

Online Resources

Lesson 1: Kelp Forest Food Web Story

Instructions to the students

“Imagine that you’re no longer in the classroom but outside in the sunshine, surrounded by the smells and sounds of a kelp forest. Imagine that you are becoming the part of the kelp forest”

“I’m going to read a story about this forest, which shows how important each member of the kelp forest is to all the other members. As I talk about your part of the kelp forest, a classmate will pass the ball of yarn to you. Take hold of the yarn, and when I read the next character, roll the ball to the new person.”

“Don’t let go of your part of the yarn, but hold it down on the floor so I can walk around inside the circle and help pass the yarn ball to the next person”

Interactive story

Our kelp forest community grows healthy and strong with the light of the **SUN**.

All of the creatures in the kelp forest depend on the sun’s energy. It keeps them all warm and helps them grow. In addition to the sun all ecosystems need air and water to survive and thrive. Even the **marine bacteria** who can survive in extreme environments can appreciate all that the sun does to help the kelp forest ecosystem.

The **phytoplankton** are hard at work converting sunlight, nutrients, and carbon dioxide to produce oxygen and other nutrients. All of the organisms in the kelp forest depend on the phytoplankton to produce the oxygen that they need to survive. The **zooplankton** are also swimming around in the kelp forest and depend on the phytoplankton to survive because they are a food source for them.

Underneath the water is the **giant kelp** who offers a home to many animals in the kelp forest. As a **kelp crab** is taking refuge within the giant kelp it also decided to take a nibble of the underwater plant. Kelp crabs find multiple uses for the plant by also being one of its predators. As the crab moves along in the forest it comes across a **turban snail** who is attached to rocks and feeds off of the algae that grows on them.

The turban snail slides past a **purple sea urchin** who is looking for any fallen kelp. The urchin acts as a kelp forest floor vacuum because it enjoys eating any giant kelp that it can find. The urchin does its best to avoid the **bat star** who is also on the hunt for its lunch.

Above the excitement of the kelp forest floor a bright **garibaldi fish** is enjoying a swim in the bright afternoon sun. This fish is hard to miss due to its bright orange color. The garibaldi fish swims right past a **senorita fish** who has a similarly colored underbelly. Both of these fish pose no threat to each other.

The fish soon swim quickly away as they hear a splash from above. A **sea otter** has entered the water! This is not the only animal that is frightened though, the **red octopus** camouflages itself once it sees the sea otter enter the water. It decides to blend in with the rocks and floor of the kelp forest to avoid being prey to the sea otter.

Changes that can affect a Balanced Food Web

The purple sea urchin population is on the rise which is depleting the **giant kelp**. (Giant kelp should tug on their rope)

Sea otters were overhunted by humans. (Sea otters should tug on their rope).

Pollutants recently affect the algae growing on rocks in the ocean which has impacted the **turban snail**.

Lesson 2: Factors that can Impact a Food Web

- **Humans**
 - [Urbanization](#)
 - [Over Predation \(hunting\)](#)
- **Environment**
 - [Pollution](#)
 - [natural disasters](#)
- **Disease**
 - [Pesticides/Herbicides](#)
 - [Infection](#)
- **Competition**
 - [Invasive Species](#)
 - [Overpopulation](#)