

NZ Curriculum:

Key competencies

Thinking; Managing Self; Relating to others

Science

Level 3: *The Nature of Science:*

Participating and contributing:

Use their growing science knowledge when considering issues of concern to them. *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.

Level 4: *The Nature of Science:*

Participating and contributing:

Use their growing science knowledge when considering issues of concern to them.

Level 5: *The Nature of Science:*

Participating and contributing:

Develop an understanding of socio-scientific issues by gathering relevant scientific information in order to draw evidence based conclusions and take action where appropriate. *Living World: Ecology:* Investigate the interdependence of living things (including humans) in an ecosystem.

NZ Curriculum: Social Sciences

Level 3: Understand how people make decisions about access to and use of resources differently.

Level 4: Understand how producers and consumers exercise their rights and meet their responsibilities.

Level 5: Understand how people's management of resources impacts on environmental and social sustainability.

This resource can also be used to support the teaching of Achievement Objectives in:

- Te Reo Māori
- English
- Maths

And as background information for:

Geography

Level 6, 7, 8: Geographic research
Contemporary New Zealand geographic issue
Geographic topic at a global scale
Application of geographic concepts

Te Marautanga o Aotearoa

Pūtaiao Level 4+: Uses of Science

Level 4+: Philosophy and History of Science

Level 4+: The Natural World

Tikanga-ā-iwi

Level 4+: Kotahi tonu te matua o te tangata Māori, ko Ranginui e tū nei, ko Papa-tū-ā-nuku e takoto nei. (Place and environment)

Level 4+: E tama, e hine, tangata i ākōna ki te whare, tū ana ki te marae, tau ana (The Changing World)

Level 4+: E kore e ngaoko te rākau ki te tīkina i te pūtake whakangaoko ai engari, me tiki ki te matamata (The Economic World)

Hauora Level 3+: Relationships to earth and sky (natural environments)

LEARNING OBJECTIVES:

- LO1 Describe the importance (to me) of the sea and sea creatures
- LO2 Explain 'overfishing' and how it impacts people and / or environments
- LO3 Describe who the Marine Stewardship Council are and what they promote
- LO4 Explain the meaning of the Marine Stewardship Council's blue fish tick label
- LO5 Explain 'sustainable fishing' and how it impacts on people and environments
- LO6 Use scientific and fisheries related vocabulary

CONCEPTUAL UNDERSTANDINGS:

1. The sea is important to our survival on the planet and in different ways we all have a connection to the sea and creatures that live there (LO1)
2. Overfishing impacts on environments and people (LO2)
3. The Marine Stewardship Council are an international non-profit organisation who promote sustainable fishing (LO3)
4. The Marine Stewardship Council blue fish tick label certifies that a fish has been caught from a sustainable fishery (LO4)
5. Sustainable fishing reduces the impact of fishing on environments and people (LO5)
6. Specialised words and terms are used in fishery management and science

POSSIBLE WONDERINGS:

- How do know if a fish has been caught sustainably?
- What can I do to help end overfishing?
- Who are the Marine Stewardship Council?
- How does overfishing affect other sea life?

POSSIBLE ACTIONS:

- LOOK for the Marine Stewardship Council blue fish tick when you buy fish
- ASK whānau – do they know about overfishing and the Marine Stewardship Council?
- SHARE your new knowledge with whānau - have they seen the blue fish tick labels? What do they mean?
- MAKE a poster to educate people about overfishing and blue fish tick label

LESSON 1: IMPORTANCE OF SEA TO US [FOCUS QUESTION: Why is the sea important for me? How am I connected with the sea?]

- DISCUSS whakapapa & connectedness to sea according to te ao Māori [slide 9]
- SHARE recent connections with the sea & kai moana [slide 9]
- EXPLORE importance of the sea to us [slide 10]. Extend learning using [true false cards](#) [Teacher Outline]
- READ National Geographic Resource Library: 'Ocean' and complete [Kahoot QUIZ](#) [Teacher Outline]
- CATEGORISE different sea creatures and types of kai moana using [Ocean Connection Cards](#) & complete VENN DIAGRAM activity [Teacher Outline]
- TEST & GROW knowledge of te reo Māori & English marine life names using the [Sea Creature / Kararehe o te wai Cards](#) and [Kahoot](#) [Teacher Outline]
- RECORD & GRAPH favourite kai moana [Teacher Outline]
- READ [Whaitere – the enchanted stingray](#) or [Whaitere – te whai ātahu](#) story & explore idea of kaitiakitanga. Take a [Kahoot QUIZ](#) [slide 11]

LESSON 2: OVERFISHING [FOCUS QUESTION: What is overfishing? What impact does overfishing have?]

