

# Intertidal Exploration

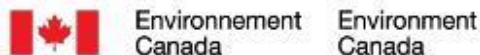


This lesson plan was produced by the Mayne Island Conservancy Society in 2016 as part of the Nature Discovery Project

Funding for was provided by:



Ce projet a été réalisé avec l'appui financier de :  
This project was undertaken with the financial support of:



**Activity Name: Intertidal Exploration**

**Ages: 6-14**

**Activity Energy: Medium**

**Length of time: 2 hours (could be taught in two separate lessons)**

**Number of Participants: up to 30 (dependent on number of staff/volunteers)**

**Indoor/Outdoor: Outdoor**

**Concept:** This lesson gives students a hands-on introduction to intertidal ecology. Following an introductory classroom lesson, students go to the beach at low tide to explore the intertidal zone.

**Materials Required:** An aquarium is helpful for storing and viewing organisms found on the beach. Laminated identification sheets (there are good ones available through World Fisheries Trust), hand lenses, Ziplocs or containers for holding organisms, any other identification books (Pacific Seaweeds, Seashore Life of the Northern Pacific Coast, and Exploring the Seashore).

**Introduction:** Intertidal zones are an excellent place to introduce students to the concepts of adaptation and fitness. Students will learn about some of the environmental factors that make intertidal life challenging, and the adaptations of organisms to meet those challenges. By examining the different adaptations of organisms living in different areas (e.g., sandy vs. rocky areas), students can gain an understanding of how the environment interacts with random genetic mutation over long periods of time to shape the form and function of organisms.

**Methods:**

- 1)** Introduce students to some basic concepts of intertidal ecology and types of organisms they can expect to see on the beach. Discuss how they can be respectful explorers and minimize the impact to the ecosystem. A PowerPoint lesson is included in the additional materials section for this purpose. The PowerPoint contains some basic notes to help guide you in your presentation.
- 2)** Take students to the beach at low tide. Review some of the major concepts taught in the preparation lesson. Fill an aquarium (or a bucket) with seawater and some seaweed for organisms to hide under. Have students explore the beach, looking under rocks, digging in the sand, etc. They can bring interesting finds back to the aquarium/bucket.
- 3)** Optional: Intertidal Bingo is a good way to make a game out of exploring and encourage students to identify organisms. Check out our lesson titled "Beach Bingo". Alternatively, have the class take pictures of some commonly found organisms and make their own. Have students play bingo by finding and correctly identifying organisms.
- 4)** Optional: While at the beach, have the students draw and name all the organisms they find. Produce a large mural as part of the class as a record of everything you discovered.

**Tips for Teachers:**

- Teaching students how to tell the difference between male and female crabs is a popular activity
- Get students not to use colour as a main identification feature; often colour is quite variable within species and can be misleading. Teach them to focus on other features like shape and texture.
- We recommend some structure to a trip to the beach, something to keep the students focused while they explore. Beach bingo or a group mural are good examples.

**Background facts and information:**

- See the PowerPoint for some fun facts and information about the intertidal environment

**Literature Cited:**

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