Khaled bin Sultan Living Oceans Foundation

STANDARDS

- **CCSS**: RST.9-10.1, 2, 4, 5, 7, 8, 10; RST.11-12.1, 2, 4, 10; SL.6.1-8.1; SL.6.5-8.5
- **NGSS**: MS-LS2-3, MS-LS2-4
- **OLP**: (grades 6-8) 5.A.1, 5.A.3, 5.A.4, 5.A.6, 5.A.16, 5.A.21, 6.A.5-6.A.7, 6.D

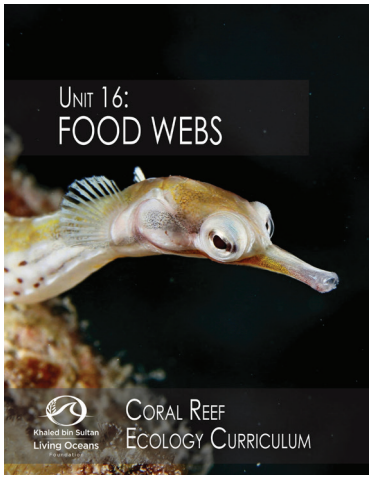
ONLINE CONTENTS

- Food Web Quiz
- *Coral Reefs: Unraveling the Web* Coral reefs are an ecosystem that supports millions of different creatures. A coral reef is so complex, it's better to think of it as a food web - a network of food chains - that tells a story about the interdependence of all the animals and plants that live in the reef.

FOOD WEB

This lesson is a part of the *Food Web* unit, which explains how matter is recycled and energy is transferred in the biotic (living) parts of a coral reef ecosystem. Below is a summary of what is included in the entire unit.

UNIT CONTENTS



A. Background Information
   - Earth's System
   - Matter
   - Energy
   - Feeding Strategies
   - Food Chain
   - Food Web
   - Ecological Pyramids
   - Energy Pyramid & 10% Rule

B. Lessons

Watch It! Unraveling the Web
- A worksheet to accompany the *Coral Reefs: Unraveling the Web* video

Stringing it Together
- An activity that models food chains and food webs in the coral reef ecosystem to aid in understanding how matter is recycled and energy flows through it

Read it! Sharks
- A worksheet to accompany the *Sharks!* field blog

Read it! Faces & Functions of Algae
- A worksheet to accompany the *The Faces and Functions of Algae on the Reef* field blog

Name: _____ Date: _____

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LESSON 1 STRINGING IT TOGETHER

INSTRUCTIONS: Follow the instructions below.

1. Draw four different food chains below. Make sure to draw matter and energy arrows in the correct direction. Write the feeding strategy(s) for each organism in each food chain above the organism (producer, herbivore, carnivore, omnivore, or decomposer).

   a. Coral Reef Food Chain #1

   b. Coral Reef Food Chain #2

   c. Coral Reef Food Chain #3

   d. Coral Reef Food Chain #4

2. Choose one of the food chains that you created previously. Include the sun and decomposers and heat, waste, and nutrient arrows in your drawing. Make sure to include additional matter and energy arrows.

3. Answer the following questions.
   a. What is the main source of energy in the coral reef ecosystem? Explain.

   b. Which organisms are producers?

   c. Which organisms are herbivores?

   d. Which organisms are carnivores?

   e. Which organisms are omnivores?

   f. What is the difference between a decomposer and a detritivore?

   g. Which organisms are detritivores?

   h. Why are decomposers important in an ecosystem?

   i. Are there any organisms that have more than one feeding strategy (producer, consumer, decomposer)? If so, list the name of the organism and the different feeding strategies that they use.

   j. In your own words, describe how matter cycles through an ecosystem.

k. In your own words, describe how energy flows through an ecosystem.

l. Do food webs show detailed information about diets of each organism? What other types of information would you like to know about their diets that would be useful when trying to understand the feeding connections in an ecosystem? Explain.

m. What natural or human disturbances can cause the coral reef food web to become unstable? List three types of disturbances.

n. How do disturbances affect the food web? Provide one example of a disturbance.