**Unit IV: Cellular Physiology Vocabulary**

|  |  |
| --- | --- |
| 1. Homeostasis
 | The process within living organisms of maintaining a stable internal environment |
| 1. Passive Transport
 | The movement of materials into or out of a cell with the concentration gradient (no energy use) |
| 1. Active Transport
 | The movement of materials into or out of a cell against the concentration gradient (energy is required) |
| 1. Simple Diffusion
 | A form of passive transport that moves small particles from areas of high concentration to areas of low concentration |
| 1. Facilitated Diffusion
 | A form of passive transport that moves larger particles from areas of high concentration to areas of low concentration using a carrier protein |
| 1. Osmosis
 | A form of passive transport that moves water across a selectively permeable membrane from areas of high concentration to areas of low concentration |
| 1. Interphase
 | Period in the cell cycle in which most time is spent; includes G1, S (DNA replication) and G2 |
| 1. Mitosis
 | Process of nuclear division while making new body cells (2 identical cells from one parent cell); prophase, metaphase, anaphase and telophase |
| 1. Cytokinesis
 | Division of the cytoplasm upon the completion of mitosis; ultimately produces two new daughter cells |
| 1. Daughter Cells
 | The cells that are formed as a result of a parent cell dividing to make new cells (mitosis = 2 daughter cells) |
| 1. Hypotonic Solution
 | Type of solution in which the dissolved particle concentration is lower outside the cell than inside the cell; cell will become larger |
| 1. Hypertonic Solution
 | Type of solution in which the dissolved particle concentration is higher outside the cell than inside the cell; cell will become smaller |
| 1. Isotonic Solution
 | Type of solution in which the dissolved particle concentration is equal inside and outside the cell; cell will stay the same size |
| 1. Adenosine Triphosphate (ATP)
 | Form of chemical energy for all cells; created in the mitochondria |
| 1. Aerobic Cellular Respiration
 | Producing ATP with oxygen by breaking down glucose (36-38 ATP); occurs in the mitochondria |
| 1. Anaerobic Cellular Respiration
 | Producing ATP without oxygen by breaking down glucose. Also known as fermentation (alcoholic or lactic acid – 2 ATP); occurs in the cytoplasm (NOT in the mitochondria) |
| 1. Alcoholic Fermentation
 | Form of anaerobic respiration (often carried out by yeast) that produces alcohol as a byproduct |
| 1. Lactic Acid Fermentation
 | Form of anaerobic respiration (often carried out in muscle cells) that produces lactic acid, which causes muscle fatigue |
| 1. Endocytosis
 | Taking materials into a cell using vesicles; examples include phagocytosis and pinocytosis |
| 1. Exocytosis
 | Taking materials out of a cell using vesicles |
| 1. Cell Cycle
 | Repeating series of events that a cell goes through during its life, including growth, DNA, synthesis, and cell division. |
| 1. Asexual Reproduction
 | Process of creating offspring only using one parent; example: budding, sporulation, binary fission, cloning |
| 1. Osmotic/Turgor Pressure
 | Pressure exerted on a cell wall due to movement of water into or out of a cell. |

**Unit IV: Cellular Physiology Vocabulary**

|  |  |
| --- | --- |
| 1. Homeostasis
 | The process within living organisms of maintaining a stable internal environment |
| 1. Passive Transport
 | The movement of materials into or out of a cell with the concentration gradient (no energy use) |
| 1. Active Transport
 | The movement of materials into or out of a cell against the concentration gradient (energy is required) |
| 1. Simple Diffusion
 | A form of passive transport that moves small particles from areas of high concentration to areas of low concentration |
| 1. Facilitated Diffusion
 | A form of passive transport that moves larger particles from areas of high concentration to areas of low concentration using a carrier protein |
| 1. Osmosis
 | A form of passive transport that moves water across a selectively permeable membrane from areas of high concentration to areas of low concentration |
| 1. Interphase
 | Period in the cell cycle in which most time is spent; includes G1, S (DNA replication) and G2 |
| 1. Mitosis
 | Process of nuclear division while making new body cells (2 identical cells from one parent cell); prophase, metaphase, anaphase and telophase |
| 1. Cytokinesis
 | Division of the cytoplasm upon the completion of mitosis; ultimately produces two new daughter cells |
| 1. Daughter Cells
 | The cells that are formed as a result of a parent cell dividing to make new cells (mitosis = 2 daughter cells) |
| 1. Hypotonic Solution
 | Type of solution in which the dissolved particle concentration is lower outside the cell than inside the cell; cell will become larger |
| 1. Hypertonic Solution
 | Type of solution in which the dissolved particle concentration is higher outside the cell than inside the cell; cell will become smaller |
| 1. Isotonic Solution
 | Type of solution in which the dissolved particle concentration is equal inside and outside the cell; cell will stay the same size |
| 1. Adenosine Triphosphate (ATP)
 | Form of chemical energy for all cells; created in the mitochondria |
| 1. Aerobic Cellular Respiration
 | Producing ATP with oxygen by breaking down glucose (36-38 ATP); occurs in the mitochondria |
| 1. Anaerobic Cellular Respiration
 | Producing ATP without oxygen by breaking down glucose. Also known as fermentation (alcoholic or lactic acid – 2 ATP); occurs in the cytoplasm (NOT in the mitochondria) |
| 1. Alcoholic Fermentation
 | Form of anaerobic respiration (often carried out by yeast) that produces alcohol as a byproduct |
| 1. Lactic Acid Fermentation
 | Form of anaerobic respiration (often carried out in muscle cells) that produces lactic acid, which causes muscle fatigue |
| 1. Endocytosis
 | Taking materials into a cell using vesicles; examples include phagocytosis and pinocytosis |
| 1. Exocytosis
 | Taking materials out of a cell using vesicles |
| 1. Cell Cycle
 | Repeating series of events that a cell goes through during its life, including growth, DNA, synthesis, and cell division. |
| 1. Asexual Reproduction
 | Process of creating offspring only using one parent; example: budding, sporulation, binary fission, cloning |
| 1. Osmotic/Turgor Pressure
 | Pressure exerted on a cell wall due to movement of water into or out of a cell. |