

## Biology Chapter 7: Study Guide

### Section 1

- Definitions

Cell	Nucleus	Prokaryote
Cell theory	Eukaryote	

- Scientists and their work

Robert Hooke	Matthias Schleiden	Rudolf Virchow
Anton van Leeuwenhoek	Theodor Schwann	

- Know the three fundamental principles of the Cell Theory
- Differences between eukaryotes and prokaryotes
- Examples of prokaryotes and eukaryotes
- Know the two structures that all cells have

### Section 2

- Definitions

Organelle	Nucleolus	Vacuole
Cytoplasm	Ribosome	Mitochondria
Nuclear envelope	ER	Chloroplast
Chromatin	Golgi apparatus	Cytoskeleton
Chromosome	Lysosome	Centriole

- Be able to label a cell diagram (plant and animal)
- Know which organelles are in plants and animals
- Know structure and functions of organelles
- Know who Lynn Margulis is and what she suggested about organelle DNA
- Know the components of all organelles

### Section 3

- Definitions

Cell membrane	Osmosis	Endocytosis
Cell wall	Isotonic	Phagocytosis
Lipid bilayer	Hypertonic	Pinocytosis
Concentration	Hypotonic	Exocytosis
Diffusion	Facilitated diffusion	
Equilibrium	Active transport	

- Be able to label the components of a cell membrane
- Know what semi-permeable means
- Be able to determine which solution has a higher concentration
- Be able to label hypertonic, isotonic, and hypotonic solutions
- Be able to determine what will happen to a cell in hypertonic, isotonic and hypotonic solutions
- Be able to determine how equilibrium will be established
- Know the differences between diffusion, osmosis, facilitated diffusion and active transport

- Be able to describe the process of exocytosis and endocytosis

#### **Section 4**

- Definitions

Cell specialization

Organ

Tissue

Organ system

- Know the difference between unicellular and multicellular organisms
- Be able to describe at least one example of cell specialization in animals and plants
- Know the levels of organization
- Be able to place examples within the levels