Lesson 6: Characteristics of Cells

Discovery of Cells

* First discovered in 1665 by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Using a microscope, he saw little boxes in a slice of cork.
* He named them cells.
* Anton van-Leeuwenhoek was the first person to see \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells
* He saw one-celled organisms in a drop of pond water
* He called them animalcules.
* In 1838, Matthias Schleiden concluded all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are made of cells.
* In 1839, Theodor Schwann concluded all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are made of cells.
* In 1835, Rudolph Virchow concluded all cells are produced by other living cells.

Cell Theory

1. All known living things are made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The cell is the basic unit of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and function in all living things.
3. All cells come from other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells.

Cells and Characteristics of Life

Cells are the smallest units that can carry out the functions of life.

* Growth and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Ability to reproduce
* Use of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Ability to exchange gases with the environment
* Ability to respond to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the environment

Growth and Development

Growth means to become larger.

* Living things grow by taking in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Cells increase in size
* Organisms with more than one cell grow by adding more cells

Development means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and becoming more complex.

Reproduction

* Reproduction is the process where cells or organisms make more cells or organisms like themselves.
* Cells reproduce by dividing in half. This is a type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reproduction.
* Asexual reproduction requires only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ parent.
* Sexual reproduction requires \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ parents.

Energy Use and Gas Exchange

* Cells need energy to live.
* They get energy through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* For cellular respiration to occur, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gas has to move into a cell and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_gas moves out of a cell.

Response to the Environment

Anything in the environment that causes a cell or an organism to respond is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Examples:

* Sweating when you are hot.
* Shivering when you are cold.