- DISCUSS the idea of overfishing and the impacts of overfishing [slides 12 and 13]
- Use [Overfishing cards](#) (warm up picture & idea cards) to COMPARE a sustainably vs overfished ocean [See [Teacher Outline](#)]
- BRAINSTORM what we already know about overfishing [slide 14]
- WATCH a short MSC film [2:55] about [overfishing](#).
- CONSIDER reasons why fish and marine life have declined [slide 15]
- Add new knowledge to [Overfishing Prior Knowledge Chart](#) [slide 14]
- DEFINE key terms, explore definitions and how overfishing affects population sizes [see slides 16 and 17].
- WRITE definitions of key terms (fishery, sustainable fishing, overfishing...) [Teacher Outline]
- CREATE a diagram showing how overfishing affects the size of a fish population [Teacher Outline]

LESSON 3: BLUE FISH TICK [FOCUS QUESTION: who are the Marine Stewardship Council? What does the blue fish tick label mean?]

- INVESTIGATE who are the [Marine Stewardship Council](#) & what does the [blue fish tick label](#) mean? [slides 18 & 19]
- WATCH short films about [blue fish tick label](#) [0:48] [slide 18] and [Marine Stewardship Council and sustainable fishing](#) [1:30] [slide 19]
- Learn more about why we need the Marine Stewardship Council and the blue fish tick label using the [Oceans at Risk worksheet](#) and complete the [Kahoot Quiz](#) [slide 19]
- VISIT a supermarket and conduct the [supermarket survey](#) [slide 20] [see also [Teacher Outline](#)]

LESSON 4: SUSTAINABLE FISHING & REVIEWING KEY CONCEPTS [FOCUS QUESTION: What is sustainable fishing? What new words & concepts have we learnt?]

- CONSIDER what [sustainable fishing](#) means (according to the Marine Stewardship Council) [slide 21]
- WATCH the award winning Marine Stewardship Council film [My Dad the Fisherman](#) [14:46] and complete the [Kahoot QUIZ](#) [slide 22]
- EXPLORE more deeply some fishing unsustainable practices [slide 23]
- WATCH short film [1:00] about [bycatch and how it can be managed](#). Reinforce learning using [Unsustainable fishing cards](#) [slide 23]
- INVESTIGATE how Marine Stewardship Council deals with unsustainable practices [see also teacher notes in notes below slide 24] [slide 24]
- EXPLORE what sustainable fishing looks like in Aotearoa NZ [slide 25]
- CONSIDER [principles used by the Marine Stewardship Council](#) to determine sustainable fishing [slides 26 & 27]
- RE-WATCH [14:46] [My Dad the Fisherman](#) [slide 28]
- WRITE words and phrases to do with 'sustainable oceans'. Create an infographic for one word/phrase [slide 28]
- REVIEW this entire topic using the summary quiz on [Kahoot](#) [slide 29]
- CREATE ANIMATION about sustainable fishing using key terms from [Key Term Worksheet](#) [slide 29]
- Find out more in the [Teacher Outline](#)

KEY WORDS AND CONCEPTS (FOR TEACHERS)

<u>Fishery</u>	An organized effort by humans to catch fish or other aquatic species, an activity known as fishing
Tūpuna	Ancestors
Kaitiakitanga	Guardianship / Stewardship / Custodianship
Kaitiaki	Guardian / Custodian
Overfishing	<u>Overfishing</u> happens when the number of fish being taken out is much greater than the number of fish being added
Taonga	Treasure, anything prized - applied to anything considered to be of value including socially or culturally valuable objects, resources, phenomenon, ideas and techniques (see www.maoridictionary.co.nz)
Whakapapa	Genealogy, genealogical table, lineage, descent - reciting <i>whakapapa</i> was, and is, an important skill and reflected the importance of genealogies in Māori society in terms of leadership, land and fishing rights, kinship and status. It is central to all Māori institutions (see www.maoridictionary.co.nz)
Kai moana	Seafood, shellfish
Marine	Anything to do with the sea!
Rohe moana	Tangata whenua defined customary fishing area
Blue fish tick label	The <u>Marine Stewardship Council label</u> shown on fishery products certifying that these products come from a sustainable source
Tikanga	Correct procedure, custom, habit, lore, method
Sustainable fishing	<u>Sustainable fishing</u> means looking after the environment where fish live and not overfishing. Sustainable fishing means leaving enough fish in the ocean, respecting habitats and ensuring people who depend on fishing can maintain their livelihoods.
Migration	The movement of fish in and out of a stock or population of fish.
Sea	The expanse of salt water that covers most of the earth's surface and surrounds its land masses.
Ocean	A very large expanse of sea. In particular each of the main areas into which the sea is divided geographically.