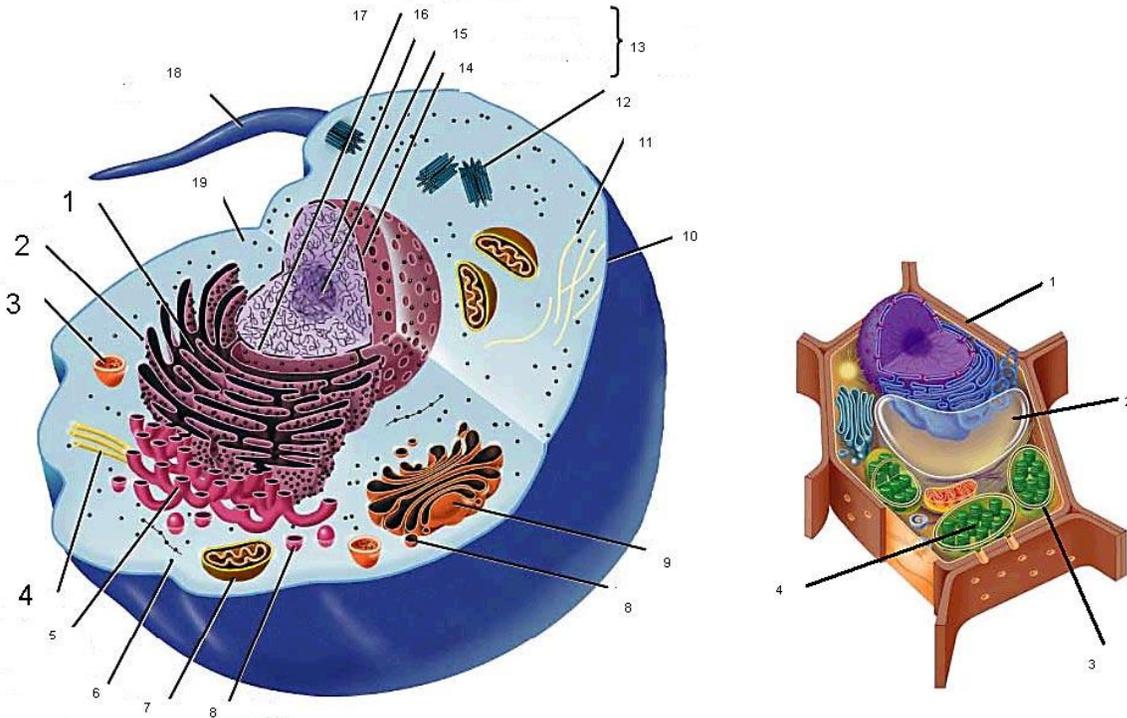


## Cellular Structure and Function Review Questions

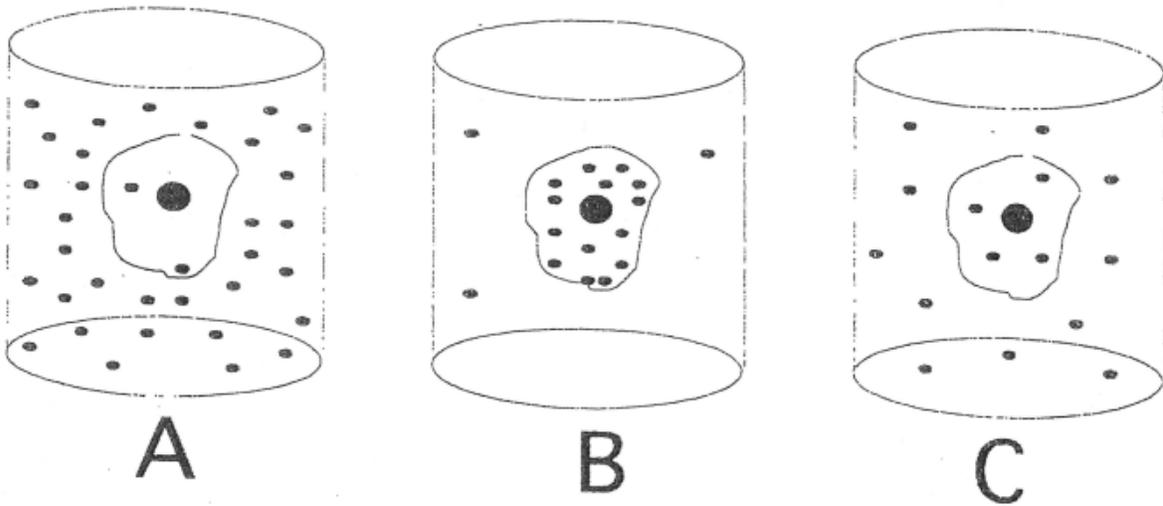
1. What is the smallest unit that can carry on all the processes of life?
2. Name the 3 parts of the cell theory
3. Describe the difference between Eukaryotic and Prokaryotic cells and give an example of each.
4. What does selectively permeable mean and what part of the cell is selectively permeable?
5. Name the two types of proteins in the cell membrane and where they are located.
6. The fluid mosaic model states that a cell membrane behaves more like a \_\_\_\_\_.
7. Mitochondria provides \_\_\_\_\_ for the cell in the form of \_\_\_\_\_.
8. Ribosomes are important parts in the synthesis of \_\_\_\_\_.
9. What is the name of the organelle that processes, packages and secretes molecules?
10. What organelle contains hydrolytic enzymes that break down and digest molecules?
11. What is the function of cilia and flagella?
12. What large organelle in a plant cell stores enzymes, wastes, and liquid?
13. Name two structures a plant cell has the animal cells do not have.
14. What is homeostasis?

