**Year 11 Biology. Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Worksheet: Cell Ultrastructure and Function.**

*Circle the letter of the correct choice*

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1. Organelles in prokaryotic cells include the

(a) mitochondria.

(b) nucleolus.

(c) Golgi complex.

(d) none of the above

2. A major difference between prokaryotic and eukaryotic cells is that

(a) prokaryotic cells have a flagellum.

(b) eukaryotic cells have a nucleus.

(c) prokaryotic cells have cytoplasm.

(d) eukaryotic cells have ribosomes.

3. Robert Hooke was the first person to observe cells. He observed these cells in

(a) a piece of cork.

(b) a slice of honeycomb.

(c) human blood.

(d) plaque from his own teeth.

4. All cells have the following:

(a) plasma membrane, cytoplasm, and ribosomes.

(b) plasma membrane, nucleus, and DNA.

(c) DNA, ribosomes, and cell wall.

(d) plasma membrane, cytoplasm, and nucleus.

5. The first microscopes were made around

(a) 1965.

(b) 1665.

(c) 1950.

(d) 1776.

6. Controlling what enters and leaves the cell in an important function of the

(a) nucleus.

(b) vesicle.

(c) plasma membrane.

(d) Golgi apparatus.

7. What is a cell?

1. An animal.
2. A mircoscopic structure that is the basic unit of all living things.
3. A small room.
4. A small structure that creates living things.

8. What is the function of the cell wall?

1. Tell the cell what to do
2. Lets molecules pass in and out
3. Lets water pass in and out
4. Gives the plant structure and support

9. Which cell structure contains the cell's genetic material?

1. organelle
2. nucleus
3. cell envelope
4. cytoplasm

10. Which structure is a thin, flexible barrier around a cell?

1. plasma membrane
2. cell wall
3. protoplasm
4. cytoplasm

11. Which cell structure stores food, nutrients, and waste in the cell?

1. vacuole
2. cell membrane
3. lysosome
4. cell body

12. What type of cells have membranes?

1. plant cells
2. animal cells
3. all cells
4. bacterial cells

13. What are the differences between plants and animal cells?

1. Animal cells have a cell wall, chloroplasts, and one large vacuole.
2. Plant cells have a cell wall, chloroplasts, and one large vacuole
3. Plant cells are eukaryotic, and animal cells are prokaryotic.
4. Animal cells are eukaryotic, and plant cells are prokaryotic.

14. Ribosomes are found:

1. on smooth endoplasmic reticulum
2. in the nucleus
3. on the Golgi apparatus
4. on rough endoplasmic reticulum

15. This is the gel-like substance found in a cell.

1. cytoplasm
2. chromosomes
3. vacuole
4. endoplasmic reticulum

16. Which of the following organelles may be absent from eukaryotic cells?

1. nucleus
2. mitochondria
3. plasma membrane
4. chloroplast

17. Prokaryotic cells lack

1. cytoplasm
2. a plasma membrane
3. a nucleus
4. genetic material

18. A substance has to pass through various parts of a plant cell before reaching the nucleus. Which of the following shows the correct order of these parts?

1. cell wall, cytoplasm, cell membrane
2. cell wall, cell membrane, cytoplasm
3. cell membrane, cell wall, cytoplasm
4. cell membrane, cytoplasm, cell wall

19. Part X is missing in a cell. This results in the lack of control of the activities that take place in the cell. Part X is the

1. nucleus
2. cytoplasm
3. chloroplast
4. cell membrane

*Match the vocabulary word with the proper definition. Write the appropriate letter beside its definition.*

**Definitions**

\_\_\_\_\_ 1. organism that has cells containing a nucleus and other organelles

\_\_\_\_\_ 2. an organelle inside eukaryotic cells where the DNA is located

\_\_\_\_\_ 3. cell without a nucleus

\_\_\_\_\_ 4. a structure within the cytoplasm of a cell that is enclosed within a membrane and performs a specific job

