**Name: Date: Period:**

**Cells**

|  |  |
| --- | --- |
| Some Important Terms | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell: cell that does not contain a nucleus or any other membrane bound organelles
	+ Bacteria
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell: cell that does contain a nucleus and membrane bound organelles
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: specialized structures found in cells that perform a variety of jobs
	+ “Little organs” of cells
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: fluid portion of the cell
 |
| **Cell Organelles** |
| Cell Membrane | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ what enters and leaves the cell
* Protection
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Found in both plants and animals
 |
| Nucleus | * Structures:
	+ Nuclear \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: separates nucleus from rest of cell
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: ribosomes are assembled here
	+ Nuclear \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: allows materials to enter and leave nucleus
	+ Chromatin: contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and proteins
* Control center of the cell (the “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”)
* Contains all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Found only in eukaryotic cells
 |
| Chloroplast | * Captures energy from sunlight and converts it into chemical energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Found only in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!
 |
| Lysosome | * Filled with enzymes
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lipids, carbohydrates, and proteins into smaller molecules
* Breaks down broken \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* AKA… Junk collector, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, garbage truck
 |
| Vacuole | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ water, salt, proteins, and carbohydrates
* Large in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Only some animals cells have one and they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |
| Mitochondria | * Convert chemical energy stored in food into compounds that are more convenient for cells to use 🡪 called cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Makes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (energy molecule)
* AKA… “Powerhouse”
 |
| Endoplasmic Reticulum (ER) | * Two types
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ER: no ribosomes
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ER: covered in ribosomes
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lipid components of membrane
* AKA… “Assembly Line”
* Eukaryotes only
 |
| Ribosomes | * Made of small particles of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Assembles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (machine in the factory)
 |
| Golgi Apparatus (GA) | * Modifies, sorts, and packages \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and other materials from the ER for storage in the cell or secretion
* Only found in eukaryotes
* “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”
 |
| Cell Wall | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plant cells
* Protect
* Found only in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells
 |
| Cytoskeleton | * Structures:
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Microtubules
	+ Intermediate filaments
* Helps cell maintain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Allows for movement of organelles throughout \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |
| Cilia and Flagella | * Cilia – hair-like projections on the outside of a cell
	+ Used for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Flagella – a “tail” used for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |
| **Cell Processes** |
| More Important Terms | * Active vs Passive Transport
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ requires energy
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ requires NO energy
* Concentration: the amount of solute in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Shorthand = [ ]
* Equilibrium: when the concentration is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ throughout
	+ When the solute is spread out evenly
 |
| Diffusion | * Molecules move from an area of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ] to an area of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ] in order to reach equilibrium
* Passive – NO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ required
 |
| OsmosisOsmosis (continued) | * Diffusion of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through a semipermeable membrane
	+ Semipermeable: only some stuff can move through it
* High [water] to low [water]
* Water moves from an area of low [solute] to high [solute]
* Goal is to reach \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Hypertonic**: solution has a higher [ ] than cell
	+ hyper = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Water will move out of the cell 🡪 cell shrivels up and becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Occurs when you drink salt water
* **HypOtonic**: solution has a lower [ ] than cell
	+ Hypo = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Water will move into the cell 🡪 cell expands
	+ “Thunder storms” in the produce section of a grocery store
* **Isotonic**: the [ ] is the same inside and outside the cell
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ movement into and out of cell
 |
| Facilitated Diffusion | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ channels allow large molecules to pass through the membrane
* Moves molecules from high [ ] to low [ ]
* Every protein channel is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |
| Protein Pumps | * Movement of molecules \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the [ ] gradient
* Molecules move from low [ ] to high [ ]
* Active transport = requires \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (energy)
 |
| Endocytosis and Exocytosis | * Endocytosis: taking materials \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the cell by infolds of the membrane
	+ Phagocytosis: bringing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into cell
	+ Pinocytosis: bringing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the cell
* Exocytosis: materials \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the cell
* Type of active transport = requires \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |