**Endosymbiotic Theory**

**Current Knowledge:**

1. What is the difference between prokaryotic cells and eukaryotic cells?
2. Prokaryotic cells were here before eukaryotic cells. Where did eukaryotic cells come from??

Visit and explore the following websites. Utilizing the information you obtain from the sites, the video we watched yesterday and your book, answer the questions that follow.

\* <http://www.biology.iupui.edu/biocourses/N100/2k2endosymb.html>

\* <http://learn.genetics.utah.edu/content/begin/cells/organelles/>

\* <http://www.sumanasinc.com/webcontent/animations/content/organelles.html>

(Push the button for “narrated” version.)

\* <http://highered.mcgraw-hill.com/sites/9834092339/student_view0/chapter4/animation_-_endosymbiosis.html>

\* <http://www.ruf.rice.edu/~bioslabs/studies/mitochondria/mitorigin.html>

1. How long were prokaryotes present on Earth before eukaryotes?
2. Explain 5 similarities between mitochondria & chloroplasts and bacterial cells.
3. Describe the benefits to both an aerobic cell and an anaerobic cell that may have allowed for the formation of a mutually benefitting relationship to occur.
4. Explain why there are 2 lipid bilayers around both mitochondria and chloroplasts
5. Explain what the endosymbiotic theory states.
6. List 3 pieces of evidence that clearly support the endosymbiotic theory. Phrase your 3 pieces of evidence in the form of a hypothesis that could be supported by the evidence:

***If*** *the endosymbiotic theory is correct****, then*** *. . . (we should find what?)*