

MARINE FOOD WEBS

OVERVIEW

Many of the creatures that live together [community] in a habitat are connected in predator – prey relationships. These relationships can be shown simply as a food chain.

Food webs, are a more complex and realist way of showing these relationships. In a food web, energy and nutrients [in the form of food] are passed from one living thing to another.

Food chains and food webs are affected by overfishing. When one species is drastically reduced in number this has a knock-on effect for the remainder of the community.

These activities deepen understanding of food chains and food webs and the interdependence of species through food web relationships. We also explore the impact that overfishing can have on other marine species / communities.

See accompanying slide sets [Marine food webs](#).

FOCUS QUESTIONS

- *What is a food web and how can overfishing affect food webs?*
- *What new words and concepts have we learnt?*

LEARNING OBJECTIVES

- Describe the concept of food web and the effect unsustainable fishing has on food webs
- Use scientific and fisheries related vocabulary

LOCATION

Indoors

DURATION

45+ minutes

LEVEL

Level 3 - 5

CURRICULUM

Science

Pūtaiao

NEXT STEPS

- Sustainable fishing:
Orange Roughy
- Marine Ecology:
Reviewing key concepts



MATERIALS

- Slide set [Fish species and food webs](#)
- This [Teacher Outline](#)
- Access to the internet (for film clip)
- Something to write with and on
- Materials to play [String game NZ](#) [scissors; organism labels; ball of string and hole punch]
- Materials to play [Food web games](#) [desks or pads to write on; white board markers or pencils; copies of predator-prey table and creature cards; scissors]

PROCEDURE

1. DISCUSS how creatures are connected in communities via predator / prey relationships. These relationships can be shown as simple food chains [slide 35].
2. INVESTIGATE food webs as a more realistic way of showing interrelationships and interdependence of marine species [slide 36].
3. WATCH the short film on [food webs](#) [2:06] [slide 37].
4. String games are a great way of introducing the idea of connections between organisms in a food web. PLAY [String game NZ](#). Organism name cards are provided (see [String game NZ](#)). Two different games are described, and a range of scenarios provided.
5. PLAY [Food web game!](#) In this activity we build a food web. Understanding food webs is important to help predict the potential impact on a community if a new species is introduced or a species lost (e.g. through overfishing, pollution or climate change). A table illustrating the predator prey relationships is provided as part of the game along with creature cards (see [Food web game](#)).
6. EXTEND by visiting the Department of Conservation [food web activities, templates and vocabulary help](#).
7. PLAY the online [food web game](#) [slide 37].
8. CONSIDER what happens when large numbers of one type of animal are removed from a habitat? WATCH the short [Pew film](#) [1:35] about the removal of sharks and the impact this had on other members of the marine community.

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9. Take a virtual or real-life lesson to deepen understanding of food webs with [National Aquarium on New Zealand](#).

KEY WORDS

Community	Prey
Predator	Habitat
Food chain	Food web

CURRICULUM LINKS

Nature of Science (Level 3-5)

- Investigating in science
- Communicating in science
- Participating and contributing

Living World (Level 3-5)

- Ecology
- Life processes

Science (Level 6+)

- Participating and Contributing
- Ecology
- Life processes

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- *The Natural World: The Organism:* Recognise that there are biological processes common to all organisms, which occur in different ways in different species. *The Biological Environment:* Recognise and explain the changes undergone by species (especially those of Aotearoa) over long periods of time (Level 4+)
- *The Natural World: The Biological Environment:* Investigate the effect of human actions, and natural processes, on an Aotearoa ecosystem (Level 6+)