\_\_\_\_\_ 5. phospholipid bilayer that surrounds and encloses a cell

\_\_\_\_\_ 6. first person to use the word “cell”

\_\_\_\_\_ 7. tiny, non-living particles that may cause disease

\_\_\_\_\_ 8. the material inside the plasma membrane of a cell (excluding the nucleus)

\_\_\_\_\_ 9. cell that contains a nucleus and other organelles

\_\_\_\_\_ 10. organelle where proteins are made

\_\_\_\_\_ 11. provides the cell with energy

\_\_\_\_\_ 12. a single-celled organism that lacks a nucleus

**Terms**

a. mitochondria

b. cytoplasm

c. eukaryote

d. eukaryotic cell

e. nucleus

f. organelle

g. plasma membrane

h. prokaryote

i. prokaryotic cell

j. ribosome

k. Robert Hooke

l. virus

*Fill in the blanks with the appropriate term (no list of terms provided).*

1. All organisms are made up of one or more \_\_\_\_\_\_\_\_\_\_\_\_.

2. All cells have certain parts in common, including a plasma membrane, \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, and DNA.

3. Proteins are made on the \_\_\_\_\_\_\_\_\_\_\_\_.

4. A \_\_\_\_\_\_\_\_\_\_\_\_ is a typical prokaryotic cell.

5. \_\_\_\_\_\_\_\_\_\_\_\_ cells are usually larger than \_\_\_\_\_\_\_\_\_\_\_\_ cells.

6. \_\_\_\_\_\_\_\_\_\_\_\_ contain digestive enzymes for intracellular digestion.

7. \_\_\_\_\_\_\_\_\_\_\_\_ contain DNA, but do not contain cytoplasm or ribosomes. Not living.

8. In a eukaryotic cell, DNA is found in the \_\_\_\_\_\_\_\_\_\_\_\_.

9. \_\_\_\_\_\_\_\_\_\_\_\_ is the genetic instructions that cells need to make proteins.

10. The plasma \_\_\_\_\_\_\_\_\_\_\_\_ surrounds a cell and is selectively permeable.

11. A cell’s shape is generally related to the cell’s \_\_\_\_\_\_\_\_\_\_\_\_.

12. \_\_\_\_\_\_\_\_\_\_\_\_ are cells without a nucleus.

Match the cell parts with the descriptions below.

Each cell part and description should be used only once.

**Cell parts**

A. Ribosome

B. Golgi apparatus

C. Nucleolus

D. Cell Membrane

E. Rough endoplasmic reticulum

F. Centriole

G. Mitochondrion

H. Flagella

I. Nucleus

J. Smooth endoplasmic reticulum

K. Cell wall

L. Lysosome

M. Chloroplast

N. Central vacuole

O. Chromosome

P. Organelle

Q. Secretory vesicles

**Description**

\_\_\_\_ Released by the Golgi apparatus, travels to the surface of the cell to release its contents

\_\_\_\_ Synthesizes proteins

\_\_\_\_ Synthesis and transport of proteins

\_\_\_\_ Controls cell function and site of genetic information storage

\_\_\_\_ Storage of water, chemicals, and wastes in plant cells

\_\_\_\_ Controls the passage of molecules into and out of the cell

\_\_\_\_ Where ribosomes are made

\_\_\_\_ Organizes the spindle in cell division

\_\_\_\_ Converts solar energy to chemical energy by photosynthesis

\_\_\_\_ Allows the cell to move in water

\_\_\_\_ Synthesis and transport of lipids

\_\_\_\_ Shapes plant cells

\_\_\_\_ Modification, packaging and export of proteins

\_\_\_\_ Provides the cell with energy

\_\_\_\_ Digestion of food vacuoles and damaged organelles

\_\_\_\_ Genetic information storage, located in nucleus

\_\_\_\_ General name for structures in the cytoplasm