The Cell

Chapter 3

1. Cells are composed of 4 organic compounds bonded together
    a. _____
    b. _____
    c. _____
    d. _____
2. Cells are the smallest unit capable to carry out the 7 properties of life
    a. _____
    b. _____
    c. _____
    d. _____
    e. _____
    f. _____
    g. _____
3. Early Contributions to understand the cell
    a. Robert Hooke
        i. _____
        _____
        _____
        _____
    b. Anton van Leeuwenhoek

i. _____

_____

_____

_____

c. Theodore Schwann

i. _____

_____

_____

_____

d. Matthias Schleiden

i. _____

_____

_____

_____

e. Robert Virchow

i. _____

_____

_____

_____

4. The work of Hooke, Leeuwenhoek and others led to the **<u>cell theory</u>**

a. definition

_____

_____

b. 3 Components of the Cell theory

i. _____

ii. _____

iii. _____

5. Cell size

a. most cells are _____ in size because they function more efficiently

b. need a _____ ratio

i. _____ is big when compared to the _____

1. large surface area =

_____

_____

2. small volume =

_____

_____

6. Structures found in **ALL** cells

a. Ribosomes

i. _____

_____

b. Cytoplasm

i. _____

_____

c. DNA

i. _____

_____

d. Cytoskeleton

i. _____

_____

e. Cell Membrane

i. _____

_____

Types of Cells

7. Prokaryotic Cells

a. _____

b. _____

c. _____

d. _____

e. _____

8. Other features found in SOME bacteria

a. flagella

i. _____

_____

ii.

