***Characteristics of Life and Cell***

***Study Guide***

*Textbook Chapters and Pages:*

* *Chapter 2, Section 1 and 2: Pgs. 36-41*
* *Chapter 4, Section 2 and 3: Pgs. 85-99*

***Study Guide Questions***

1. What are the six characteristics of life?
   1. All living things have \_\_\_\_\_\_\_\_\_\_\_\_\_.
   2. Living things respond to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   3. Living things produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ like themselves.
   4. All living things have \_\_ \_\_ \_\_.
   5. Living things use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to carry out the daily activities of life.
   6. Living things \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_.
2. What are the bare necessities of life?
3. What does *“prokaryotic”* and *“eukaryotic”* mean?
   1. *“Prokaryotic:”* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nucleus
   2. *“Eukaryotic:”* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nucleus
4. What are some other major differences between *prokaryotic* and *eukaryotic* cells?
5. Are the following cells *prokaryotic* or *eukaryotic?*
   1. *Bacteria*
   2. *Human skin cell*
   3. *Dog’s heart muscle cell*
   4. *Pea plant leaf cell*
6. Define what an organelle is.
7. Why is the cell membrane important in a cell?
8. The cell membrane is made up of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bilayer, with the outer layers being \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which means “water loving”, while the inner layers are \_\_\_\_\_\_\_\_\_\_\_\_\_\_, which means “water-fearing”.
9. Define the following:
   1. Diffusion:
   2. Osmosis:
   3. Passive transport:
   4. Active transport:
      1. Carrier proteins:
10. Complete the table by either describing the function of the organelle or by giving the name of the organelle that fits the description of the function given. Also indicate whether the organelle can be found in animal cells only, plant cells only or both.

|  |  |  |
| --- | --- | --- |
| **Organelle** | **Function** | **Found in Plant or Animal cells? Or Both?** |
| Nucleus |  |  |
|  | Energy producing cell. This is where ATP is made. |  |
|  | The protein factories of the cell. |  |
| Chloroplasts |  |  |
| Lysosomes |  |  |
|  | This is the packaging center of the cell. Proteins are packaged and distributed here. |  |
| Endoplasmic Reticulum  Vacuole |  |  |
| Cell Wall |  |  |

1. Be able to identify and label the parts of the cell.

