This is a study guide which means it will guide you as you study. This is not an all-inclusive document that negates the need to review notes, reading guides and labs.

1) For the following organelles and structures, be able to explain structure/function relationship

* Mitochondria
* Chloroplast
* Ribosome
* Nucleus
* rER
* sER
* Golgi body
* Lysosome
* Tight junction

**2) Explain the Endosymbiotic Theory. Give supporting evidence for the theory. Give evidences for mitochondria being descendants of bacteria.**

3) Explain the relationship between SA/Volume. Refer to handout. What are problems when the cell becomes too large.

**4) Diagram the path of a protein through the endomembrane system. Where does this protein end up? What types of cells might have lots of rER?**

5) Distinguish between prokaryotic and eukaryotic cells. Refer to the handout we did in class.

**6) Muscle cells contain specialized ER called sarcoplasmic reticulum. How is the sarcoplasmic reticulum different than regular ER? What is stored in the SR?**

7) Diagram the cell membrane. Label the parts.

**8) Distinguish between passive and active transport. Give examples. Refer to concept map.**

9) Review mitochondrion structure. Why is the double membrane so important? Find a diagram of the inter membrane. How/why do ions move from the inter membrane space back into the matrix?

**10) If a cell is placed in a medium and the result is the cell bursting, is the medium hypertonic/isotonic/hypotonic?**

11) If a cell is placed in a medium and the result is the cell shrinking, is the medium hypertonic/isotonic/hypotonic?

**12) Review diffusion osmosis notes. Review your lab and water potential problems.**

13) Review cell signaling notes. Spend time with the G protein and tyrosine kinase handout. Review the epinephrine G protein pathway.

**14) Explain the role of the cell membrane…**

* **Transporting water across the membrane**
* **Sodium/potassium pump**
* **Glucose**
* **Secretory proteins**

15) What are some adaptations in prokaryotes that have enabled them to survive and have ensured their evolutionary success?

**Due Test Day:**

CH 7 & 8 reading guide Cell membrane model questions

CH 11 reading guide Eukaryotic cell structure/function

Diffusion/Osmosis Lab Bacteria Communication Biozone

Cell membrane wksheet

Cell signaling lab