Biology

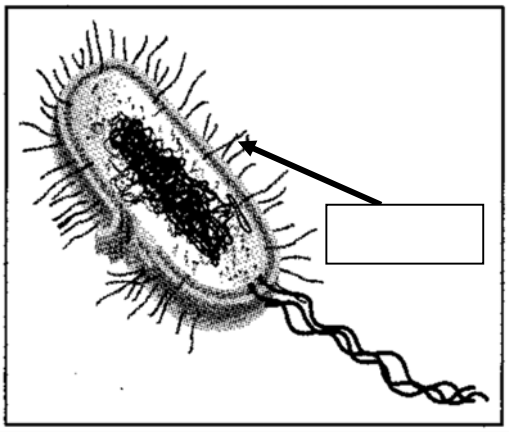
Weekly Quiz # 7 Cells and Microscope

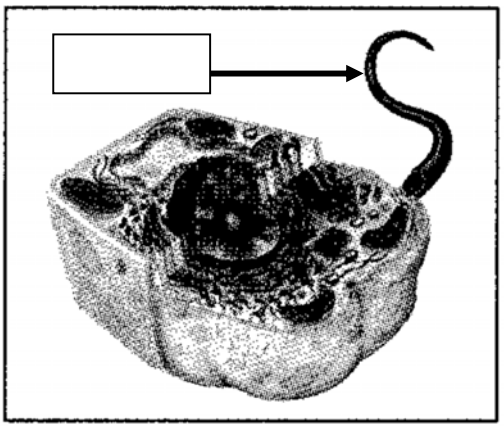
Name _____ Period _____ Date _____

I. Write *P* if the statement describes Prokaryotic cells
Write *E* if the statement describes Eukaryotic cells
Write *B* if the statement describes both Prokaryotic and Eukaryotic cells

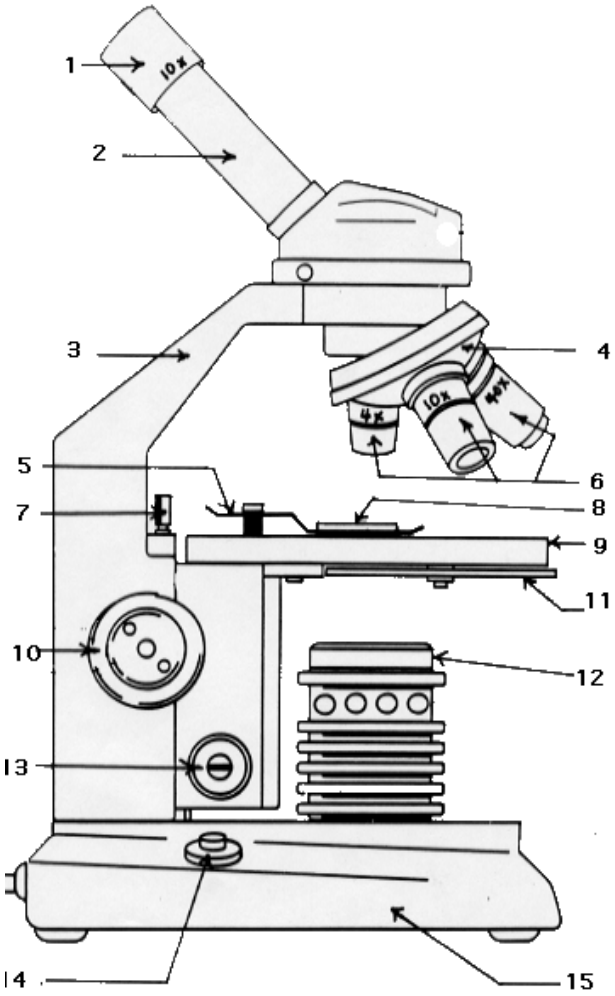
____1. Organisms that have cells lacking internal membrane-bound structures
____2. Do not have a nucleus
____3. Are made up of many cells
____4. Generally are single-celled organisms
____5. With cilia or pilli
____6. Organisms that have cells containing organelles
____7. No cytoskeleton
____8. Their cell wall is chemically complex (includes peptidoglycan layer capable of invading other cells)
____9. 10-100µm in size
____10. With flagella (tail)
____11. Includes all bacteria
____12. They are filamentous (can be found in chains)
____13. Includes plants, animals, fungi and protists
____14. 1-10µm in size
____15. With DNA as their genetic material

