**Biology Study Guide**

**Chapter 7 Test: Cell Structure and Function**

* **7.1: Life is Cellular**
	+ Objectives
		- Identify the parts of a light microscope
		- Calculate total magnification using different objective lenses on a light microscope
		- Use the correct procedure for focusing a light microscope
		- State the three components of cell theory
		- Summarize the contributions to cell theory made by Anton van Leeuwenhoek, Robert Hooke, and Theodore Schwann (see Cell Theory Ted-Ed video)
		- Differentiate between prokaryotes and eukaryotes with regards to cell size, complexity, and structure.
		- Classify animals, plants, bacteria, fungi, and protists as having either prokaryotic or eukaryotic cells.
	+ Vocabulary
		- Light microscope
			* Body tube
			* Revolving nosepiece
			* Scanning objective lens
			* Low power objective lens
			* High power objective lens
			* Stage clips
			* Diaphragm
			* Light source
			* Ocular lens
			* Arm
			* Stage
			* Base
			* Coarse adjustment knob
			* Fine adjustment knob
		- Cell Theory
			* Robert Hooke
			* Theodore Schwann
			* Anton van Leeuwenhoek
		- Cell
			* Nucleus
			* Cell membrane
		- Prokaryote
			* Bacteria
		- Eukaryote
			* Animal
			* Plant
			* Fungi
			* Protist
* **7.2: Cell Structure**
	+ Objectives
		- Identify various organelles on animal and plant cell diagrams
		- Match organelles to their function within the cell.
		- Categorize various organelles as being located in animal cells only, plant cells only, or both.
	+ Vocabulary
		- Organelle
			* Cytoplasm
			* Vacuole
			* Lysosome
			* Cytoskeleton
			* Centriole
			* Ribosome
			* Rough endoplasmic reticulum
			* Smooth endoplasmic reticulum
			* Golgi apparatus
			* Chloroplast
			* Mitochondria
			* Cell wall
			* Cilia
			* Cell membrane
			* Nucleus
				+ Nucleolus
				+ Chromatin (DNA)
* **7.3: Cell Transport**
	+ Objectives
		- Differentiate between active and passive transport
		- Identify, describe, and differentiate between the different types of passive transport (diffusion, facilitated diffusion, osmosis)
		- Describe and draw arrows showing how water will move in or out of the cell based on solute concentrations outside the cell.
		- Describe the effect different solutions (hypertonic, hypotonic, isotonic) will have on a cell
		- Identify, describe, and differentiate between different types of active transport (molecular, bulk)
		- Differentiate between endocytosis and exocytosis
	+ Vocabulary
		- Passive transport
			* Diffusion
				+ Concentration
				+ Solute
			* Facilitated diffusion
				+ Channel protein
				+ Osmosis

Aquaporin

Hypertonic

Hypotonic

Isotonic

* + - Active transport
			* Molecular transport
			* Bulk transport
				+ Endocytosis
				+ Exocytosis