Nelson / Marlborough / Tasman region

Photo credit: Rick Field

Marine Discoveries for Schools

Join scientists from the NZ Marine Studies Centre* and explore the diverse marine environments in Te Tau Ihu o Te Waka a Māui.

Our 2023/24 programmes are hands-on and designed to immerse students in learning about their local environment.

*NZ Marine Studies Centre is an **Enriching Local Curriculum** (ELC) provider for the Nelson, Marlborough & Tasman regions

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UNIVERSITY of OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND

Programmes for 2023 and 2024

Our programmes are designed to support and complement what is happening in your classroom. We are an ***Enriching Local Curriculum (ELC) provider*** *for the Nelson, Marlborough, and Tasman regions and are keen to work with you to tailor learning experiences that enhance your local curriculum.*

Below are descriptions of each programme. More information on the availability of programmes in 2023/24 and curriculum links can be found on page 6 & 7. A selection of these unique programmes is available on-line and can be found on page 8. Please note that the prices quoted are for NZ schools only and do not include GST. We are happy to adapt these programmes for other interested groups.

EARLY CHILDHOOD (3 to 5 years of age)

Super sea stars

Designed especially for younger children aged 3 to 5 years, this programme encourages exploration of the marine environment through stories, waiata and play. Hands-on experiences are provided through marine models, puppets, art, puzzles, discovery boxes and encounters with seashore species. **Super sea stars** has the flexibility and scope to be experienced as a multiple session programme over two to five weeks.

Location: Classroom **Duration**: 1 hour **Price**: $50 per session

PRIMARY LEVEL (Year 1 & 2)

Seashore explorers

This programme encourages exploration of the marine environment through story, waiata, hands-on activities and puppets. The students will be introduced to some live seashore species. They will be shown how to handle the creatures and learn about how to respect and care for them. They will discover their unique adaptations and what they need to survive and thrive. **Seashore explorers** has the flexibility and scope to be experienced as a multiple session programme over two to five weeks.

Location: Classroom **Duration**: 1 hour **Price**: $50 per session

PRIMARY LEVEL (Year 3, 4, 5, 6, 7 & 8)

Seashore Studies

Uncover the secrets on the seashore by peeking under rocks and in tide pools. Find the crabs, snails, seaweed, and other animals that live on the shore. Investigate and understand why marine animals live where they do. Use survey techniques to count and identify the plants and animals in a 1m x 1m square of the shore. The class will collect valid and reliable data that will then be uploaded to the national database (Mm2.net.nz), contributing to the Citizen Science Marine Metre Squared project. You will be able to compare your findings with other school classes throughout Aotearoa New Zealand. Real science for real people!

Location: Local seashore **Duration**: 2 hours (tide dependent). **Price**: $4 per student

Download full information about the Intertidal Studies and Marine Metre Squared programme (PDF file, 110 KB)

PRIMARY LEVEL (Year 5, 6, 7 & 8)

Science Skills for Seashore Studies

Inspire your class to think like scientists. Engage them in real life scientific procedures. This is a hands-on session will help students develop science skills that are useful for field work. Through engaging in a series of activities, the children will be introduced to scientific language, appropriate equipment to gather relevant and reliable data, cooperative teamwork, safe and ethical practices for surveying and sampling in a coastal environment, observation and identification skills, measurement and recording data. The skills gained will be useful for any seashore monitoring project, e.g. Marine Metre Squared (Mm2) and is a good precursor to any seashore field trip or camp.

Location: Classroom **Duration**: 1 hour **Price**: $4 per student

Supper in the Sea

Kei te hiakai koe? Are you hungry? The race is on to find food! How do marine predators use their senses to locate food? What adaptations do they have to help them survive in the intertidal region? Can we build a food chain and then a food web? We will investigate a host of questions using photographs, videos, preserved and live specimens. We will plan and carry out an experiment to investigate the time it takes for marine snails to find food. This can be extended into a full 2-hour science investigation, including data processing and presentation.

Location: Classroom **Duration**: 1 to 2 hours **Price**: $4 per student per hour

Mighty Molluscs

Students will survey the intertidal zone to identify species using NZMSC seashore guides and a mixture of live, preserved and online resources. What are the differences and similarities between rocky shores in different regions of Aotearoa New Zealand? How does your local seashore differ? What is a mollusc? Discover the characteristics that link snails, chitons, clams, octopus and more. How do marine snails and other species survive in the intertidal region of the seashore? How do changes in our ocean affect marine snails? There is the option of conducting an experiment to look at the response of marine snails to changes in temperature and pH. This can be extended into a full 2-hour science investigation, including data processing and presentation.

