**3. Human Cells homework (Anatomy & Physiology)**

Name and date submitted (3 pts):

Create space in the Word document below, and write or type your answers. KEEP THE SAME NUMBERING SYSTEM or I will take points off! Upload to Canvas when finished.

(25 questions, 100 points possible)

Plasma Membrane (beginning p. 63)

1. Your grandmother wants to know how the plasma membrane is put together. Describe it to her in detail.
2. Describe/explain the “lipid bilayer”
3. Describe/explain “transmembrane proteins”
4. What is meant by “membrane fluidity”

Transport across the plasma membrane (beginning p. 66)

1. What is meant by “simple diffusion”? Explain
2. What is meant by “facilitated diffusion”? Explain
3. Fig. 3.6: Explain how a gated channel works with potassium ions
4. Fig. 3.7: Explain how a carrier protein transports Glucose across the plasma membrane
5. Explain the principle of “osmosis” to your spellbound colleagues in the Academy of Science
6. “Tonicity”: you can use red blood cells as an example
   1. What is an isotonic solution
   2. What is a hypotonic solution
   3. What is a hypertonic solution

Active transport (beginning p. 71)

1. What is meant by “active transport”
2. Explain to an intelligent, 18th Century person how the sodium-potassium pump works
3. Explain how “transport in vesicles” works
4. What is “phagocytosis”?

Cytoplasm and Organelles (beginning p. 76)

1. What is the cytosol?
2. What is meant by “organelles”?
3. What is the cytoskeleton?
4. What is the centrosome?
5. What are cilia and flagella?
6. Describe/explain the endoplasmic reticulum. What is its purpose?
7. Explain the Golgi complex
8. What are lysosomes?
9. Describe/explain “mitochondria”

The Nucleus (beginning p. 87)

1. Describe/explain the nuclear envelope to an intelligent 5th grader
2. What are chromosomes? How many do you have?