

Απεικόνιση Τροφικών Σχέσεων

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ΒΙΟΛΟΓΟΙ

Προσομοίωση

Interactive Labs Ecology Lab



OPEN SIMULATOR

Overview

Lessons

The Producers

- Challenge
- Step 1
- Step 2
- For Your Consideration

Food Web

- Challenge
- Step 1
- Step 2
- For Your Consideration

HELP

Overview

As you learned in Unit 4, 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.



Download the Data Table to keep a record of your data.

<https://www.learner.org/wp-content/interactive/envsci/ecology/index.html>

1. Η σχέση των παραγωγών (διαδοχή – ανταγωνισμός) (Π-Π / Π-Κ, Π)
2. Τροφικές σχέσεις στα τροφικά πλέγματα (Π-Κ1-Κ2-Κ3 / Π-Κ1-Κ2-Κ3, Π / Όλα)

Παιχνίδι (I)

<https://ssec.si.edu/food-chain-fix>

Προγραμματισμός με Scratch

Downloads:

[Food Chain Fix Lesson with Student Resources](#)

[FoodChain_MixedUp Download](#)

[FoodChain_Fixed Download](#)

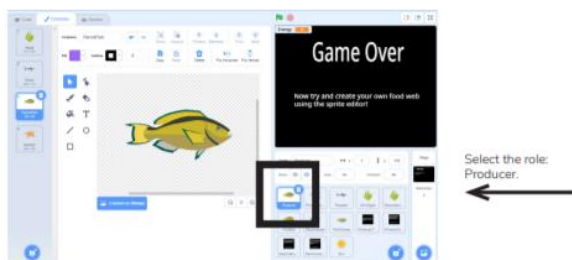


Παιχνίδι (II)

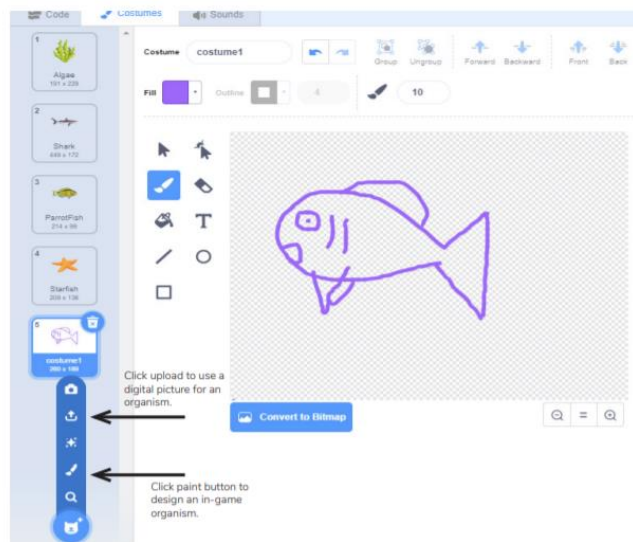
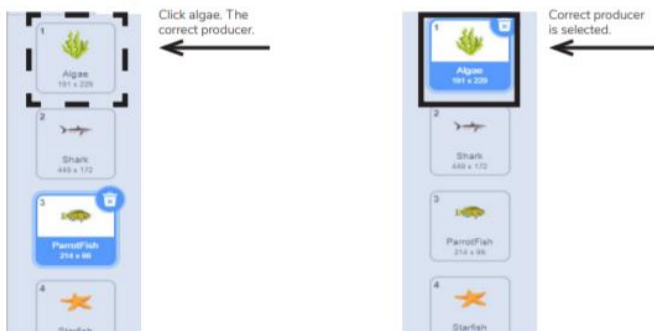
1. Click on the Costumes tab.



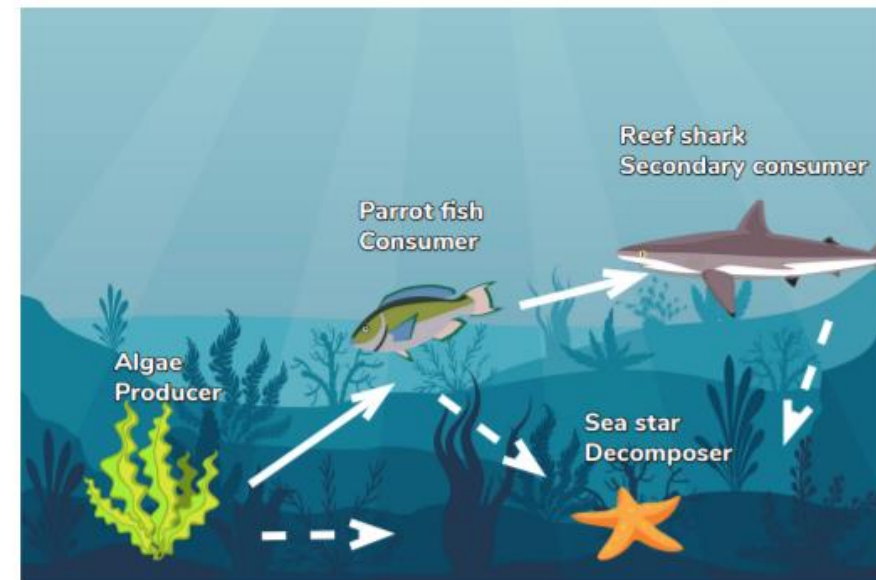
2. In the bottom right, click on the organism you want to change. In this example we are changing the producer.



