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

P.\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Transport Across Cell Membrane Bozeman Science Video #16 (13:58)**

***Write down the definition of each. Use the glossary of your book.***

***Watch the Bozeman video and fill in the following.***

1. Diffusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Does the open container with the pink particles need energy to diffuse? \_\_\_\_\_\_\_\_\_\_\_

Example in real life: Alveoli are small sacs of thin cells in our lungs. When you breathe in air, the oxygen flows into the \_\_\_\_\_\_\_\_\_\_, and then diffuses into the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The oxygen diffuses into the cells. The carbon dioxide in the blood stream diffuse back into the alveoli. This requires \_\_\_\_\_\_\_ energy.

2. Osmosis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ is put on a slug. The slug is going to shrivel up because the water is moving from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ water concentration inside the slug to an area of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentration of water outside the slug.

Humans red blood cells are surrounded by plasma (the fluid part of the blood). The concentration of the plasma is the \_\_\_\_\_\_\_\_\_\_\_\_ as the red blood cells. The reason this is balanced is that we have water flowing in and out. In another words, it is at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. Passive Transport: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Bozeman calls this Facilitated Diffusion.

\_\_\_\_\_\_\_energy is required.

An example of this is when sugar molecules (glucose) move through a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

from high to \_\_\_\_\_\_ concentration. The glucose molecule is too large to move through the cell membrane and therefore requires a glucose \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. Active Transport: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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An example is the sodium potassium pump protein that moves sodium \_\_\_\_\_\_\_ and potassium inside the cell.

Does this require energy? \_\_\_\_\_\_\_\_\_\_\_\_\_

5. Endocytosis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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An example is a phagocyte, white blood cell, eat bacteria. It moves it into the cell and attaches to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ where the enzymes pour in and digest the materials on the inside.

Is energy needed? \_\_\_\_\_\_\_\_

6. Exocytosis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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An example is the nerve signal moving the action potential across the synapse by the way of molecules neurotransmitters. This releases a large amount of materials called neurotransmitters.