Be able to identify the parts of the plant and animal cells.



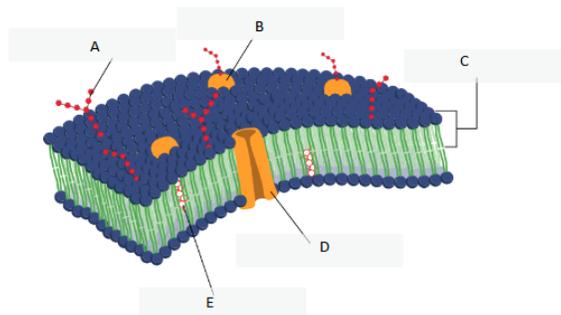
15. What type of diffusion is assisted by proteins in the cell membrane?
16. Passive transport does not require energy and is the movement of molecules from an area of high concentration to an area of low concentration?
17. Distinguish between endocytosis and exocytosis.

18. How do glucose molecules and ions get through the cell membrane?
19. Distinguish between active transport and passive transport?
20. What causes proteins to change shape in the sodium potassium pump?
21. Distinguish between facilitated diffusion and active transport.
22. Why is it dangerous for humans to drink ocean water in large quantities?
23. What is a transport protein?
24. What is diffusion? Where can it occur?
25. How does water enter a cell?
26. Where are sodium and potassium moved in the sodium potassium pump?



27. Which cell is in a hypertonic solution?
28. Which cell is in a hypotonic solution?
29. Which cell would most probably need contractile vacuoles in order to survive?
30. Which cell is in an isotonic solution?
31. Which cell will the water enter by osmosis?
32. Which cell will the water leave by osmosis?
33. In which cell will the water enter and leave the cell at the same rate by osmosis?

Be able to label the parts of the plasma membrane.



## Cellular Structure and Function Review Answers

1. Cells
2. Cells come from other cells, all living things are made of cells, cells are the basic unit of structure and function of all living things.
3. Eukaryotic cells have organelles and a nucleus, prokaryotic do not. Eukaryotic human, Prokaryotic - bacteria
4. Allows certain molecules inside but not others. The plasma membrane is selectively permeable.
5. Transport proteins are embedded inside the cell, peripheral proteins are on the outside of cell.
6. Liquid
7. Energy, ATP
8. Proteins
9. Golgi apparatus
10. Lysosome
11. Cell movement
12. Vacuole
13. Cell wall and chloroplast
14. The process of maintaining a balance in an organism's internal environment
15. Facilitated diffusion
16. True
17. Endocytosis – cells ingest molecules or water, exocytosis – cells release molecules.
18. Transport proteins, carrier molecules, and ion gates
19. Active transport – molecules go from low concentration to high and requires energy, passive transport – molecules go from high concentration to low and does not require energy.
20. The release of a phosphate group
21. Facilitated diffusion is diffusion of molecules through proteins in the cell membrane from high concentration to low. Active transport goes against the concentration gradient from low concentration to high and requires energy.
22. Salt water dries out your cells because it is a hypertonic solution. As it enters your body, the cells near it release water to reach equilibrium with the surrounding fluid. The cells shrink and may become damaged by plasmolysis and dehydration will occur.
23. Proteins that move substances and wastes through the membrane
24. Diffusion is the movement from areas of high concentration to areas of low concentration. Occurs in both living and nonliving things.
25. Osmosis
26. Sodium is moved out of the cell and potassium is moved into the cell
27. A
28. B

- 29. B
- 30. C
- 31. B
- 32. A
- 33. C

#### Parts of the animal cell

- 1. Rough ER
- 2. Ribosome
- 3. Lysosome
- 4. Microtubules
- 5. Smooth ER
- 6. Ribosome
- 7. Mitochondria
- 8. Vesicles
- 9. Golgi apparatus
- 10. Cell membrane
- 11. Microfilaments
- 12. Centrioles
- 13. Nucleus
- 14. Nuclear membrane
- 15. Nucleolus
- 16. Nuclear pore
- 17. Flagella
- 18. Cytoplasm

#### Parts of the plant cell

- 1. Cell wall
- 2. Vacuole
- 3. Chloroplast
- 4. Thylakoid

#### Parts of the Plasma Membrane

- A. Carbohydrate chain
- B. Membrane protein
- C. Phospholipid
- D. Transport protein
- E. Cholesterol

