Chapter 3 Study Guide

1. What is a cell?
   Smallest unit that can perform all life processes

2. Who was the first person to observe cells? What type of cells did he look at?
   Robert Hooke; Cork cells

3. Why did it take so long to discover cells? What invention made their discovery possible?
   They were too small to see with the naked eye.
   The microscope

4. Anton Van Leeuwenhoek found ____Protists_____

5. What are the two types of cells? What is the major difference between them?
   Prokaryotes and Eukaryotes
   Prokaryotes don't have a nucleus
   Eukaryotes do have a nucleus

6. What is a difference between eubacteria and archaebacteria?
   Archaebacteria is found in extreme environments
   Eubacteria is everywhere you are

7. Name 3 differences between plant and animal cells.
   Plant cells – Have a Cell Wall and Chloroplast (square)
   Animal cells – Have Lysosomes (circular)

8. What are the four things (parts) all cells have in common?
   1. Genetic Material 2. Cytoplasm
   3. Cell Membrane 4. Organelles

9. Name the three parts of the cell theory.
   1. All organisms are made up of one or more cells
   2. The cell is the basic unit of life
   3. All cells come from existing cells

10. Matching:

__J___ Organelles that makes proteins	a. Cell Membrane
__B___ A rigid structure that gives support to a plant cell	b. Cell Wall
__H___ Organelle that packages and distributes proteins	c. Cytoplasm
__D___ Organelle where photosynthesis takes place	d. Chloroplast

__E___ Proteins in the cytoplasm that keep a cell's membrane from collapsing
__A___ A barrier that encloses and protects the cell
__I___ Organelles that contain digestive enzymes
__G___ System of folded membranes that act as an internal delivery system
__K___ Organelle that functions as the main power source
___L__ Organelle that produces and stores DNA
_C____ A substance in the cell that holds the organelles
__F___ Organelle that stores water

e. Cytoskeleton
f. Vacuole
g. Endoplasmic Reticulum
h. Golgi Complex
i. Lysosome
j. Ribosomes
k. Mitochondria
l. Nucleus

11. A group of cells working together to perform a specific job: Tissue
12. 2 or more tissues working together to perform a specific job: Organ
13. A group of organs working together to perform a specific job: Organ System
14. The job a part does: Function
15. How a part in an organism is built: Structure
16. Cell Diagram: Label the parts to the diagram using the following word bank:

Endoplasmic Reticulum Cell Membrane Vesicles
Golgi Complex Nucleus Ribosome Mitochondria

ER
Mitochondria
Vesicles
Golgi Complex
Ribosomes
Nucleus
Cell Membrane

1. Pick 5 organelles that we discussed in class and relate them to the job they would have in a school. Make sure you describe why they would have this job.

Chloroplast – Cafeteria – Both make food

Mitochondria – Breaker box – both give energy

Cell Membrane – Doors and windows – Both protect and only allow certain materials in and out

Cytoskeleton – Support Beams – Both help to keep the shape; stops from collapsing

Golgi Complex – Mailroom – Packages and distributes

Office – Nucleus – Stores the important information

Endoplasmic Reticulum – Hallways – internal delivery systems

Ribosomes – Teachers – Both doing work