

Food webs illustrate the networks of feeding relationships between organisms that live in a particular area. All food webs are made up of producers, consumers and decomposers. However, the number and type of species that make up web vary greatly between different areas and different ecosystems.

This worksheet offers a suggested pathway through Science Learning Hub education resources and connects to relevant programmes offered by the NZ Marine Studies Centre. Click on the links below to create your own personalised teaching unit. Feel free to use this material in any combination or order.

Images from www.sciencelearn.org.nz

Exploring the theme

Focus question: What can you find in your kitchen that links to life in the sea?



- Video > Understanding Food Webs www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Video/Understanding-food-webs
- Image > Commercial fishing boat www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Images/Commercial-fishing-boat

Activities – use these activities to expand on the focus question:

- Build a marine food web www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Teaching-and-Learning-Approaches/Build-a-marine-food-web
- Making a food web www.sciencelearn.org.nz/Science-Stories/Research-Voyage-to-Antarctica/Making-a-food-web

Understanding the theme

Focus question: What do you think would happen if one species was removed from the food web?

- Key terms > See food web, keystone species and ecosystem www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Key-Terms
- Info sheet > Marine food webs www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Science-Ideas-and-Concepts/Marine-food-webs
- Plankton: www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Looking-Closer/Plankton

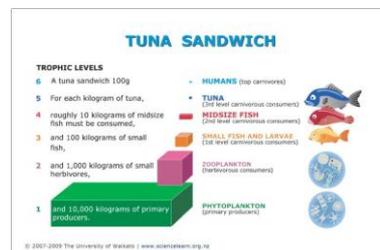
- Video > Role of starfish in the ecosystem www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Video/Role-of-starfish-in-the-ecosystem

Activities – use these activities to expand on the focus question:

- Interactive > Marine ecosystem www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Animations-and-Interactives/Marine-ecosystem
- Gulp and swallow www.otago.ac.nz/marinestudies/resources/download/GulpandSwallow.pdf

Applying the theme

Focus question: How does human activity affect the marine food web?



- Video > Impact of freshwater on cockles www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Video/Impact-of-freshwater-on-cockles
- New Zealand research > Understanding food webs in Fiordland www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/NZ-Research/Understanding-food-webs-in-Fiordland
- Video > Why tag a starfish? www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Video/Why-tag-a-starfish
- New Zealand research > Tagging sea stars www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/NZ-Research/Tagging-sea-stars
- Diagram > Tuna sandwich www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Sci-Media/Images/Tuna-sandwich

Activities – use these activities to expand on the focus question:

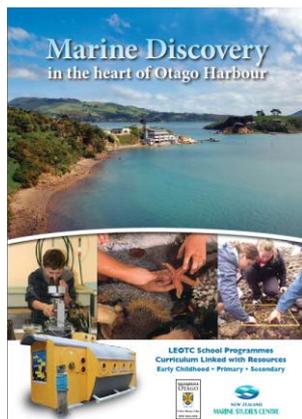
- Marine toxins www.otago.ac.nz/marinestudies/resources/download/toxins.pdf
- Fisheries role play www.sciencelearn.org.nz/Contexts/Life-in-the-Sea/Teaching-and-Learning-Approaches/Fisheries-role-play

Experiencing the theme

New Zealand Marine Studies Centre field trips (available in Otago & Nelson) include explorations of the coastal environment, laboratory sessions, boat trips and aquarium adventures.

W: www.marine.ac.nz

- Supper in the Sea
- Seashore scramble
- Sharks, inside and out
- The Marine Road Show



Marine Programmes 2012	
Level 3 - 4 Crustaceans on the table 1913 Pilot Cutter The historical, historical and archaeological significance of the Pilot Cutter will be explored in this activity. Students will learn about the history of the cutter and the role of the crew. The activity includes a role-play, a quiz, and a drawing competition.	Level 3 - 4 Crustaceans on the table 1913 Pilot Cutter The historical, historical and archaeological significance of the Pilot Cutter will be explored in this activity. Students will learn about the history of the cutter and the role of the crew. The activity includes a role-play, a quiz, and a drawing competition.
Level 3 - 5 Marine Day Sea Shores exploration Students will explore the marine environment and learn about the different types of marine life. The activity includes a field trip to the shore and a quiz.	Level 3 - 5 Marine Day Sea Shores exploration Students will explore the marine environment and learn about the different types of marine life. The activity includes a field trip to the shore and a quiz.
Level 3 - 4 The Marine Road Show Students will learn about the marine environment and the different types of marine life. The activity includes a quiz and a drawing competition.	Level 3 - 4 The Marine Road Show Students will learn about the marine environment and the different types of marine life. The activity includes a quiz and a drawing competition.
Level 3 - 5 How Big? Students will learn about the different types of marine life and how they are suited to their environment. The activity includes a quiz and a drawing competition.	Level 3 - 5 How Big? Students will learn about the different types of marine life and how they are suited to their environment. The activity includes a quiz and a drawing competition.
Level 3 - 5 Sharks inside and out Students will learn about the different types of marine life and how they are suited to their environment. The activity includes a quiz and a drawing competition.	Level 3 - 5 Sharks inside and out Students will learn about the different types of marine life and how they are suited to their environment. The activity includes a quiz and a drawing competition.
Level 3 - 5 Plankton and the ocean biomes Students will learn about the different types of marine life and how they are suited to their environment. The activity includes a quiz and a drawing competition.	Level 3 - 5 Plankton and the ocean biomes Students will learn about the different types of marine life and how they are suited to their environment. The activity includes a quiz and a drawing competition.

This resource supports NZC Science Level 3/4

NATURE OF SCIENCE: UNDERSTANDING ABOUT SCIENCE: Appreciate that science is a way of explaining the world and that science knowledge changes over time.

- LIVING WORLD: ECOLOGY: Explain how living things are suited to their particular habitat and how they respond to environmental changes, both natural and human induced.
- LIVING WORLD: LIFE PROCESSES: Recognise that there are life processes common to all living things and that these occur in different ways.

Contact details

The New Zealand Marine Studies Centre, University of Otago, offers marine education programmes and resources for primary and secondary schools in southern New Zealand.

T: 03 479 5826

E: marine-studies@otago.ac.nz

W: www.marine.ac.nz

The Science Learning Hub provides resources for teachers for school years 5-10. It is developed by educators and teachers in collaboration with New Zealand scientists and funded by the Ministry of Science and Innovation (MSI).

T: 0800 023 579

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W: www.sciencelearn.org.nz