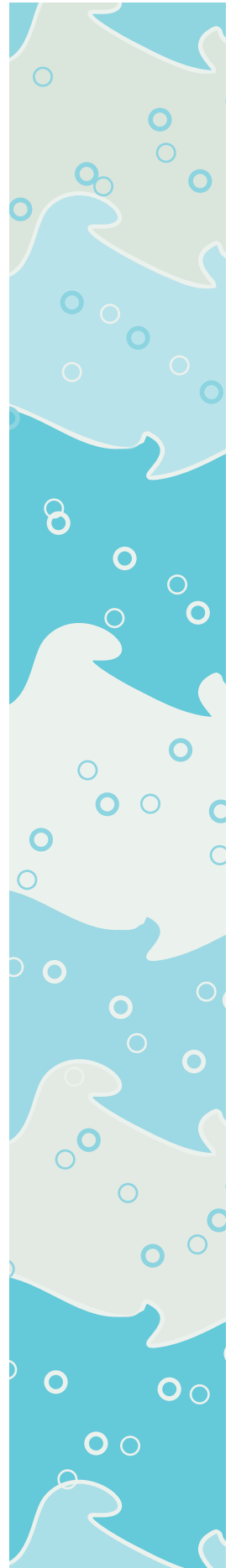


Starfish  STUDENT & TEACHER RESOURCE

Learning Outcomes & Curriculum Links



Photo: S Cushman





Learning Outcomes & Curriculum Links

As an island nation, many New Zealanders have strong connections with the sea. Whether swimming, surfing, lying on the beach, exploring the rocky shore or fishing, the ocean plays a huge role in our national identity. Commercially, our fisheries earn the country more than \$1.3 billion annually – fishing is one of our key primary industries. As well as this, our fisheries are a major source of food, whether as fish and chips on a Friday night, delicious kaimoana on the marae, or a salmon steak on the barbie.

Making sure that our oceans and fisheries are healthy and sustainable into the future is of vital importance to all New Zealanders. This resource aims to teach children why, and the role that they can play in making sure there are fish for the future.

This resource has been designed for teachers of students in years 7 to 10.

It aims to:

- Foster an appreciation of New Zealand's place in the economic world, and in particular gain an understanding of New Zealand fisheries.
- Provide students with an opportunity to consider the impact of humans on distinctive ecosystems, focussing specifically on marine and coastal communities.
- Explore with students the importance of balancing rights, roles and responsibilities and of contributing to the quality and sustainability of social, cultural, physical and economic environments.
- Explore with students their understanding of the role of kaitiaki, or guardian of New Zealand's natural resources.

The fourteen fact sheets and activities in this resource provide students with Social Sciences, Science and English learning experiences at levels 3, 4 and 5 of the New Zealand Curriculum framework.

The following outcomes express the intended learning from the activities in this resource.

Students will be able to:

- Define what a fishery is
- Identify some of the key fish species in NZ waters
- Identify and explain who the key stakeholder groups in fisheries are
- Demonstrate knowledge and understanding of why fisheries need managing and of how fisheries can be managed
- Give specific examples of how a fishery is managed, including laws and international agreements
- The importance of fishing in New Zealand's current and future economies
- Demonstrate an awareness of the impact of fishing on the environment
- Explain why the role of kaitiaki or guardian of New Zealand's natural resources is the responsibility of all new Zealanders

This resource focuses on students being:

(See page 8 *The New Zealand Curriculum – Vision*)

Connected	Connected to the land and environment Members of communities
Actively involved	Contributors to the well-being of New Zealand – social, cultural, economic and environmental
Lifelong Learners	Critical and creative thinkers Active seekers, users and creators of knowledge Informed decision makers

This resource fosters in particular the principles of:

(See page 9 *The New Zealand Curriculum – Principles*)

- The **Treaty of Waitangi** and the bicultural foundations of Aotearoa New Zealand – acknowledging the principles of the Tiriti and providing students with knowledge of Te Reo Maori me ona tikanga
- **Community engagement** – connecting students with their communities
- **Coherence** – making links within and across learning areas
- **Future focus** – encouraging students to look to the future by exploring issues such as sustainability, citizenship, enterprise and globalisation

This resource fosters the following key values of:

(See page 10 *The New Zealand Curriculum – Values*)

- **Innovation, inquiry and curiosity** by thinking critically, creatively and reflectively;
- **Community and participation** for the common good;
- **Ecological sustainability**, which includes care for the environment





The New Zealand Curriculum identifies five key competencies:

(See page 12 *The New Zealand Curriculum – Key Competencies*).

