active.

31. Plant and animal cells release energy from food as a result of the process

of cellular respiration.

32. The energy-releasing process that does not require oxygen is

fermentation.

33. Mitochondria are the powerhouses of the cell because they are the

organelles in which the second stage of cellular respiration takes place.

34. The products of photosynthesis are the reactants of cellular

respiration.