**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_**

**Characteristics of Life and**

**Cell Theory Study Guide**

**Characteristics of Life:**

1. Made of cells

2. Same Chemicals of Life (molecular structure)

3. Exchange of gases

4. Eliminates wastes

5. Grows, repairs, and develops

6. Responds to a stimulus

7. Reproduces

8. Consumes and Uses energy (Metabolism)

**Needs of Life**

1. Homeostasis:

Definition:\_maintaining stable internal conditions

Give examples of ways organisms maintain homeostasis (remember the GIZMO)

* sweating (to cool off)
* thirsty (to drink water)
* shiver (to warm up)
* Reptiles-bask in sunshine to get warm, under a log to cool off.

2. Food

3. Water

4. Habitat

**Classification:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Domain** | **Kingdom** | **Type of Cell** | **# of Cells** | **Energy** | **Example** |
| Archaea | Archaea | Prokaryotic | Unicellular | Autotroph or heterotroph | Methanogen |
| Bacteria | Eubacteria | Prokaryotic | Unicellular | Autotroph or heterotroph | Strepococcus |
| Eukarya | Protista | Eukaryotic | Mostly unicellular some multicellular | Autotroph or heterotroph | Euglena, Kelp |
| Fungi | Eukaryotic  (cell walls have chitin) | Most multicellular (yeast is unicellular) | Heterotroph | Mushroom, Yeast |
| Plants | Eukaryotic  (cell walls have cellulose) | Multicellular | Autotroph | Oak tree, Dandelion, Moss |
| Animal | Eukaryotic  (NO cell walls) | Multicellular | Heterotroph | Humans, Wolf, Jellyfish |

**Cell Theory:**

**Scientists:**

* \_\_\_\_\_\_\_\_Hooke\_\_\_\_\_\_\_\_\_\_\_\_ (1663) – named “cells” after looking at cork.
* \_\_\_\_\_ Redi\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1668) – disproved spontaneous generation of large organisms (meat does not make maggots).
* \_\_\_\_\_\_\_\_\_Leeuwenhoek\_\_\_\_\_\_\_\_\_\_\_ (1674) – first person to look at living cells; discovered bacteria on his teeth.
* \_\_\_\_\_\_Schleiden\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1838) – all plants are made of cells.
* \_\_\_\_\_Schwann\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1839) – all animals are made of cells.
* \_\_\_\_Virchow\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1855) – life comes from life.
* \_\_Louis Pasteur\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1862) – disproved spontaneous generation of microscopic organisms.

**The Cell Theory:**

* 1. All living things are composed of cells
  2. Cells are the basic unit of structure and function in living things.
  3. All cell are produced from other cells.