

## LABORATORY #5 -- BIOL 111

### Cell Craft Game

Eukaryotic cells evolved to have organelles that work together as a finely organized team. The Cell Craft game does an excellent job illustrating this in a step by step process. In fact the game somewhat simulates the evolution of eukaryotic cells by acquiring and featuring one or a few organelles at a time.

The game is self-explanatory. You will need to grow your own virtual “cell” and make it survive virus attacks. As you work through the game, you always have the option to review specific processes, chemical compounds and organelles by clicking on the “Encyclopedia” tab on the main page. As always, we highly recommend you spend some time at home reviewing the information located here prior to attending lab. In fact, it is possible to do this lab at home and simply drop it off in lab.

### Procedure

Click this link or copy it you’re your browser.

<http://www.kongregate.com/games/cellcraft/cellcraft>



1. Clear any previous data and switch the sound off.
2. Read through the Encyclopedia tabs to be sure you are familiar with all compounds, organelles and processes utilized in the game. Spend some time (30 minutes?) trying all the options available.
3. Play through the game several times. You may wish to read through the questions in your lab manual first, so you know what to really pay attention to. Take notes as you go!

Name\_\_\_\_\_

### Requirements Lab 5

1. What are the following items in the game, and why do you need to maintain certain amounts of these things? (4 pts)

ATP:

AA:

FA:

G:

2. How can a virus damage a cell? What is the most dangerous virus in the game and why? (3 pts)

3. Which organelles are directly involved in production of ATP? Briefly describe the really cool way in which these organelles came to be part of eukaryotic cells. (2 pts)

4. Using the back of this page, sketch and explain how a protein is “born”. Be sure to point out the role of the nucleus, nucleic acids, ribosomes, and amino acids (and so the proper locations in the cell). Name a type of protein it could be and its role in the cell.