II. Identify the structure pointed by the arrow. Put your answer in the box.





III. Fill in the blanks using the picture below.



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
9. _____
10. _____
11. Diaphragm
12. light
13. _____
14. power switch
15. _____

IV. True or false. Write true or false in the blank. If your answer is false, replace the underlined word or phrase to make the statement correct.

1. Always hold the microscope *by the arm and the base.* _____
2. Make sure to use the *high power objective* first. _____
3. Use your *soft shirt* to clean the lenses or light source. _____
4. Make sure to place the microscope *away from the edge of the table* _____
5. Place random objects on the microscope *without a slide*. _____

V. MULTIPLE CHOICES. Encircle the whole word or phrase. Avoid erasures!

1. Who was the first person to see cells under the microscope and give them a name?

- Anton van Leeuwenhoek
- Robert Hooke
- Theodor Schwann
- Matthias Schleiden

2. He discovered that all plants were made of cells, which contributed to the development of the cell theory:

- Anton van Leeuwenhoek
- Robert Hooke
- Theodor Schwann
- Matthias Schleiden

3. He advanced the cell theory with his conclusion that cells could only come from other cells:

- Anton van Leeuwenhoek
- Rudolph Virchow
- Theodor Schwann
- Robert Hooke

4. This structure serves as the outer boundary of the eukaryotic cell:

- flagella
- cytoskeleton
- cell membrane
- capsule

5. Unlike eukaryotes, prokaryotes do not have:

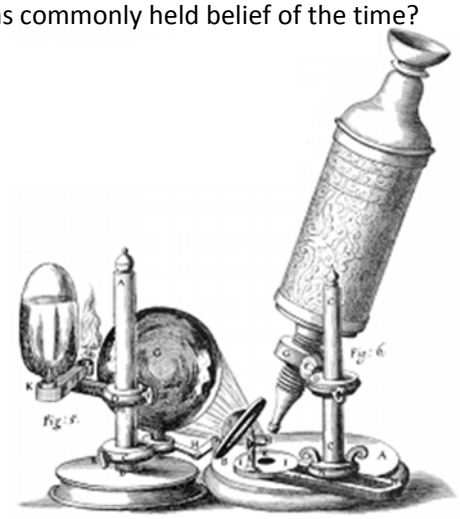
- DNA
- cytoplasm
- cell walls
- a nucleus

6. Which of the following is NOT one of the main components of the cell theory?

- cells must contain DNA
- all living things are made of cells
- cells can only come from other cells
- cells are the basic unit of life

7. Rudolph Virchow's observations helped to disprove was commonly held belief of the time?

- [ ] evolution
- [ ] the existence of molecules
- [ ] spontaneous generation
- [ ] atomic models



8. The word cyto means:

- [ ] cell
- [ ] dark
- [ ] jelly
- [ ] small

9. Tiny structures that carry out cell functions are collectively called:

- [ ] animalcules
- [ ] organelles
- [ ] tissues
- [x] ribosomes

10. Which technology was essential for the development of the cell theory?

- [ ] telescopes
- [ ] antiseptics
- [ ] microwaves
- [ ] microscopes

Biology

IT Lab: Cell Structure

NAME:_____ DATE:_____

Cells Library Quest

Part I. Use the website http://www.cellsalive.com/cells/cell_model.htm to answer the questions about animal and plant cells.

Click on "Animal Cell" underneath the diagram to view an animal cell.

