Name: _____ Date: _____ Period: _____

Natural Selection Simulation of Birds

Go to www.biologybynapier.com and select the Evolution Unit Page. Scroll down to the Bird Natural Selection link or open your browser and type in http://sepuplhs.org/high/sgi/teachers/evolution_act11_sim.html in the address bar.

Read the instructions! Click Next.

1. Look at the Southwest environment and the available resources on the right side of your screen.
2. Create three different bird species by selecting the phenotypes available. Once you have created your 3 species click Next.
3. Read the description then click Continue.

4. Which bird phenotype do you think will be the most successful and why? # _____ Describe it.

5. Click continue. Read the information and click Close. On the next page click Start and watch what happens to your birds. Whenever the time stops, read the information and record the type of mutation in the table below. Put a + next to it if it is a beneficial mutation, a – if it causes death and an o if it has no effect on the population. Do not record more than 3 mutations per bird.

6. What is the original population number of each bird? _____

Phenotype	Brief description of mutation	+, - or o
Bird #1		
Bird #1		
Bird #1		
Bird #2		
Bird #2		
Bird #2		
Bird #3		
Bird #3		
Bird #3		

7. When you reach 500,000 years, fill in the table below:

Phenotype	Survived (yes or no)	Number in population
1		
2		
3		

8. Explain why your birds and their phenotypes had the results shown in the table above.

9. Click Continue. Read the information and click continue again.

10. Read the information and click continue. Select the factors you want in the environment you are creating. Click continue. In the table below put the number of the bird you think will be the most fit for each environment.

Environment	Southeast	Northwest	Northeast
Bird #			

11. Click continue. Click Next and Resume until you hit 1,000,000 years. Fill in the table below:

Habitat	Bird 1 Population	Bird 2 Population	Bird 3 Population
Northeast			
Northwest			
Southeast			

12. Compare your original bird # 1 to the final bird #1 in the **Northeast** habitat. Describe how it changed (beak, size and color) over 1,000,000 years.

13. In the **Northwest** habitat, which bird changed the most over 1,000,000 years?

14. Which bird was the most successful? Give the bird # and the habitat along with the final population number.

15. Explain the role of natural selection on this simulation.