b. Pilus

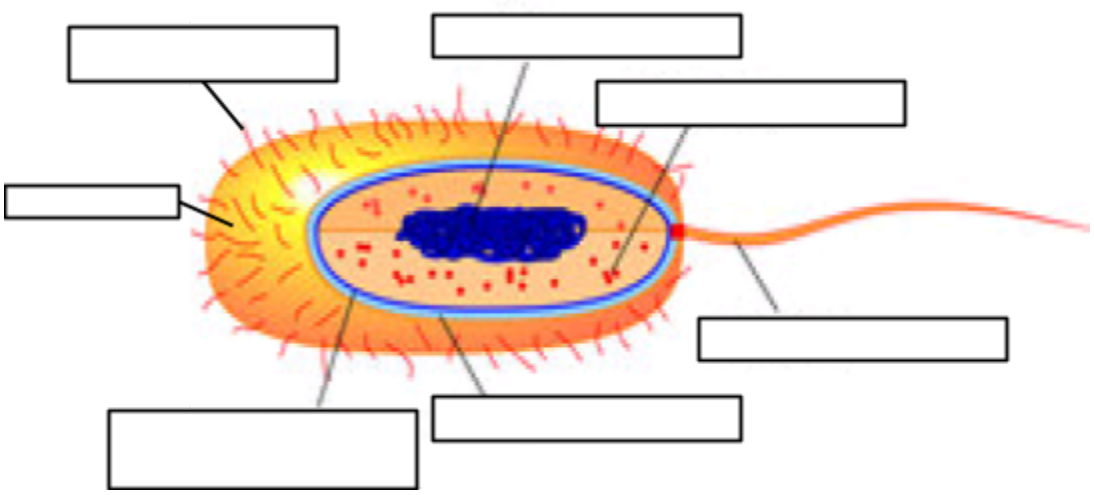
i. _____

_____

c. Capsule

i. _____

_____



9. Eukaryotic Cells

a. _____

b. found in

i. _____

ii. _____

iii. _____

iv. _____

c. composed of four main parts

i. _____

ii. _____

iii. _____

1. _____

_____

_____

iv. _____

1. _____

_____

_____

Cell Structures

10. Nucleus (_____)

a. _____

b. components

i. _____

1. function

_____

_____

ii. _____

1. function

_____

_____

2. _____

_____

iii. _____

1. _____

_____

c. Contains cells DNA in one of 2 forms

i. _____

1. _____

_____

ii. _____

1. _____

_____

d. Draw and Label the nucleus

11. Mitochondria

a. _____

b. converts _____ from food into

_____

Mitochondria

12. Ribosomes

    a. _____

    b. located

        i. _____

        ii. _____

    c. _____

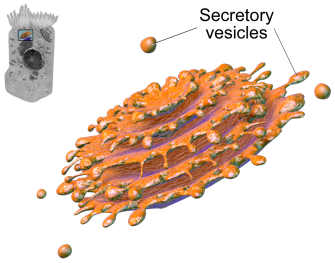
13. Golgi Apparatus

    a. _____

    b. _____

    c. _____

    d. _____



Golgi Apparatus

14. Lysosome 

    a. _____

    b. breaks down

        i. _____

        ii. _____

c. nickname =

_____

i. _____

_____

_____

15. Endoplasmic Reticulum

a. Two types

i. _____

ii. _____

b. Rough ER

i. _____

ii. _____

_____

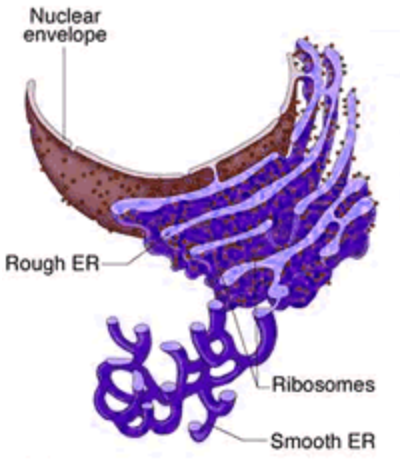
c. Smooth ER

i. _____

ii. _____

iii. _____

d. Nickname = _____



16. Cytoskeleton

    a. function

        i. _____

        ii. _____

        iii. _____

    b. structure

        i. Protein fibers

            1. Microtubules:

            _____

            2. Microfilaments

            _____

            3. Centrioles

            _____

            _____

17. Vacuole

    a. _____

    b. _____

18. Protein Production

    a. cell is like a factory its main product is to produce proteins which do a variety of functions in the organisms

    b. steps of protein synthesis

        i. _____

        _____

        _____

        ii. _____

        _____

        _____

        iii. _____

        _____

        _____

        iv. _____

        _____

        _____

        v. _____

        _____

        _____

19. Plant Cell

    a. has all the components of animal cells with additional structures

        i. Chloroplast

            1. Location of _____

2. What is the overall function of this process?

_____

3. What is the overall chemical reaction of this process?

_____

ii. Chlorophyll

1. Found in the _____.
2. What is the function of this pigment?

_____

iii. Cell wall

1. Located

_____

2. Function is

_____

iV Central Vacuole

1. Structure

_____

2. Function

_____

3. Differs from animals because

_____

20. Cell Membrane

a. function

i. _____

_____

b. structure

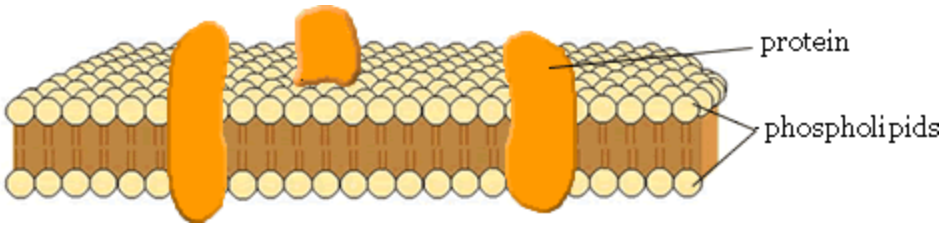
i. _____

_____

c. selectively permeable

i. _____

_____



21. Organelles with DNA

a. _____

i. only comes from _____

ii. useful in _____

b. _____

c. _____

Cell Specialization

a. Occurs in _____

b. definition: _____

_____

_____

c. Example:

_____

_____

_____