Location: Classroom **Duration**: 1 to 2 hours **Price**: $4 per student per hour

PRIMARY LEVEL (Year 7 & 8)

Virtual Reality: Exploring our marine environment.

Students will be guided through marine environments around Aotearoa New Zealand and be asked to **compare** northern marine environments with ones in the deep south, and pristine marine environments with degraded ones. Ākonga will then **investigate** what causes this damage with a focus on overfishing and pollution. Finally, students will **collaborate** to produce an action plan that shows kaitiakitanga (guardianship) and protection of the moana (ocean).

Location: Classroom **Duration:** 1.5 hours

(Please see additional information for all VR programmes and cost on page 5).

SECONDARY LEVEL (Year 9 & 10)

Science Skills for Seashore Studies

Inspire your class to think like scientists. Engage them in real life scientific procedures. This is a hands-on session will help students develop science skills that are useful for field work. Through engaging in a series of activities, the children will be introduced to scientific language, appropriate equipment to gather relevant and reliable data, cooperative teamwork, safe and ethical practices for surveying and sampling in a coastal environment, observation and identification skills, measurement and recording data. The skills gained will be useful for any seashore monitoring project, e.g. Marine Metre Squared (Mm2) and is a good precursor to any seashore field trip or camp.

Location: Classroom **Duration**: 1 hour **Price**: $4 per student

Seashore Studies

Uncover the secrets on the seashore by investigating and understanding why marine species live where they do. Students are introduced to the intertidal environment and identification of the most common intertidal species. They will learn survey techniques to count and identify the species in a 1m x 1m square of the shore. The class will collect valid and reliable data that will then be uploaded to the national database (Mm2.net.nz), contributing to the Citizen Science Marine Metre Squared project. You will be able to compare your findings with other school classes throughout Aotearoa New Zealand.

Location: Local seashore **Duration**: 2 hours (tide dependent). **Price**: $4 per student

Download full information about the Intertidal Studies and Marine Metre Squared programme (PDF file, 110 KB)

Tangaroa's Treasures

How are green lipped mussels and pāua adapted to survive and thrive in Te Tau Ihu? What is their role in the moana? Why are they tāonga species? What are the characteristics of the mollusc family? Students will investigate how green lipped mussels function and take a closer look at their structure. They will design an experiment to measure the time it takes green lipped mussels to filter murky seawater. Ākonga can then calculate the filtration rate and present their findings. To increase their understanding, students can investigate the structure of the green lipped mussel by carrying out a dissection. Where do mussels and pāua like to live? How do they attach to rocks and the seafloor? How do they filter out plankton from the water? Is there a difference between males and females? Can we figure out how old a mussel is? What are the shells made of and what is their function?

Location: Classroom **Duration**: 1 to 2 hours **Price**: $4 per student per hour

Virtual Reality: Exploring the diversity of marine mammals around Aotearoa New Zealand

Students will be guided around Aotearoa New Zealand and experience being near marine mammals in the moana / ocean. Ākonga will be asked to compare land and marine based mammals, such as the NZ sealion/ Rāpoka, Southern Right whales / Tohorā and humans. They will experience the social structure and interactions of marine mammals such as pilot whales and common dolphins. Students will then investigate how overfishing and noise pollution affects marine mammals, with a focus on migratory species. Finally, students will collaborate to produce an action plan that shows kaitiakitanga (guardianship) and protection of the moana.

Location: Classroom **Duration:** 1.5 hours

(Please see additional information for all VR programmes and cost on page 5).

SECONDARY LEVEL (NCEA Level 2 & 3)

Small animal study - Mussel Workshop (NCEA Level 3, Biology AS 91601)
This programme is run in conjunction with the Cawthron Institute and NMIT Aquaculture. Students are exposed to real research, in a real research facility with the support of real research scientists! Using aquaculture species, students can investigate one a wide variety of influences on their animals. How do small animals respond to temperature, light, salinity, chemical pollutants, substrates, algal concentration, pH, etc.
Location: Cawthron Aquaculture Park, Nelson **Duration**: 2 days **Price**: $15 per student
Download full information about the Small Animal Study (NCEA level 3, Bio 3.1) programme (PDF file, 159 KB)
Watch a video of Nelson College for Girls taking part in the programme.
Read an article about the 2023 workshops.