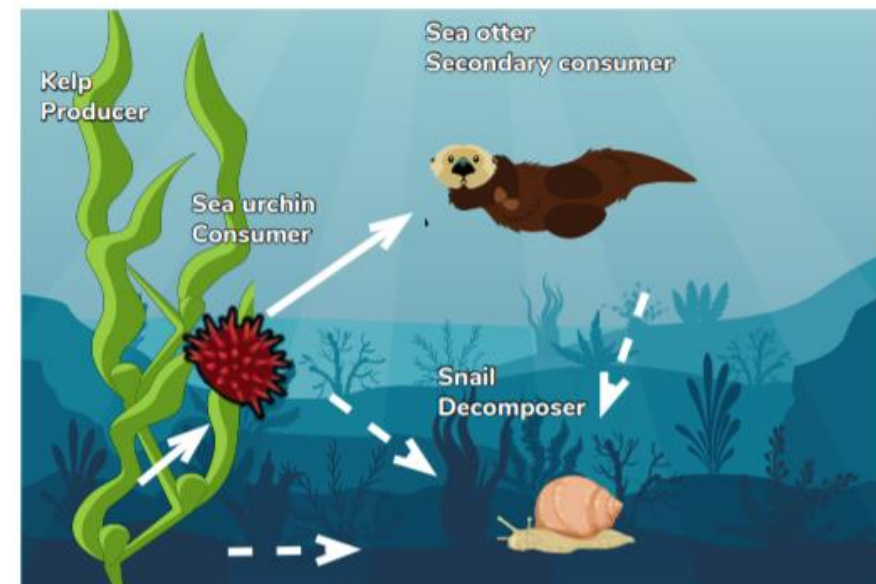
3. Click the correct producer image on the far left tab. In this example we change the producer image from parrot fish to algae. Now when you play the game, the correct producer will be in the game.



1: Coral Reef



2: Kelp Forest



Η αγαπημένη μας θάλασσα (I)

<https://www.nationalgeographic.org/activity/marine-food-webs>

Connections to National Standards, Principles, and Practices

National Geography Standards

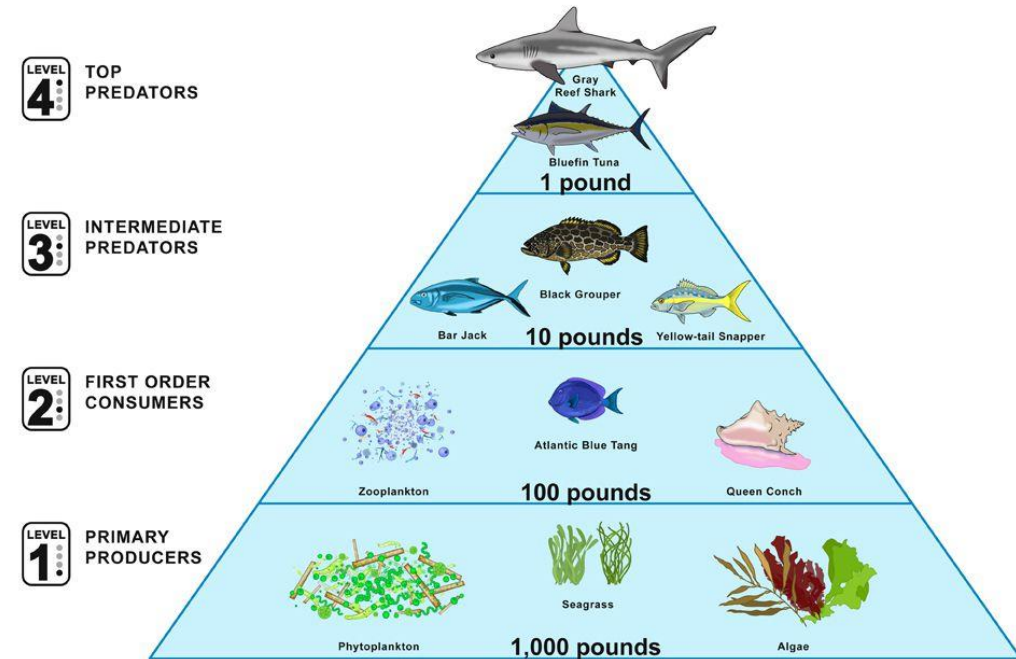
- Standard 8: The characteristics and spatial distribution of ecosystems and biomes on Earth's surface

National Science Education Standards

- (9-12) Standard C-4: Interdependence of organisms
- (9-12) Standard C-5: Matter, energy, and organization in living systems
- (9-12) Standard C-6: Behavior of organisms
- (9-12) Standard D-1: Energy in the earth system

Ocean Literacy Essential Principles and Fundamental Concepts

- Principle 5d: Ocean biology provides many unique examples of life cycles, adaptations and important relationships among organisms (such as symbiosis, predator-prey dynamics and energy transfer) that do not occur on land.
- Principle 6b: From the ocean we get foods, medicines, and mineral and energy resources. In addition, it provides jobs, supports our nation's economy, serves as a highway for transportation of goods and people, and plays a role in national security.



Learning Objectives

Students will:

- create a food web display to illustrate the trophic relationships between marine organisms
- identify common organisms living in a marine ecosystem
- research ecological facts about marine organisms
- prepare illustrated cards depicting marine organisms and their predator-prey relationships

Η αγαπημένη μας θάλασσα (I)

<https://askbiologist.asu.edu/experiments/plankton>

Common Core Standards

6-8.RST.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

- Read about food chains and food webs, and then identify the linguistic roots and affixes to help them identify the meanings of terms related to trophic levels, such as carnivore, herbivore, omnivore, autotroph, and heterotrophy. (SC07-S4C3-01)
- Determine the meaning of the direction of the arrows in the food chains and food webs. (SC07-S4C3-01)

6-8.RST.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

- Integrate written descriptions of a Marine food web with visual representations of the Marine food web

Next Generation Science Standards

MS-LS1-6.

- Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.



Ευχαριστούμε!!!

