



# Marine Discoveries for Schools

**Join an education programme at the  
NZ Marine Studies Centre at Portobello**

At the Marine Studies Centre there are touch pools, aquarium tanks and laboratory facilities to support a variety of school programmes for all levels.

For further details phone **03 479 5826**  
or see our website: **[www.marine.ac.nz](http://www.marine.ac.nz)**



***Our programmes are hands-on and designed to captivate students and immerse them in scientific thinking and doing. Programmes align with NZ curriculum standards. Some programmes can be combined to make full-day field trips.***

**Mighty Molluscs – Levels 5-7**

What set of adaptations identify a mollusc and how do variations to these relate to their survival in particular niches? Classify molluscs, investigate how they feed and survey the intertidal zone to compare the distribution of two chiton species.  
**3 hrs. \$10 per student (GST excl.)**

**Global Climate Change: The Litmus Test? – Levels 5-7**

Practical exploration of issues aiding understanding of causes, effects and consequences of ocean acidification. Investigate ocean pH; factors that change ocean pH and how carbonate producers are affected over time at different scales in different conditions. Link practical discoveries to organisms and processes in local and global dimensions. *(Relates to A.S 90944, A.S. 90945, A.S 90949, A.S 90953, A.S. 90955, A.S. 91188 and supports development of skills for quantitative analysis.)*  
**3 hrs. \$10 per student (GST excl.)**

**Intertidal Investigations - Levels 6-8**

Investigate adaptations of marine species and community structure on the rocky shore using appropriate sampling techniques either as a practice (formative) or final (summative) assessment for NCEA. Links well with Diversity in Form & Function for a full day programme. Links to citizen science via the Marine Metre Squared (Mm2) project. *(Can provide either formative or summative assessment for A.S. 91158.)* **2 hrs. \$7 per student (GST excl.)**

**Diversity in Form and Function – Levels 6-8**

A comparative study to look at structure and function in relation to survival in particular niches. Aquarium interpretation in terms of adaptations observed and demonstrated with living examples. Laboratory series of comparative dissections. Focus is flexible depending on teachers' requirements. Respiration/gas exchange, feeding/nutrition, reproduction/life histories. Supports learning for NCEA. Links well with Intertidal Investigation for a full day programme. *(Supports A.S. 91155.)*  
**2.5 hrs. \$8.50 per student (GST excl.) PLUS \$2 per student (GST excl.) for dissection.**

**Behaviour of Marine Invertebrates – Levels 6-8**

Investigate behaviour of marine animals in response to abiotic and biotic environmental factors. Aquarium interpretation with living examples of symbioses, predator/prey adaptations, reproductive strategies. Laboratory series of mini investigations with live examples of taxes and kineses. Links well with Biological Clocks for full day programme. *(Supports A.S. 91603.)* **2.5-4 hrs. \$8.50-\$13 per student (GST excl.)**

**Biological Clocks – Levels 6-8**

How is rhythmicity in behavioural response investigated? Explore patterns and observe examples of biological timing in marine animals. The practice of collecting data and interpreting it in terms of free running periods and circa-tidal cycles. Supports NCEA. Links well with Behaviour of Marine Invertebrates for full day programme. *(Supports A.S. 91603.)*  
**2 hrs. \$7 per student (GST excl.)**

**Evolution: Patterns and Processes – Levels 6-8**

Exploring living examples of adaptive radiation, divergent and convergent evolution. Using a range of tools to gather evidence for evolution-including fossils, biogeography, comparative anatomy, life histories, mRNA analysis. Marine examples of genetic variation in a population, allopatric and sympatric speciation. *(Supports A.S. 91605.)*  
**4.5 hrs. \$14.50 per student (GST excl.) PLUS \$2 per student (GST excl.) for dissection.**

**Small Animal Study – Levels 6-8**

Carry out a practical investigation in a biological context. Focus on one animal species and investigate aspects of its ecological niche and its behaviour in response to abiotic and biotic factors. Design and carry out individual student investigations. Under guidance, students do practical work and data collection to meet needs of NCEA. Includes support with reference materials and bioethics. *(Provides the core work for achieving A.S. 91601.)*  
**3 days (approx. 19 hrs.). Approx. \$58.00 per student (GST excl.)**

**Secondary Science Extension and Enrichment Programmes**

Perfect for Accelerated or GATE classes. Yr 9 & 10 (1-3 days) - *"Making Sense of the Marine World Aids Survival and Enriches Lives"*. These programmes explore the human senses in relation to the marine world and the senses of marine creatures in relation to responses and survival. The multi-day programme includes practical investigations where teams delve into the idea of bio-indicators, mentoring and work on communication and critique in science.  
**1-3 days \$4.50 per student per hour (GST excl.) PLUS \$2 per student (GST excl.) for dissection.**

***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.***