Virtual Reality: How does our brain make sense of a virtual world?
The use of VR headsets provides a novel context for a classroom psychology experiment supporting AS 91846 and 91874. People often expect a VR experience to mimic actual reality and that they will behave and react in a similar way to what they are seeing and hearing. Students can design experiments to investigate how experiencing a marine VR world affects humans physiologically and behaviourally.
Location: Classroom **Duration:** 1.5 hours
(Please see additional information for all VR programmes and cost below).


Photo credits: Motueka Guardian Newspaper, Cawthron Institute, Nayland College

Additional information about our Virtual Reality (VR) programmes for Year 7 - 13 students

Students will experience footage filmed by New Zealand Geographic using special cameras that provide a unique 360 degree visual and audial immersive encounter with marine and other environments around Aotearoa. VR is a novel and exciting classroom tool that provides the opportunity for everyone to experience life above, on and under the surface of the ocean. The class set of VR headsets are controlled by NZMSC staff, we are all watching the same videos at the same time. This is not 'entertainment' (although it is lots of fun!), all programmes have a specific educational purpose and are designed to enrich your local curriculum.

The **duration** of the programme is between 60 - 90 minutes and will be confirmed after discussions with kaiako. The **cost per day** is $320+GST (full day 3-4 VR sessions/classes) or $200+GST (half day 1-2 VR sessions/classes) to help support educator, equipment, and transport costs.

Please note: the prices quoted are for NZ schools only and do not include GST. We are happy to adapt these programmes for other interested groups. There may be a travel levy for programmes outside the Nelson City area.

Programme availability, curriculum connections and science capabilities

Year level	Programme	2023 - 2024 Availability	Curriculum connections & science capabilities
ECE	Super Sea Stars	School holidays Term 2 and 3	Exploration / Mana Aotūroa Communication / Mana Reo Belonging / Mana Whenua
1 and 2	Seashore Explorers	Term 1, 2, 3 & 4	Level 1 Nature of Science Living World Planet Earth and beyond 
3, 4, 5, 6	Sea Shore Studies*	Term 1 and 4	Level 1 - 3 Nature of Science Living World Planet Earth and beyond  * Opportunity for working at Level 1 - 3 within the Mathematics & Statistics curriculum.
5 and 6	Science skills for Marine Metre Squared	Term 1, 2, 3 & 4	
5 and 6	Supper in the Sea*	Term 1, 2, 3 & 4	
7 and 8	Virtual Reality: Exploring our marine environment	Term 1 & 4	Level 3 - 4 Nature of Science Living World Planet Earth and beyond  # Opportunity for working at Level 2 - 4 within the Mathematics & Statistics curriculum.
7 and 8	Science skills for Marine Metre Squared	Term 1, 2, 3 & 4	
7 and 8	Sea Shore Studies#	Term 1 and 4	
7 and 8	Mighty Molluscs#	Term 1, 2, 3 & 4	
9 and 10	Virtual Reality: Exploring the diversity of marine mammals around Aotearoa New Zealand	Term 1 & 4	Level 4 - 5 Nature of Science Living World Planet Earth and beyond  ^Opportunity for working at Level 3 - 5 within the Mathematics & Statistics curriculum.
9 and 10	Science skills for Marine Metre Squared	Term 1, 2, 3 & 4	
9 and 10	Sea Shore Studies^	Term 1 & 4	
9 and 10	Tangaroa's Treasures^	Term 1, 2, 3 & 4	

Science Capabilities Key

 Gather & interpret data  Use evidence  Critique evidence  Interpret representation  Engage with science

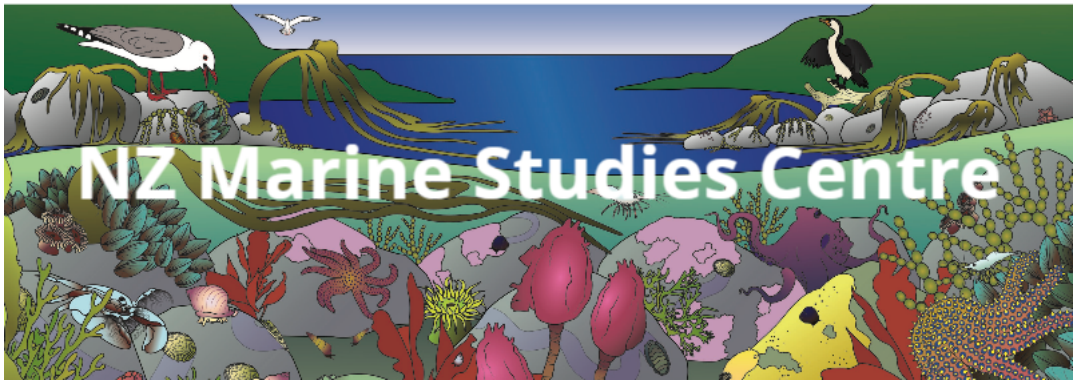
NCEA level	Programme	2023/24 Availability	Curriculum links & Achievement Standards
1, 2 & 3	Virtual Reality: Exploring our marine environment.	Term 1 & 4	Level 5 - 7 Nature of Science Living World Planet Earth and beyond
2 & 3	Plan and carry out an experiment to investigate how our brain interprets, processes, and adapts to a virtual world.	Term 1	Level 7 - 8 NCEA Level 2 Psychology 91846 Conduct psychological research with guidance NCEA Level 3 Psychology 91874 Conduct independent psychological research with consultation
3	Small animal study	Term 2	Level 8 NCEA Level 3 Biology 91601 Carry out a practical investigation in a biological context, with guidance