The Curriculum notes that people use these five competencies to live, learn, work, and contribute as active members of their communities. This resource fosters in students the five key competencies by:

- **Thinking** – students will make use of creative and critical processes to make sense of information, experiences and ideas. These processes can be applied to purposes such as developing understanding, making decisions or constructing knowledge.
- **Using language, symbols, and texts** – students will use language and symbols as systems for representing and communicating information, experiences and ideas. Students will demonstrate that they are able to use ICT to access and provide information and to communicate with others.
- **Managing self** – students will see themselves as capable learners, manage their work, able to complete self assessments and set themselves high standards.
- **Relating to others** – students will work effectively together to come up with new approaches, ideas and ways of thinking.
- **Participating and contributing** – students will understand the importance of balancing rights, roles and responsibilities and will contribute to the quality and sustainability of social, cultural, physical and economic environments.

Linking this resource's activities with the curriculum:

Supporting Activities:

Activity in this resource	Linked to the Social Sciences learning area	Linked to the Science learning area	Linked to the English learning area
1 - What do we know about fishing in NZ?	✓		
2 - Protecting our Coastal Waters	✓	✓	
3 - Te Reo Maori	✓		
4 - Tony Ryan's Thinking Keys			✓
5 - Environmental Impacts	✓	✓	
6 - Silent Card Shuffle	✓	✓	✓
7 - Vocabulary Activities	✓	✓	✓
8 - 3 Minute Masters			✓
9 - 3-2-1			✓
10 - Sum it up!			✓
11 - Catch Only What You Need	✓	✓	
12 - What do you think? - writing persuasively	✓	✓	✓





Activities related to specific factsheets:

Activity in this resource	Linked to the Social Sciences learning area	Linked to the Science learning area	Linked to the English learning area
13 - Highly Migratory Species of Fish		✓	✓
14 - Learning from the Past	✓		
15 - Managing Our Fisheries	✓	✓	
16 - Fish for the Future	✓	✓	
17 - Paua Sniffer Dogs	✓	✓	
18 - Poaching	✓	✓	✓
19 - Paua Preservation	✓	✓	
20 - Protecting Our Paua	✓	✓	
21 - Fishing Methods	✓	✓	
22 - Working Together	✓		
23 - Getting to terms with it all!	✓	✓	✓
24 - Fishery Officers	✓		✓
25 - What is a Fishery?	✓	✓	
26 - Ecosystems and Food Chains		✓	
27 - Marine Reserves	✓	✓	✓
28 - We Can All Make a Difference	✓	✓	✓
29 - Observers	✓		
30 - By-catch	✓	✓	
31 - Tiriti O Waitangi	✓		✓
32 - Fishing Zones	✓		✓
33 - Fish the Family Dish	With links to the Health and Physical Education learning area of the New Zealand Curriculum		✓
34 - Resource Conflict	✓	✓	

This resource specifically meets learning area statements in Social Sciences, Science and English.

Learning Area <i>(refer to the New Zealand Curriculum, 2007)</i>	Level 3	Level 4	Level 5
Social Sciences	<p>Students will gain knowledge, skills and experience in:</p> <ul style="list-style-type: none"> Understand how people view and use places differently Understand how people make decisions about access to and use of resources 	<p>Students will gain knowledge, skills and experience in:</p> <ul style="list-style-type: none"> Understand how producers and consumers exercise their rights and meet their responsibilities Understand how exploration and innovation create opportunities and challenges for people, places and environments 	<p>Students will gain knowledge, skills and experience in:</p> <ul style="list-style-type: none"> Understand how economic decisions impact on people, communities and nations Understand how people's management of resources impacts on environmental & social sustainability Understand how people seek and have sought economic growth through business, enterprise and innovation
Science	<p>Participating and Contributing:</p> <ul style="list-style-type: none"> Students will use their growing science knowledge when considering issues of concern to them Students will explore various aspects of an issue and make decisions about possible actions. <p>Living World: Students will:</p> <p>Ecology</p> <ul style="list-style-type: none"> Explain how living things are suited to their particular habitat and how they respond to environmental changes both natural and human-induced 	<p>Participating and Contributing:</p> <ul style="list-style-type: none"> Students will use their growing science knowledge when considering issues of concern to them Students will explore various aspects of an issue and make decisions about possible actions. <p>Living World: Students will:</p> <p>Ecology</p> <ul style="list-style-type: none"> Explain how living things are suited to their particular habitat and how they respond to environmental changes both natural and human-induced 	<p>Participating and Contributing:</p> <ul style="list-style-type: none"> Students will develop an understanding of socio-scientific information in order to draw evidence-base conclusions and to take action where appropriate <p>Living World: Students will:</p> <p>Ecology</p> <ul style="list-style-type: none"> Investigate the interdependence of living things (including humans) in an ecosystem





English

Listening, Reading and Viewing

Processes and strategies

Students will integrate sources of information, processes and strategies with developing confidence to identify, form, and express ideas.

