

Student Names

Class Period

Task 1 of 3. Producers, Predators, and Prey

Directions: Fill in the yellow boxes w/ your group to review the relationships we are simulating today. Use your [Teacher Notes](#) to help. (5pts)

Term	Dictionary definition	Picture (Insert > Image > Search the Web)	Examples and related words
1. predator	Heterotroph. Consumes others for energy.		
2. producer	Autotroph. Produces own energy. Input: sun, water, carbon dioxide Output: energy, oxygen		plants, trees, cyanobacteria (blue-green algae)
3. prey	Consumed by others for energy.		

Task 2 of 3. Modeling & Graphing: Food Webs for Predator & Prey

Directions:

1. Visit: <https://learner.org/wp-content/interactive/envsci/ecology/ecology.html>
2. For every test condition, do the following:
 1. Click RESET  to clear the simulation. (Do this for every test condition.)
 2. Make the simulation match the **Test Condition** shown in the picture.
 3. Click **Run**  to start the simulation.
 4. Take a screenshot of the graph and paste it where indicated, then answer the questions.

The first graph has been inserted for you as an example.

Protip: Save time by assigning each group member to test 1 condition.

(11pts)

Confused? Watch a video tutorial of how to do [Tasks 2 & 3](#) by clicking [here](#).

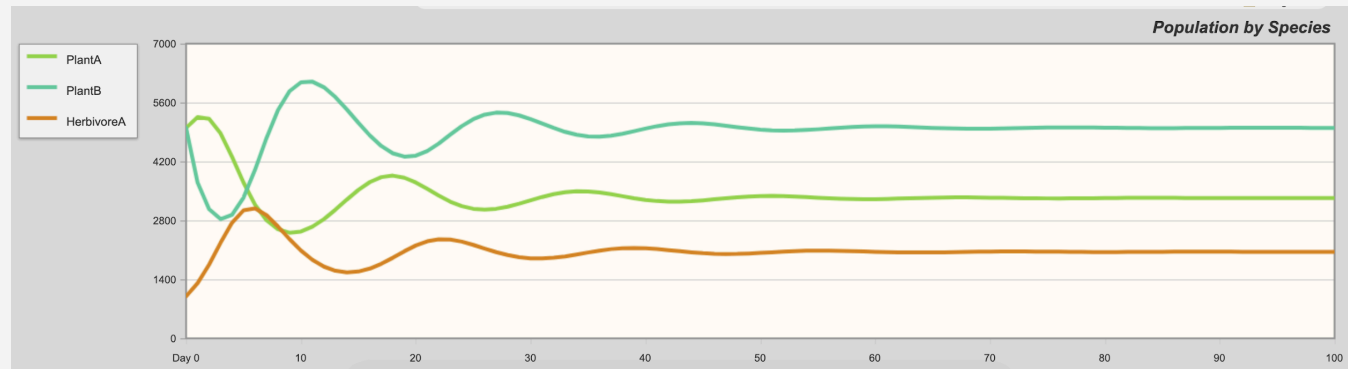
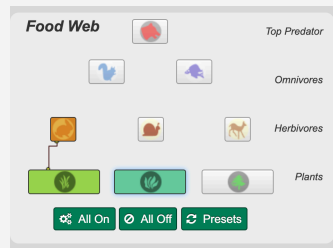
How to take a screenshot & paste:

1. Hold down CTRL key and

press  (above the 6 key).

2. Press CTRL + V.

Test Condition #1 Graph #1



1a. The x-axis shows

1b. The y-axis shows

2. What patterns do you notice? Fill in the blanks with a) **increase**, b) **decrease**, or c) **stays the same**.

2a. As Plant A

, plant B

2b. As Plant A

Herbivore A

Test Condition #2



Graph #2

1a. The x-axis shows

1b. The y-axis shows

2. What patterns do you notice? Fill in the blanks with a) **increases**, b) **decreases**, or c) **stays the same**.

2a. As Plant A

, HerbivoreA

2b. As HerbivoreA

, OmnivoreA

Test Condition #3

Graph #3

Erase this text and paste graph screenshot here

Food Web

1a. The x-axis shows

1b. The y-axis shows

2. What patterns do you notice? Fill in the blanks with a) **increase**, b) **decrease**, or c) **stays the same**.

2a. As Plant A

, HerbivoreA

2b. As HerbivoreA

, OmnivoreA

3. How is Graph #3 similar to and different from Graph #2

Task 3 of 3. Group Choice

Directions:

1. Choose your own conditions **using all four trophic levels**. Take a screenshot of the conditions and paste it into the box below “Test Condition #4”.

PAUSE. DO NOT run the simulation until you do step #2!

2. Using the table on the right, place an **X** in the box to indicate your

Prediction Table (do before running simulation)

	↑ increase	↓ decrease	↔ stay same
Producer			

prediction for what will happen to these populations.

3. Run the simulation and paste a screenshot of the graph.

4. Discuss the results with your group and answer the questions. (12pts)



Herbivore

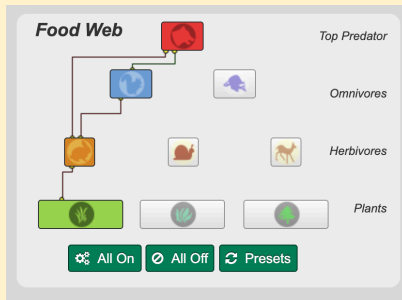


Omnivore



Predator

Test Condition #4



Graph #4

Erase this text and paste graph screenshot here

1. What patterns do you notice? Fill in the blanks with the condition you tested.

1a) When herbivores

[increases]

omnivores

Keep one:
[increases]

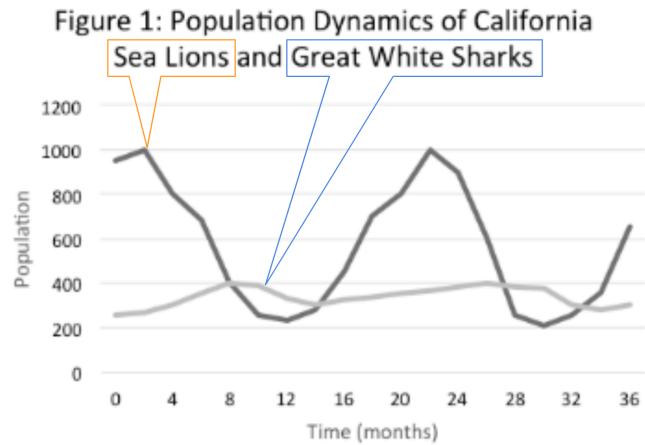
1b) When

Keep one:
[increases] [decreases]
[stays the same]

Keep one:
[increases] [decreases]
[stays the same]

2. Anything surprising? Why/why not?

3. **Practice Group CER.** (3pts) Look at the graph and write evidence & reasoning for the claim.



Claim: Based on the graph to the left, California sea lions are prey and Great White Sharks are predators, because of how their populations interact over time.

Evidence: _____

Reasoning: _____