

Ingredients of Life Online Lab

Please follow the instructions and answer each question in complete sentences in your Comp Book. You will turn this in at the end of class

1. Go to: <http://www.ftexploring.com/photosyn/photosynth.html>

- Read the **Introduction** page starting in the middle of the page at "Photosynthesis is for the Birds - and Everything Else"
- What three things do organisms need energy for? What happens to the energy that moves through life?
- Click on the link for "food chains" to go to the page on "The Mysterious Everything Keeps On Flowing "
- What is the role of the primary producers? What is the role of the carnivores? What about the decomposers?

2. Go to: http://www.biology.arizona.edu/cell_bio/tutorials/pev/main.html

- Read the **introduction**, then click on 'Organization.' Read the information on this page.
- When did prokaryotes first appear on the earth? What two kingdoms are comprised of prokaryotic organisms?
- Click 'next,' and read the next page. Describe at least 3 characteristics of bacteria that you didn't know before.
- Click 'next' two times to bring you to the 'Viruses' page. Read the information. What is an 'obligate intracellular parasite'?

3. Go to: <http://www.cellsalive.com>

- From the **menu** on the left, click on "Cell Biology." Begin by viewing the "How big is a . . . ?" clip. How does the size of an E. coli bacterium compare with that of a red blood cell? How does an Ebola virus compare to an E. coli bacterium?
- Next, click back to the "Cell Biology" page, click on " Cell models" and look at the bacterial cell model. List the following structures of bacterial cells and click on each to find and write a brief description. Nucleoid, plasmid, ribosome, flagella
- Back on the "Cell Biology" page, click on "Microbiology" on the left. Then click on the "Dividing Bacteria" link. What are the optimal conditions for bacterial growth? Briefly describe the 4 phases of growth in a bacterial population.

4. Read Article: From Snack to Servant

- Briefly summarize what this title means.
- Where did Mitochondria come from?
- Explain their structure or what they are made of?
- How is the mitochondrion similar to bacteria?
- What do biologists think is the origin of Chloroplasts?

5. Read Article: Symbiotic Bacteria – The Essential Guests

- How has symbiotic relationships evolved?
- Describe three ways that bacteria live in a symbiotic relationship with marine organisms.
- What are the types of bacteria that live around hydrothermal vents called? Why are they so important?
- What happens if you eat fugu that has not been prepared properly?