



Making a difference...together

Feeling Crabby

Educators Guide

Program at a Glance

This program fosters curiosity and a sense of wonder about the changing seashore environment and the homes it provides for many creatures. Through engaging activities and respectful observation, students will discover why crabs are well-suited to their ocean home. Starting with a fun dress up, we introduce children to crabs, pointing out features and behaviours that allow them to survive in their environment. In smaller groups, we explore the beach and discover fascinating intertidal life through engaging games and activities.



To complete the program, all the students will join together and sing the “Crabby Song”. Respectful treatment of seashore creatures and their habitat will be discussed and demonstrated, and children will be encouraged to think of the seashore and its inhabitants as a community with needs like our own.

In this program, your students will...

- Be introduced to crabs and their relatives, pointing out the characteristics that distinguish them from other creatures and the adaptations they have for their environment.
- Foster an appreciation for the changing seashore environment and the homes it provides for many creatures.
- Understand that the seashore and its inhabitants are a community with needs like our own.
- Demonstrate respect and gentle treatment of the seashore inhabitants.

Curriculum Connections

Our place-based school programs directly relate to the K-5 science curricula. Below you will find some big ideas, curricular competencies and content that will be addressed on your program.

Big Ideas

- Through listening and speaking we connect with others & share our world (K & Gr 1)
- Curiosity and wonder lead to new discoveries about ourselves and the world around us (K & Gr 1)
- Living things have features and behaviours that help them survive in their environment (K & Gr 1)
- Living things have life cycles adapted to their environment (Gr 1)

Curricular Competencies

- Make exploratory observations using their senses (K)
- Demonstrate curiosity and a sense of wonder about the world (K & Gr 1)
- Observe objects and events in familiar contexts (K & Gr 1)
- Ask questions about familiar objects and events (K & Gr 1)
- Experience and interpret the local environment (K & Gr 1)
- Compare observations with those of others (K & Gr 1)
- Identify simple patterns and connections (K & Gr 1)
- Transfer and apply learning to new situations (K & Gr 1)
- Consider some environmental consequences of their actions (K & Gr 1)
- Share observations and ideas orally and in role-play (K & Gr 1)
- Express and reflect on personal experiences of place (K & Gr 1)

Content

- Identify the basic needs of animals in the intertidal zone (K & Gr 1)
- Structural features of living things in the marine environment (K & Gr 1)
- Behavioral adaptations of animals in the marine environment (K & Gr 1)
- Biodiversity in the marine environment (K & Gr 1)
- Metamorphic and non-metamorphic life cycles of different organisms (Gr 1)
- Similarities and differences between offspring and parent (Gr 1)
- Names of local plants and animals (Gr 1)

Suggested Pre-Trip Activities

- On the classroom bulletin board have students draw pictures on the field trip topic or write predictions about what they might see.
- Create a K-W-L chart (what I know, what I want to know, and what I learned) for crabs, and fill out the first two categories.
- Show photographs of some of Vancouver Island's local crustaceans, such as shore crabs, hermit crabs, shrimp, and barnacles.
- Read stories in class about crabs.
- Have a sharing circle to talk about how the students feel about crabs and what they know or

may have heard about them.

Suggested Follow-Up Activities

- Have students return to the class bulletin board to make changes in their drawings or predictions based on their new knowledge gained from the field trip.
- Revisit the K-W-L chart and fill in the “L” (What I learned).
- Draw food chains and webs involving crabs or their relatives (e.g. algae - crab - seagull).
- Discuss how crabs’ bodies are different from human bodies. What role does each body part play in helping the crab survive? How is the crab especially well adapted to live at the seashore? Have students think of ways their bodies would have to change before they could survive in a crab’s environment.
- In P.E. have crab walk races.

Background Information

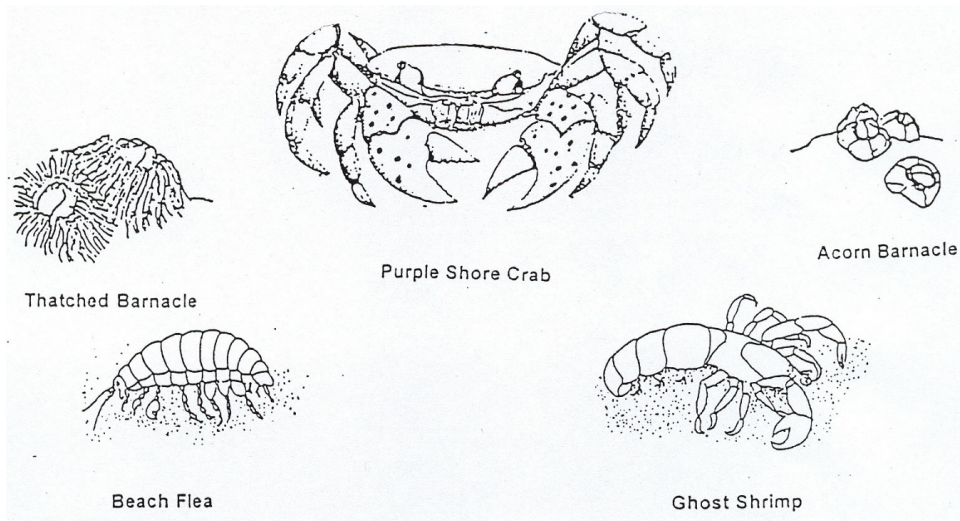
Of all the creatures found at the beach, crabs are the ones that often generate the most excitement among children exploring the intertidal zone. They are, as a result, one of the intertidal animals most at risk of harm through mishandling or removal from their natural environment. In this program, children will have an opportunity to search for these exciting creatures and some of their relatives. Students will also learn more about their structure and lifestyles. Through play and exploration, students will be taught to explore respectfully and to treat these animals and their homes with care and respect.