- Students will integrate sources of information and prior knowledge with developing confidence to make sense of increasingly varied and complex text
- Students will think critically about texts
- Students will use a range of processing and comprehension strategies

Speaking, Writing and Presenting

Processes and strategies

Students will integrate sources of information, processes and strategies with developing confidence to identify, form, and express ideas.

- Students will use a developing understanding of the connection between written and visual language when creating text
- Students will create a range of texts by integrating sources of information and processing strategies

Listening, Reading and Viewing

Processes and strategies

Students will integrate sources of information, processes and strategies with developing confidence to identify, form, and express ideas.

- Students will integrate sources of information and prior knowledge with developing confidence to make sense of increasingly varied and complex text
- Students will think critically about texts
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Processes and strategies

Students will integrate sources of information, processes and strategies with developing confidence to identify, form, and express ideas.

- Students will use a developing understanding of the connection between written and visual language when creating text
- Students will create a range of texts by integrating sources of information and processing strategies

Listening, Reading and Viewing

Processes and strategies

Students will integrate sources of information, processes and strategies with developing confidence to identify, form, and express increasingly sophisticated ideas.

- Students will integrate sources of information and prior knowledge with developing confidence to make sense of increasingly varied and complex text
- Students will think critically about texts with understanding and confidence
- Students will select and use appropriate processing range of processing and comprehension strategies with confidence

Speaking, Writing and Presenting

Processes and strategies

Students will integrate sources of information, processes and strategies with developing confidence to identify, form, and express ideas.

- Students will use an increasing understanding of the connection between written and visual language when creating text
- Students will create a range of increasingly varied texts by integrating sources of information and processing strategies

Supporting Your Students to Read the Fact Sheets

Activities **3-2-1**, **3 Minute Masters** and **Sum it Up!** are included as possible ways teachers can help their students to access all the information in the fact sheets. Some students will benefit from the fact sheets introduced to them as shared reading material. Shared reading can enable students to make meaning of texts that are too challenging for guided or independent reading. Shared reading can be used with both large and small groups.

In shared reading the teacher and the students read together. The teacher takes the greater responsibility for the reading and reads the text aloud. The teacher support enables the students to understand complex texts that they might not be able to read silently to themselves.

As the teacher and students read together they are able to:

- Access information from the text to help them make meaning
- Discuss unfamiliar vocabulary
- Think critically about the content of the text
- Become familiar with the structures of transactional texts

Students who are new learners of English will be able to participate more confidently if a shared reading approach is adopted by the teacher.

Refer to *Effective Literacy Practice in years 5 to 8*, Ministry of Education, 2006 pages 98 – 104.





Assessment Tasks Suitable for this Unit of Study

During this unit's focus a number of the following assessment tasks could be planned for:

Diagnostic Assessments

- **What do we Know about Fishing in New Zealand?**
This task could be undertaken at the start of the unit to gauge students' current knowledge about fishing in New Zealand.
- **Silent Card Shuffle** – key concepts and vocabulary students will encounter in this unit's focus.
- **Exploring Relationships**
NZCER Assessment Resource Bank (ARB) task LW 2061 to provide diagnostic and/or formative assessment information on the students' understandings of interactions in an ecosystem.
- **Protecting our Coastal Waters**
This task could be undertaken as both a diagnostic and summative assessment to track students' understandings of why our waters and fisheries need managing to ensure sustainability.
- **Resource Conflict**
This task could be undertaken as both a diagnostic and summative assessment to track students' understandings of how there can be conflicting uses of our waters and fisheries.
- **Persuasive writing** – students can write a persuasive writing sample at the start of this unit using one of the statements in the writing task. Teachers can gain diagnostic information on their students' persuasive writing skills using a matrix of the surface and deeper features of a piece of persuasive writing. Teachers can use this diagnostic information to plan future writing lessons and give individual feedback to students.