1. Click on "Nucleus." What is found within the nucleus?

2. Click on "Return to Cell Diagram." Click on "Cytosol." What is the cytosol mostly made up of?

3. Click on "Return to Cell Diagram." Click on "Golgi." What is the Golgi apparatus important for?

4. Click on "Return to Cell Diagram." Click on "Lysosome." What do lysosomes contain?

5. Click on "Return to Cell Diagram." Click on "Cell membrane." What type of molecule makes up the double layer in the cell membrane?

6. Click on "Return to Cell Diagram." Click on "Mitochondrion." Mitochondria produce ATP. What is ATP?

7. Click on "Return to Cell Diagram." Click on "Smooth Endoplasmic Reticulum." What different functions does smooth ER play?

8. Click on “Return to Cell Diagram.” Click on “Rough Endoplasmic Reticulum.” Why does the rough ER appear pebbled?

9. Click on “Return to Cell Diagram.” Click on “Ribosomes.” Ribosomes are the site of what process?

Click on “Plant Cell” underneath the diagram to view a plant cell.

1. Move your mouse over the plant cell to see the names of the organelles. Name five organelles found in a plant cell that were also studied in the animal cells questions above.

2. What two organelles are found in the plant cell that you did not see in the animal cell?

3. Click on “Cell Wall.” What molecule makes up cell walls?

4. Click on “Return to Cell Diagram.” Click on “Chloroplast.” What substance inside the chloroplast makes it green?

Part II. Use a reference book to help you label the following cells and find the function of the following organelles. Then, compare each organelle to an everyday object and explain why they are similar.

