

細胞 (Cells)



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The cell organelles and Their function

1. The plasma membrane

- 1) To provide a _____ & _____ barrier
which determines the _____ of the cell
- 2) To maintain _____ equilibrium
- 3) To provide for selective _____

2.The protoplasm

The primary function of the protoplasm is to

Provide the _____ for those

functions which maintain the _____ of the

cell &, thus, the life of the organism

3. The Nucleus

The function of the nucleus are

1) Replication of _____.

2) Synthesis of _____, the beginning stage of _____ manufacture

4. The endoplasmic reticulum(ER)

The ER functions as the site for

1) Movement of _____.

Within the cell

2) Deposition of _____ on which
_____ for export are synthesized

5.The Golgi complex

The primary function of Golgi Complex is to package & store

Various _____ products of the cell

6.The Lysosome

The lysosome functions as the
Storage area of _____
of the cell

7.The cytoplasm

The basic functions

1) Along with the ER, the cytoplasm serve as the Site of cellular _____.

2) The cytoplasm provide the locate for _____.

8.The mitochondrion

Within the mitochondrion, the cell performs
The following functions

1) Oxidation of end products of _____

In the citric acid cycle

2) Oxidation & consequent degradation of
_____ in the citric acid cycle

**3) Formation of _____
in the electron transport system**

**4) Degradation of _____
Energy purpose & synthesis of
nonessential amino acid**

5) Synthesis of _____

Some specialized cells and their uniqueness

1. Blood cells

The primary functions of the three major types of blood cells are

1) To carry oxygen to the cells of the body_____.

2) To maintain the body's resistance to _____.

3) To participate in the _____ process_____.

2. Bone cells

**The primary functions of the
bone cells are**

1) To serve as the site bone tissue formation. The bone provide the supportive skeletal structure of the organism

2) To furnish on demand _____ions for the regulation of _____ levels

3. Muscle cells

1) Muscle _____ .

2) Muscle _____ .

formation & storage

4. Liver cells

The liver has many functions, such as

1) Nutrients brought from the intestine to the liver cell are stored, oxidation for _____ purpose, or converted to other substances.

2) The liver cells synthesize _____.

for export, such as _____.

blood clotting factors and _____.

3) _____ is formed in the liver cells

Cells, Tissues, Organs, and Systems

7. _____ is the study of the structure of cells, tissues, organs, and systems of the body.

8. Physiology is the study of the _____ of cells, tissues, organs, and systems of the body

9. Anatomy and physiology are sciences that deal with the structure and functions of _____.

_____.

10. The cell is the (smallest/largest) organ unit of the body. _____.

11. The smallest _____ unit of the body is the cell.

12. The cell is the smallest organized _____ the body .

13. Cells of the same type may be organized to form a _____.

14. (T/ F) tissues are the smallest organized unit of the body._____.

15. Epidermis is composed of similar cells that are united to perform a specific function.

To which of the four main units of the body does epidermis belong_____.

a) Cell

b) Tissue

c) Organ

d) system

**16. Tissues are composed of
(similar/dissimilar) cells. _____.**

**17. Cells, _____, organs, and
systems are the four main organized
units of the body.**

18. An organ may perform one or more specific functions and is composed of different kinds of tissue.

The kidney is an example of a(n) _____ because it is composed of different kinds of tissue.

19. Organs are composed of several kinds of _____.

20. Epidermis, cartilage, bone, muscle, and nerves are different kinds of _____ that are found in an organ such as the ear.

21. The four main organized units of the body are _____, and **system.**

22. Organs are made of different kinds of tissues, and tissues are made of similar _____.

23. Organs may perform (one/one or more) specific functions. _____.

24. A system is composed of a group of organs that perform specific functions

The kidneys, ureters, bladder, and urethra are

Organs that constitute the _____.

25. Excretion, storage, and elimination of urine are the functions of the

26. The heart, arteries, veins, and capillaries are organs the

27. Circulation of blood throughout the body a _____ of the circulatory system.

28. The largest of the main organized unit of the body is the _____.

29. The smallest basic organized unit of the body is the _____.

30. _____ perform specific functions and are composed of similar basic units.

31. A group of tissues that are united to perform one or more specific function is a(n)_____.

32. A group of organs that are united to perform specific function is a(n)_____.

Basic cellular physiology

33. To survive and function properly, cells must be supplied with food and oxygen (O_2). For the same reason, waste and carbon dioxide (CO_2) must be removed from the cell.

Cells require _____ and _____ for survival and proper function.

34. In order for the cells to utilize food and O₂ efficiently, _____ and carbon dioxide must be released by them.

35. Interstitial fluids exchange materials with cells.

In order to be transported to the cells, food and O₂ must be dissolved in an interstitial _____.

36. Interstitial fluids supply _____ and _____ to the cells of the body.

37. _____ And _____ are released by the cells into interstitial body fluids.

38. Cells remove _____ and _____ from body fluids, and O₂ from body fluids, and released _____ and _____ into body fluids.

39. Interstitial fluid is found in the tissue spaces between cells, and blood plasma is the clear fluid fraction of blood that contains no cells.

Blood plasma and interstitial fluid transport food and O₂ (to/from) body cells. _____.

40. Waste and CO₂ are released to and from cells into _____ fluid and blood plasma.

41. Transportation of substances to and from body cells constitutes the main function of blood _____, lymph, and

- **_____ fluid**

42. A single body cell is so small, it might take as many as 20,000 of them cover an area of 1 square millimeter(mm^2), an area no larger than this, or nearly 3,000,000 to fill the volume of 1 cubic millimeter (mm^3).

Many cell structures are so small that they can be seen only with a powerful electron microscope. With instruments such as these, it is possible to distinguish the individual components of the cell.

43 The cell membrane is a selectively permeable film that surrounds the cell and permits the exchange of Materials between the cell and body fluids.

Materials exchanged between the cell and its environment must pass through the _____.

44 Some cell membranes permits penetration of larger molecules than others.

Molecules that are too large to pass through the cell membrane (may, may not) enter or leave the cell. _____.

45 Substances of small molecular size, such as water and certain salts, may pass through the cell membrane; substances of larger molecular size, such as proteins, may become concentrated within the cell or outside of the cell in interstitial fluid.

46 Substances of large molecular size may be prevented entering and leaving the cell; substances of smaller molecular size may pass directly through the cell membrane .