Crabs belong to a class of organisms called Crustaceans. Crustaceans are a group of mostly aquatic animals that have hard outer shells and jointed appendages. This class includes crabs, barnacles, shrimp and their relatives. Wood bugs, commonly found under rocks and in moist soils, are a type of terrestrial crustacean. All crustaceans belong to the phylum Arthropoda (which means, "jointed foot"). This phylum also includes such animals as insects and spiders.

Many different types of crabs live in the waters off our Vancouver Island coastline. In this program we will focus on the common and abundant shore crabs found under rocks, and hermit crabs found in shallow tide pools along the shore. We will also examine some of their relatives, such as barnacles and beach hoppers.

Crabs have a role to play in the ecology of the ocean. Crabs are scavengers that help to break down or clean up waste materials from the seashore, much like slugs do in the forest environment. Crabs are an essential link in the food chain and contribute to the overall health of the ocean.

Some Crustaceans: Crabs and their Relatives



Key Word Definitions

barnacle – a type of marine crustacean with feathery appendages used for gathering food. Barnacle larvae are free-swimming but as adults they have cone-shaped shells that they permanently cement onto rocks, wharves, boat hulls or even the bodies of whales.

camouflage - markings or colouration that make an animal or object blend in and make it difficult to distinguish from its surroundings.

crab - a crustacean with a flattened body, small abdomen, eyes on stalks, and five pairs of legs, one pair of which is modified to form grasping claws, called pincers.

crustacean - an animal with a hard outer shell, antennae, mandibles (mouthparts), and compound eyes. Most crustaceans live in water, and they breathe using gills or similar structures. Lobsters, crabs, shrimp, amphipods and barnacles are some examples of crustaceans. Wood bugs are terrestrial crustaceans found in the soil or under rocks.

exoskeleton - an external skeleton, which is characteristic of creatures such as insects, spiders and crustaceans. In order to grow, an animal must moult (shed) the exoskeleton.

habitat – The natural home or environment of a plant, animal or other organism. It includes all that the organism needs to survive, including food, water, shelter, and space, arranged in a particular configuration.

hermit crab - a crab whose lower abdomen is soft and curled; it uses the empty shells of snails to protect itself. Hermit crabs have hook-like appendages at the tip of their abdomen to grip the shell. As hermit crabs grow, they must find larger shells to live in.

pincers - a modified pair of legs adapted for grasping food and also used in defence.

predator - an animal that kills and eats other animals.

scavenger - an organism that feeds on dead or decaying matter.

Teacher References

Some useful field guides to our local marine environments include:

Harbo, Rick M. Whelks to Whales: Coastal Marine Life of the Pacific Northwest. Harbour Publishing, 2011.

Sept, Duane J. The Beachcomber's Guide to Seashore Life in the Pacific Northwest. Harbour Publishing, Revised Edition 2009.

Sheldon, Ian. Seashore of British Columbia. Lone Pine Publishing, 1998.

Snively, Gloria. Exploring the Seashore in British Columbia, Washington and Oregon. A Guide to Shorebirds and Intertidal Plants and Animals. Vancouver: Gordon Soules Book Publishers, 2003.

Coulombe, Deborah A. The Seaside Naturalist. Touchstone Press, 1990.

Kingfisher Press, based out of Sooke, BC, produces recommended marine education resources for teachers. <http://www.kingfisherpress.ca/index.html>

Student References and Storybooks

Carle, Eric. A House for Hermit Crab. Aladdin Publications, 2002.

Coombs, Kate. Water Sings Blue: Ocean Poems. San Francisco: Chronicle Books, 2012.

Earhart, Kristin. The Magic School Bus Gets Crabby. Scholastic, 2006.

Lewis, Paul O. *Grasper: A Young Crab's Discovery*. Vancouver: Whitecap Books, 1993.

McDonald, Megan. *Is This a House for a Hermit Crab?* New York: Orchard Books, 1990.

McFarlane, Sheryl. *Moonsnail Song*. Victoria: Orca Book Publishers, 1994.

Sayre, April Pulley and Sayre, Jeff. *One is a Snail, Ten is a Crab: A Counting by Feet Book*. Candlewick Press, 2006.