**For Lab Top Use at Maury – For AP Biology Investigation 3**

**Login Instructions:**

1. **Turn on the computer**
2. **User Name: sntesting**
3. **Password: schoolnet**
4. **When the computer has booted up then do the following**
	1. **Do NOT login in to schoolnet**
	2. **Click on the Start Button**
	3. **Click on Internet Explorer**
	4. **Go to google.com and this is where you use your own user name and password.**

**Open two windows or TABS**

1. **biogirl757.weebly.com**
2. **From my webpage for NCBI**

**Follow these directions to get your gene sequences into NCBI:**

**BIG IDEA 1: EVOLUTION
INVESTIGATIVE LAB 3: COMPARING DNA SEQUENCES TO UNDERSTAND EVOLUTIONARY RELATIONSHIPS WITH BLAST**

Below are the gene files to use for Investigative Lab 3. **Note that the files do not open on your computer.**
You must click on the files, and download them by clicking, 'Download' and then save. Once the zip file is saved, you should then unpack it by saving the individual file.

Then you must go to the BLAST site and

1. Click on the 'Saved Strategies' from the menu at the top of the page
2. Under "Upload Search Strategy", click on "Browse" and locate one of the gene files you saved onto your computer by opening the file and then selecting the file.
3. Click "View"

A screen will appear with the parameters for your query already configured.

NOTE: Do not alter any of the parameters. Scroll down the page and click on the "BLAST" button at the bottom. After collecting and analyzing all of the data for that particular gene, repeat this procedure for the other two gene sequences.

* [Gene 1](http://media.collegeboard.com/digitalServices/misc/apcentral/AP_Biology_Fossil_Gene1_search_strategy.zip)
* [Gene 2](http://media.collegeboard.com/digitalServices/misc/apcentral/AP_Biology_Fossil_Gene2_search_strategy.zip)
* [Gene 3](http://media.collegeboard.com/digitalServices/misc/apcentral/AP_Biology_Fossil_Gene3_search_strategy.zip)
* [Gene 4](http://media.collegeboard.com/digitalServices/misc/apcentral/AP_Biology_Fossil_Gene4.zip)

On your lab report you must have:

1. Title, Name and Date
2. Objectives – copy these from the lab manual
3. A summary of the procedure (this is one to two sentences explaining what you are doing – I do not believe in copying procedures as it is not how we do it in a working lab).
4. Copy the cladogram
5. Write a hypothesis
6. Mark the cladogram
7. Follow the procedure
8. Data Table: 3 columns

Gene 1 species comments

Gene 2 etc

1. From the information in your data table determine what is the most likely classification for this organism and mark it on your cladogram or, if necessary redraw the cladogram.
2. Analysis / conclusions
	1. Discuss why you placed the fossil on the cladogram where you did (this after you have run the DNA through BLAST)
	2. Discuss what a)the NCBI is for and b) what is BLAST and why is it important.