Name _____ Date _____ Period _____

Lab: Population Biology
BIOLOGY: Interactions in Ecosystems

Overview: Ecosystems are a complex and delicate balancing game. The addition or removal of one species affects many other species with which it might compete for, or provide food. In this lab you will get a chance to "build your own" ecosystem, and explore the effects of these interrelationships.

Procedure:

1. Log onto the following website: http://www.learner.org/courses/envsci/interactives/ecology/
2. Under "Lessons", click "Producers" and read the background information.
3. Under "Lessons", click "Step 1" and read the background information and make and record your prediction in Data Table #1.
4. Click "Open Simulation" button and select plant A and plant B.
5. Answer questions 1 & 2 (in complete sentences) in Data Table #1 when simulation is complete.
6. Under "Lessons", click "Step 2" and read the background information and make and record your prediction in Data Table #1.
7. Click "Open Simulation" button and Click on herbivore A (the rabbit) and choose "eats plant A."
8. Answer questions 1-3 (in complete sentences) in Data Table #1 when simulation is complete.
9. Under "Lessons", click "Food Web Challenge" and read the background information.
10. Under "Food Web Challenge", click "Step 1" and read the background information and make and record your prediction in Data Table #1.
11. Click "Open Simulation" button and Click on only one organism from each trophic level and make sure that the food chain goes in a straight line from one trophic level to the next, i.e., Herbivore A eats Plant A, Omnivore A eats Herbivore A, and the Top Predator eats Omnivore A.
12. Answer questions 1-4 (in complete sentences) in Data Table #1 when simulation is complete.
13. Under "Food Web Challenge", click "Step 2" and read the background information and make and record your prediction in Data Table #1.
14. Answer questions 1-3 (in complete sentences) in Data Table #1 when simulation is complete.

DATA TABLE #1

Lesson 1: Step 1		
Prediction: (X, ↑, or ↓)	PLANT A	PLANT B
Question 1.		
Question 2.		

Taken from: http://www.learner.org/courses/envsci/interactives/ecology/

Lesson 1: Step 2			
Prediction: (X, ↑, or ↓)	PLANT A	PLANT B	HERBIVORE A
Question 1.			
Question 2.			
Question 3.			

Lesson 2: Step 1				
Prediction: (X, ↑, or ↓)	PLANT A	HERBIVORE A	OMNIVORE A	TOP PREDATOR
Question 1.				
Question 2.				
Question 3.				
Question 4.				

Lesson 2: Step 2									
Prediction: (X, ↑, or ↓)	PLANT A	PLANT B	PLANT C	HERB. A	HERB. B	HERB. C	OMNIV.A	OMNIV.B	TOP PREDATOR
Question 1.									
Question 2.									
Question 3.									

EXTRA CREDIT (5 pts.): Answer the following question with a <u>minimum</u> of 2 paragraphs (5 sentences <u>minimum</u> per paragraph)

1. How do humans affect the greater food web? In this model, how could humans who do not live in the ecosystem still manage to alter the flow of energy within the web?