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Cell Transport, Energy, and Division Review Sheet
 Review Sheet Due Date: Monday, April 4th
 Quiz Date: Thursday, April 7th

Cell Transport Use your book (Chapter 7, section 4), notes, and lab

1. What is passive transport? What are the two types we discussed?
PT: Movement of particles from an area of high concentration to an area of low conc. without the use of energy.

Examples: Diffusion and Osmosis

2. Describe diffusion and osmosis. What is the difference between them?
Diffusion: Molecules move from high to low concentration

Osmosis: Diffusion of water molecules through a selectively permeable membrane.

Osmosis is diffusion, but it is the diffusion of water through a membrane.

3. What is active transport?
AT: The movement of particles through a membrane using ENERGY. They move from low to high concentration (up the gradient)

4. How is active transport different from passive transport? Give 2 reasons.
1. Active transport uses ENERGY, passive does not.

**2. Active = Low to High Concentration
 Passive = High to Low Concentration**

**3. Active = Up the concentration gradient
 Passive = Down the concentration gradient**

5. Complete the table below:

Lab Title (Subject)	Type of Passive Transport	How do you know?
Carrot Lab	Osmosis	The water moved from a high conc. to a low conc. through the carrot.
Air Freshener	Diffusion	The air freshener moved from high to low conc., but it did not pass through a membrane.

Name _____ Date _____
Cells Review Packet – Answer Key

Word Bank – Use the words below to answer the questions.
 You will use some words more than once.

Mitochondria	Ribosomes	Diffusion	Cell Wall
Phospholipid	Respiration	Hydrophobic	
Membrane	Chloroplasts	Eukaryote	Prokaryote
Cell Wall	Vacuole	Nucleus	Semi-permeable

- This word means “fear of water” and describes molecules that do **NOT** bond with water. **hydrophobic**
- This is a molecule with a hydrophilic head and a hydrophobic tail that is arranged in a bilayer (double layer) to form the cell membrane.
phospholipid
- This is the part of a cell where the DNA is stored. It is the control center.
nucleus
- This large organelle stores water and food and supports plant cell structure.
vacuole
- These organelles are found in both plant and animal cells. Their job is to make energy for the cell.
mitochondria
- This word describes cells that have a nucleus.
eukaryotes
- These organelles make proteins. Some float around in the cell and others are bound to the endoplasmic reticulum.
ribosomes
- This is the protective outer layer that holds the animal cell together. It is semi-permeable.

Homeostasis and Transport

1. Technology Enhanced Questions are not available in Word format.

2. If the water concentration inside a cell is higher than the water concentration outside the cell, water flows out of the cell. This method of molecular transport is called

A. a sodium pump.

B. exocytosis.

C. osmosis.

D. endocytosis.

3. During heatstroke, the body can't dispose of excess heat. As a result, the homeostatic balance is disrupted, and internal body temperatures can reach as much as 110°.

Heatstroke is dangerous to people primarily because

A. it causes pneumonia.

B. cells can't function properly at high temperatures.

C. blood pressure becomes too low.

D. blood vessels may rupture.

4. Permeability is the condition of being capable of having materials flow into and out of a membrane. The permeability of a cell membrane is determined by how easily a molecule can diffuse across the membrane. Usually, only molecules that are **hydrophilic** can permeate across a cell membrane. Why is this the case?

A. Water-soluble molecules are nonpolar.

B. Water-soluble molecules are too large.

C. Cell membranes are composed of a lipid bilayer.

D. Cell membranes are composed of cytoplasm.