Formative Assessments

- **What do we know about Fishing in New Zealand?**
This task could be undertaken midway through the unit to follow students' new knowledge about fishing in New Zealand.
- NZCER Assessment Resource Bank (ARB) tasks levels 2 – 5 that assess student understandings on food chains and food webs.
- **Exploring Relationships**
NZCER Assessment Resource Bank (ARB) task LW 2061 to provide diagnostic and/or formative assessment information on the students' understandings of understandings of interactions in an ecosystem.
- Persuasive writing - using a matrix of the surface and deeper features in persuasive writing teachers can give formative feedback to students

Self and Peer Assessments

Any task where an agreed and shared set of criteria have been created with the students can be used not only as a self or peer evaluation by the students but also by the teacher as a summative task to give specific feedback against the criteria for a given task.

- **Highly Migratory Fish Species – designing a fact sheet**

Students can use the agreed success criteria for a brochure or A3 poster to evaluate their own work.

The same criteria can be used as a peer evaluation by students. Each student can give a peer feedback on their completed work noting strengths and weaknesses and next steps.
- **Sum it Up! – A3 poster**

Students can use the agreed success criteria for a poster to evaluate their own work.

The same criteria can be used as a peer evaluation by students. Each student can give a peer feedback on their poster noting strengths and weaknesses and next steps.
- **Marine Reserves**

Students can use the agreed success criteria evaluate their own research work.

The same criteria can be used as a peer evaluation by students. Each student can give a peer feedback on their research noting strengths and weaknesses and next steps.
- **We can all make a difference – a PowerPoint presentation**

Students can use the agreed success criteria for a PowerPoint presentation to evaluate their own work.

The same criteria can be used as a peer evaluation by students. Each student can give a peer feedback on their PowerPoint presentation noting strengths and weaknesses and next steps.
- **Fish the Family Dish**

Students can self -evaluate the fish dish they chose to cook.
- **By-catch**

Students can use the agreed success criteria evaluate their own research work.

The same criteria can be used as a peer evaluation by students. Each student can give a peer feedback on their research noting strengths and weaknesses and next steps
- **Poaching**

Students can use the agreed success criteria evaluate their own research work.

The same criteria can be used as a peer evaluation by students. Each student can give a peer feedback on their research noting strengths and weaknesses and next steps
- **Persuasive writing**

Students can use the matrix of the surface and deeper features in persuasive writing to self evaluate their own persuasive writing or give feedback to a peer.





Summative Assessments

- **What do we know about fishing in New Zealand?**

This task could be undertaken as a summative assessment at the end of the unit to compare students' knowledge about fishing in New Zealand.
- NZCER Assessment Resource Bank (ARB) tasks levels 2 – 5 that assess student understandings on food chains and food webs.
- **Protecting our Coastal Waters**

This task could be undertaken as both a diagnostic and summative assessment to track students' understandings of why our waters and fisheries need managing to ensure sustainability.
- **We can all make a difference – a PowerPoint presentation**

Teachers can use the agreed success criteria for a PowerPoint presentation to evaluate each of their students' work.
- **Resource Conflict**

This task could be undertaken as both a diagnostic and summative assessment to track students' understandings of how there can be conflicting uses of our waters and fisheries.
- **By-catch**

Teachers can use the agreed success criteria for the presentation of this research work to evaluate each of their students' work.
- **Persuasive Writing**

A comparative persuasive writing sample can be taken – teachers can moderate this second piece of writing using the matrix of the surface and deeper features in persuasive writing.

Using This Resource

The sequence of activities in this resource can be altered to suit both teacher and student requirements. Teachers do not have to plan to use all the activities but can instead plan smaller units of work from the activities in this resource.

Supporting Ministry of Education documents:

- The New Zealand Curriculum* for English-medium teaching and learning in years 1 – 13, Ministry of Education, November 2007
- Thinking Globally 1: New Zealand in the Economic World – a social sciences resource for year 1 – 8 teachers, Ministry of Education, 2007
- Effective Literacy Practice in years 5 to 8, Ministry of Education, 2006
- Guidelines for Environmental Education in New Zealand Schools, Ministry of Education, 1999
- Social Studies in the New Zealand Curriculum, Ministry of Education, 1997
- English in the New Zealand Curriculum, Ministry of Education, 1994
- Science in the New Zealand Curriculum, Ministry of Education, 1993
- The New Zealand Curriculum Exemplars: English, Ministry of Education, 2003