The New Zealand Marine Studies Centre, part of the University of Otago's Department of Marine Science, showcases marine life from Aotearoa New Zealand waters and provides expert knowledge and education about our marine environment. Our educational programmes involve students in the excitement of scientific discovery, help them develop knowledge and skills, and encourage individuals to take responsibility and action for the future of our ocean resource.

Please note: the prices quoted are for NZ schools only and do not include GST. We are happy to adapt these programmes for other interested groups. There may be a travel levy for programmes outside the Nelson City area.

The New Zealand Marine Studies Centre produces fact sheets, teacher guides, workbooks, activities and a range of Seashore ID Guides covering Northern and Southern New Zealand. Many of these resources are available in te reo Māori. These publications can be downloaded, free of charge, from www.marine.ac.nz.

In Te Tau Ihu o te Waka a Māui / Marlborough, Tasman and Nelson region the NZ Marine Studies Centre actively collaborates with BlakeNZ, Experiencing Marine Reserves Nelson/Tasman, Enviroschools Nelson, Enviroschools Tasman, Kaipupu Sanctuary, Ministry of Inspiration, Cawthron Institute, Nelson Marlborough Institute of Technology and Brook Waimārama Sanctuary



Online programmes available on our website

Online **Ocean Puppet Show!**
This fun and adventurous puppet show, developed and performed by Richard de Hamel, is guaranteed to put the "fun" into learning. Led by a rather hungry and at times grumpy Trumpeter fish, in Episode 1 students learn about the weird and wonderful strategies his marine friends use to find their food. Episode 2 has just been released and has a focus on camouflage. The puppet shows can be linked to a zoom session with an Aquarist at the NZ Marine Studies Centre. Early Childhood to Year 6. Level 1-3.

Online **Seas according to Cormorant (SOAK)**
"Soak" is the loveable, but unreliable, Pied Cormorant behind a new series of short videos. Fortunately, "Soak", who is a pied shag, is helped along by educator, Richard de Hamel. Soak is of course a puppet, but he seems to take on a life of his own! 7 short videos, accompanied by activity sheets, cover topics from plankton and seaweeds, through to seals and seabird and a few things in between. From adaptation to food webs, they are guaranteed to spark student's curiosity. Year 3-8, Level 2-4.

Online **Live from the Fish Tank**
Join a marine scientist and encounter the weird and wonderful adaptations of marine plants and animals. Live- streamed directly to your classroom, students will be encouraged to imagine living underwater and compare their own adaptations to their distant swimming relatives. Year 1-8, Level 1-4.

Online **Live from the Shore**
If a field trip is not possible… join a marine scientist on an exploration of the local coastline while it is live- streamed directly to your classroom (tide dependent). Ask questions and learn great stories to tell your own whānau next time you go on a seashore scramble. Year 1-8, Level 1-4.

Online **Meeting with a Marine Scientist**
All our programmes can be supported either partly or fully by distance, allowing students to engage with our scientists. Examples include support for data analysis and interpretation of 3.1 achievement standards in Science, live dissection and feedings for demonstrations of adaptations (relevant to form and function in biology), live induction in a Marine Metre Squared survey so students are equipped to carry one out themselves

Online **Shark Spy**
Join a shark scientist to learn about the role of sharks in the marine ecosystem and why shark populations are under threat. Take part in a research project to better understand sharks in NZ waters. Students will learn about science inquiry and participate in analysing film footage take with baited underwater video systems (BUVs). Discussion will highlight ways to extend their study in the local region. Year 9-13, Levels 4-6.
Watch a short video about this programme.

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