Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**I CAN** compare types of cells and describe the discovery of cells.

Period\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DIRECTED READING CHAPTER 3 SECTION 2**

**The Discovery of Cells and Prokaryotic vs. Eukaryotic**

***Seeing the First Cells—Page 61***

1. What did Robert Hooke see when he looked at a thin slice of cork with his crude

microscope?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The word cell means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in Latin.

3. Did Hooke think that cells were found in all organisms? \_\_\_\_\_\_\_ Explain.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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***Seeing Cells in Other Life-Forms—Page 62***

4. Circle **ALL** of the answers that Anton van Leeuwenhoek is recognized for.

a. saw bacteria

b. discovered DNA

c. discovered that yeasts are unicellular organisms

d. saw small organisms in pond scum and named them animalcules

***The Cell Theory—Page 62***

5. Calculate how many years passed between the time that van Leeuwenhoek discovered

what he called *animulcules* and when scientists realize that **all** organisms contain cells?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Schleiden, a German scientist, concluded that all \_\_\_\_\_\_\_\_\_\_\_parts are made of cells.

7. Schwann, a German scientists, stated that all \_\_\_\_\_\_\_\_\_\_\_\_tissue are made of cells.

8. Schwann wrote the first two parts of what is now known as the cell theory:

* ALL organisms are composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_cells.
* The \_\_\_\_\_\_\_\_\_is the basic unit of life in ALL living things.

9. Twenty years later, Virchow, a German doctor wrote the third part of the cell theory:

* ALL cells come from existing \_\_\_\_\_\_\_\_\_\_\_\_\_.

Cell Similarities—Page 63

Choose the cell feature in Column B that best matches the phrase in Column A, and write the corresponding letter in the space provided.

|  |  |
| --- | --- |
| Column A | Column B |
| \_\_\_ 10. barrier between the inside of a cell and its environment  \_\_\_ 11. structures that a cell uses to live, grow, and reproduce  \_\_\_ 12. the fluid in a cell and almost everything in the fluid  \_\_\_ 13. controls all activities of a cell and contains the information  needed for a cell to make new cells | a. cytoplasm  b. cell membrane  c. DNA  d. organelles |

Page 65

14. Multicellular organisms grow by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

15. Name three benefits of being multicellular. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Two Types of Cells—Page 66-67***

16. Another name for prokaryotic cells is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

17. Prokaryotic cells are the world’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_cells and they do NOT have a

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

18. Describe the shape of a prokaryotic cell’s DNA. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Know that---***Organelles*** are structures that enable the cell to live, grow, and reproduce. All cells have organelles, but they don’t all have the same kind.

19. Bacteria cells do not have membrane-covered organelles, but they do have tiny, round organelles called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

20. Most bacteria have a hard \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

21. Most eukaryotic cells are about \_\_\_\_\_\_times larger than prokaryotic cells.

22. Eukaryotic cells have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_and many other membrane-covered organelles.

23. In a eukaryotic cell, the DNA is stored in the \_\_\_\_\_\_\_\_\_\_\_\_\_.

24. The DNA molecules in eukaryotic cells are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in shape.

25. Only some eukaryotic cells have a cell wall, such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_