**Cell Unit Review Guide Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Fill-In-The-Blank

**Goal 1.1**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are examples of prokaryotic cells, which are small and simple.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells have small circular pieces of DNA called plasmids.
3. All cells have four basic structures: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Ribosomes are found in all cells to help produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells have a nucleus and complex organelles.
6. Cell walls are for extra support and they are found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and bacteria cells.
7. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ produces energy and is found in plant and animal cells.
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ store food, water and waste and are often bigger in \_\_\_\_\_\_\_\_\_\_\_\_\_\_cells.
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found only in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells and help perform photosynthesis to make food.
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells are undifferentiated but can turn genes on and off to become specialized.
11. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell would be specialized to have a lot of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to produce energy for movement.

**Goal 1.2.1**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is when a cell maintains its internal conditions, including pH, water content and temperature.
2. Diffusion is when molecules spread out from high to low concentration, which is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transport.
3. If there is more oxygen outside of a cell, oxygen will diffuse \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the cell.
4. The cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a cell is called selectively permeable because it allows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to enter or exit.
5. Very \_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules require special transport proteins to help them move across the cell.
6. If dialysis tubing was filled with starch water and placed into iodine water, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ would turn purple.
7. If a saltwater plant was placed into freshwater, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ would diffuse \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the cell.
8. If an animal cell was placed into pure water, water would diffuse \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the cell and possibly burst.
9. A plant root cell is pumping calcium from \_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_ concentration, which is active transport.
10. Some protists (like paramecium) have contractile vacuoles which can use ATP to pump out water, which is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transport.
11. *Understanding Examples* -- **Complete** the following 5 statements.
12. Prokaryotic cells are simple cells and examples are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
13. Eukaryotic cells have the DNA stored in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
14. Only plant cells have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ whose job is to make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
15. The mitochondria has a folded inner membrane so that it can make more \_\_\_\_\_\_\_\_\_\_\_\_.
16. Muscle cells would have a lot of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ so they can make energy.
17. *Analyzing applications* -- Correctly match each vocab word with an appropriate experiment

|  |  |
| --- | --- |
| 1. Prokaryotic 2. Ribosome 3. Golgi Apparatus 4. Cell wall 5. Vacuole 6. Lysosome 7. Chloroplast | 1. A florist knows that plants will store extra water so they don’t wilt. 2. When examining why a plant will bend in the wind, but not break because it has an extra structure for support. 3. Since the cell was missing a nucleus, the student knew it was NOT this type of cell 4. An experiment showed that removing this organelle prevents plants from making their own food. 5. The brain sends lots of chemical messengers, so a neurologist founds lots of this packaging organelle. 6. White blood cells have to digest invaders before they make you sick, so an immunologist found lots of this organelle. 7. If you damage this organelle, the body won’t be able to make any enzymes. |

1. Create a Venn diagram comparing prokaryotes and

eukaryotes that has AT LEAST two entries in each section.

2. Create a Venn diagram comparing plant cells and animal

cells that has AT LEAST two entries in each section.

|  |  |
| --- | --- |
| **Situation** | **Active or Passive Transport?** |
| Diffusion | 1. |
| Osmosis | 2. |
| Endocytosis | 3. |
| Movement of Na across a membrane against a concentration gradient | 4. |
| Movement of water across a membrane from a high to low concentration | 5. |
| Pumping K ions from a low to a high concentration. | 6. |

**Plasma Membrane**

1. What function do the proteins play in the plasma membrane?

2. What function do the carbohydrates play in the plasma membrane?

3. What life process does the plasma membrane most directly affect?

**Vocabulary Review**

\_\_\_\_\_\_ 1. Eukaryote A. Maintaining a constant internal balance

\_\_\_\_\_\_ 2. Prokaryote B. A cell that can become any cell in the body

\_\_\_\_\_\_ 3. Cell C. When there are different amounts of molecules on either side

\_\_\_\_\_\_ 4. Organelle D. Uses energy and a protein to move molecules from low to high

\_\_\_\_\_\_ 5. Cell specialization E. A cell with no nucleus or organelles (ex. bacteria)

\_\_\_\_\_\_ 6. Stem cell F. How cells communicate, using a proteins and steroids

\_\_\_\_\_\_ 7. Neuron G. How cells communicate quickly, using neurotransmitters

\_\_\_\_\_\_ 8. Hormone H. When a cell receives the right signals, it begins performing a job

\_\_\_\_\_\_ 9. Homeostasis I. A cell with a nucleus and organelles (ex. plants and animals)

\_\_\_\_\_\_ 10. Concentration gradient J. Water that has nothing in it

\_\_\_\_\_\_ 11. Equilibrium K. The form of energy that cells use

\_\_\_\_\_\_ 12. Distilled water L. When the concentration is equal on both sides of the membrane

\_\_\_\_\_\_ 13. Passive transport M. A smaller part of a cell, that each has a special function

\_\_\_\_\_\_ 14. Active transport N. The smallest living thing

\_\_\_\_\_\_ 15. ATP O. Uses no energy and moved molecules from high to low

**Cell Transport:** Choice the correct word for each blank:

Passive transport within a cell requires 1.\_\_\_\_\_\_\_\_\_\_\_ (no energy, energy). Substances then move from 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(high to low, low to high) concentration 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (with, against) the concentration gradient. There are three different types: 4.\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Active transport within a cell requires 5.\_\_\_\_\_\_\_\_\_\_\_ (no energy, energy). Substances then move from 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(high to low, low to high) concentration 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (with, against) the concentration gradient.