Animal Cell

1. _____

2. Centrioles

3. _____

4. _____

5. Nucleolus

6. _____

7. _____

8. Cilia

9. _____

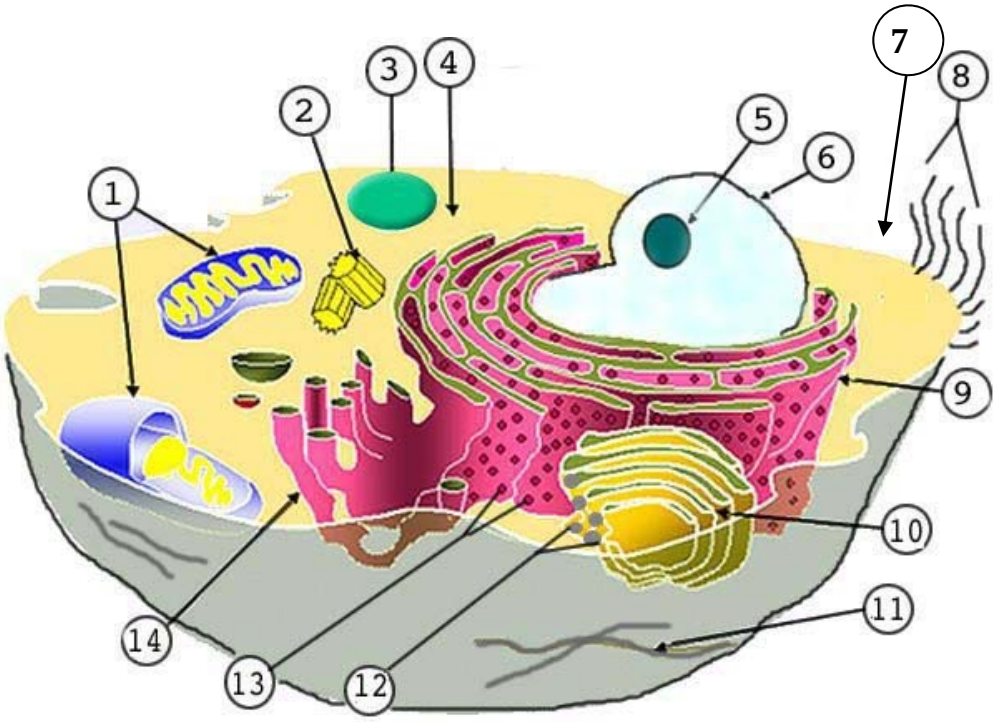
10. _____

11. Cytoskeleton

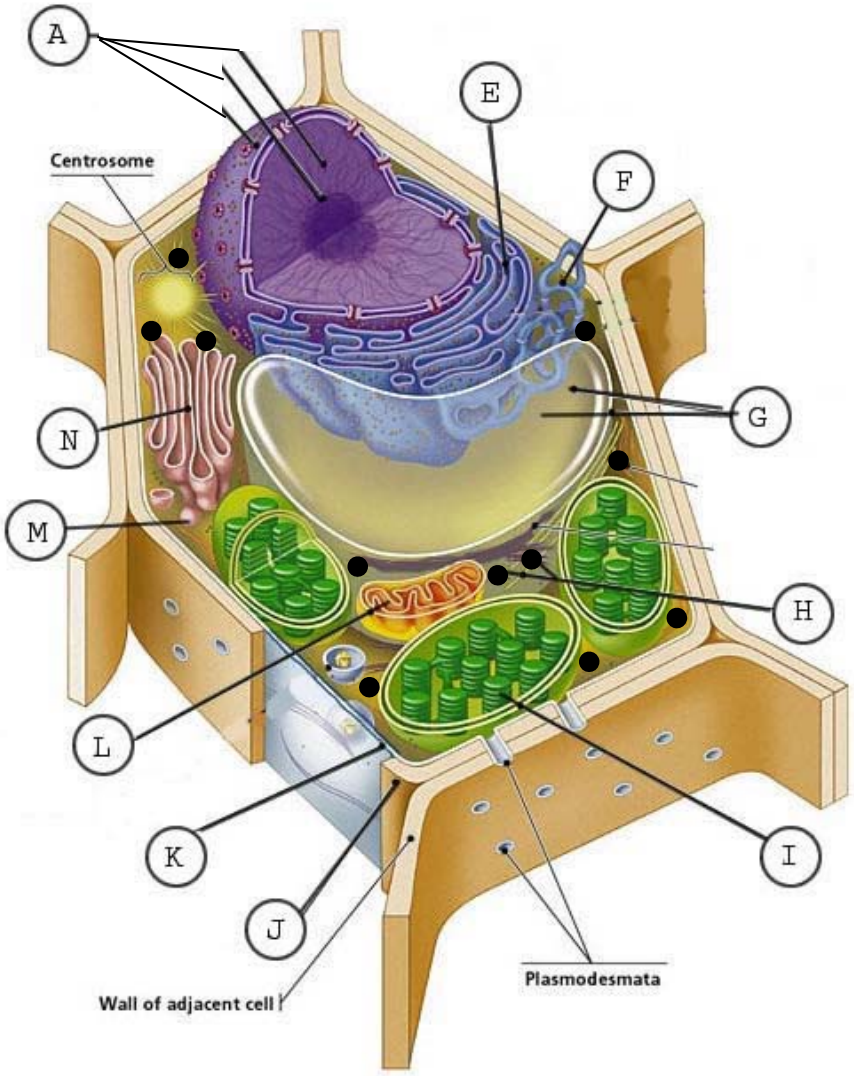
12. Golgi apparatus

13. _____

14. _____



Plant Cell



A. _____

B. Skip

C. Skip

D. Skip

E. _____

F. Skip

G. _____

H. Skip

I. _____

J. _____

K. _____

L. _____

M. Golgi vesicle

N. _____

Organelle	Job	Compare to an everyday object (Use a complete sentence. Follow the example.)
Nucleus		A nucleus is like a _____ because
Cell Membrane		
Endoplasmic Reticulum		
Golgi Body		
Ribosomes		
Mitochondria		
Lysosome		
Cytoplasm		
Vacuole		
Chloroplast		
Cell Wall		