

ASA Presentation Notes Lesson 4.1

Unit Name: Unit 4 Cells and Tissues

Lesson Topic: Lesson 4.1 Units of Life

Presentation on: Feeding Cells

Notes from Presentation:

The Ambitious Cell.

- Cells carry out critical life-sustaining functions.
 - Convert energy from raw materials.
 - Provide structure in the form of tissue.
 - Provide system pathways in the form of specialized cell tissues, such as vessels.
 - Regulate body functions.

Groups of Cells.

- An organized group of cells comprise tissue.
- Animal tissues can include:
 - Epithelial (i.e., skin and organs).
 - Connective tissue as called tendons.
 - Bone.
 - Muscle.
 - Nervous.

Fueling Cells.

- No matter what type of cell, its function and health depend on obtaining required elements from the environment and transferring these to inside the cell.
- Cells need:
 - Dissolved minerals and nutrient compounds.
 - Water.

Cell Access.

- Passive transport requires no energy output from the cell to transfer substances in and out of the cell.
- Active transport requires an output of energy from the cell to move substances.

Diffusion.

- The movement of particles from areas of higher concentration to areas of lower concentration.
- Diffusion occurs until there is equilibrium.

Osmosis.

- Animal cells rely on osmosis to maintain levels of water necessary in the cell.
- **Osmosis**—The diffusion of water through semi-permeable membrane separating two solutions.

What happens in osmosis?

What about large molecules?

- Facilitated diffusion.

- Specialized proteins in cell membranes that moves larger molecules from area of high concentration to area of lower concentration.
- •Active transport.
 - Used to move needed materials from areas low concentration to areas of higher concentration.
 - Is also used to move large molecules.

So where does transport happen in animals?

- Water and dissolved nutrients enter the cells from the blood stream.

ASA Reflection Page

List 5 key points that are important to remember from this presentation.

- 1.
- 2.
- 3.
- 4.
- 5.

List 3 ideas or concepts that this new information has in common with previous things learned.

- 1.
- 2.
- 3.

List questions or ideas that remain unclear about the information presented that should be asked for clarity at the appropriate time.