

## BC Curriculum Links – Friends of Semiahmoo Bay Society School Programs

### Science Big Ideas and Curriculum that our programs can help explore.

With the much more open and inquiry based revised BC curriculum, the opportunities to help students make connections with local ecosystems and to help them understand their role in preserving the environment, are numerous. Below is a table of ‘some’ of the Curricular Areas that could be explored through Friends of Semiahmoo Bay in-class presentations and field experiences.

Our programs and ‘on loan’ teaching resource kit can provide the perfect jumping off point for sustained student/class inquiry about local environments, issues, plants and animals. Having an experienced naturalist provide support for the field experience makes it a more ‘real world’ experience where your students can learn to carefully observe and experience some of the stories we know about our local environments, plants and animals. In so doing, they will begin to recognize the impact people have on these environments and may begin to consider what they can do to conserve and protect their local beaches and wetlands.



| Grade Level | Big Ideas  | Sample Inquiry Questions  | Curricular Competencies  | Curricular Content  |
|-------------|--|---|--|---|
| <b>K</b>    | <ul style="list-style-type: none"> <li>Plants and animals have observable features.</li> <li>Daily and seasonal changes affect all living things.</li> </ul> | <ul style="list-style-type: none"> <li>What basic needs to plants and animals have in common?</li> <li>How do the features of local plants and animals help them meet their needs in this local environment?</li> </ul> | <ul style="list-style-type: none"> <li>Experience and interpret the local environment</li> <li>Share observations orally</li> <li>Express and reflect on personal experiences of place</li> </ul>  | <ul style="list-style-type: none"> <li>basic needs of plants and animals</li> <li>adaptations of local plants and animals</li> <li>local First Peoples uses of plants and animals</li> <li>living things make changes to accommodate daily and seasonal cycles</li> </ul>               |
| <b>1</b>    | <ul style="list-style-type: none"> <li>Living things have features and behaviours that help them survive in their environment.</li> </ul>                    | <ul style="list-style-type: none"> <li>How do local plants and animals depend on their environment?</li> <li>How do plants and animals adapt?</li> </ul>  | <ul style="list-style-type: none"> <li>Demonstrate curiosity and a sense of wonder about the world</li> <li>Experience and interpret the local environment</li> <li>Consider some environmental consequences of their actions</li> </ul> | <ul style="list-style-type: none"> <li>classification of living and non-living things</li> <li>names of local plants and animals</li> <li>structural features of living things in the local environment</li> <li>behavioural adaptations of animals in the local environment</li> </ul> |

| Grade Level | Big Ideas   | Sample Inquiry Questions   | Curricular Competencies  | Curricular Content   |
|-------------|---|--|--|--|
| 2           | <ul style="list-style-type: none"> <li>• All living things have a life cycle.</li> <li>• Water is essential to all living things, and it cycles through the environment.</li> </ul>   | <ul style="list-style-type: none"> <li>• how are the life cycles of local plants and animals similar or different?</li> <li>• how are offspring similar or different from their parents?</li> </ul>  | <ul style="list-style-type: none"> <li>• Demonstrate curiosity about the natural world</li> <li>• Make observations about living and non-living things in the local environment</li> <li>• Experience and interpret the local environment</li> <li>• Express and reflect on personal or shared experiences of place</li> </ul>   | <ul style="list-style-type: none"> <li>• biodiversity in the local environment</li> <li>• the knowledge of local First Peoples of ecosystems (community and population of species)</li> </ul>  |
| 3           | <ul style="list-style-type: none"> <li>• Living things are diverse, can be grouped, and interact in their ecosystems</li> </ul>   | <ul style="list-style-type: none"> <li>• How are the plants and animals in this environment interconnected?</li> <li>• <i>How is the food web in this local environment affected by human impact?</i></li> <li>• Why is biodiversity important in an ecosystem?</li> </ul> | <ul style="list-style-type: none"> <li>• Demonstrate curiosity about the natural world</li> <li>• Identify questions about familiar objects and events that can be investigated scientifically</li> <li>• Make observations about living and non-living things in the local environment</li> <li>• Contribute to care for self, others, school, and neighbourhood through personal or collaborative approaches (<i>ex. conservation work, shoreline/habitat cleanups etc</i>)</li> </ul>                             | <ul style="list-style-type: none"> <li>• biodiversity in the local environment</li> <li>• the knowledge of local First Peoples of ecosystems (interconnectedness)</li> </ul>                   |
| 4           | <ul style="list-style-type: none"> <li>• All living things and their environment are interdependent.</li> <li>• The motion of Earth and the moon cause observable patterns that affect living and non-living systems.</li> </ul>  | <ul style="list-style-type: none"> <li>• How do living things sense and respond to their environment?</li> <li>• How do seasons and tides affect living and non-living things?</li> </ul>  | <ul style="list-style-type: none"> <li>• Demonstrate curiosity about the natural world</li> <li>• Observe objects and events in familiar contexts</li> <li>Identify questions about familiar objects and events that can be investigated scientifically</li> <li>• Experience and interpret the local environment</li> <li>• Contribute to care for self, others, school, and neighbourhood through individual or collaborative approaches (<i>ex. conservation work, shoreline/habitat cleanups etc</i>)</li> </ul> | <ul style="list-style-type: none"> <li>• sensing and responding: humans, other animals, plants</li> <li>• the effects of the relative positions of the sun, moon, and Earth (tides)</li> </ul> |
| 5           | <ul style="list-style-type: none"> <li>• Multicellular organisms have organ systems that enable them to survive and interact within their environment.</li> <li>• Earth materials change as they move through the rock cycle and can be used as natural resources.</li> </ul> | <ul style="list-style-type: none"> <li>• <i>How do the organ systems of these animals affect their survival in this habitat?</i></li> <li>• <i>How does wave action affect this beach?</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Demonstrate a sustained curiosity about a scientific topic or problem of personal interest</li> <li><sup>a</sup> Make observations in familiar or unfamiliar contexts</li> <li><sup>a</sup> Experience and interpret the local environment</li> <li>• Contribute to care for self, others, and community through personal or collaborative approaches</li> </ul>  | <ul style="list-style-type: none"> <li>• First Peoples concepts of interconnectedness in the environment</li> <li>• the nature of sustainable practices around BC's resources</li> </ul>       |

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|---|---|--|---|--|
|   |   |  | <i>(ex. conservation work, shoreline/habitat cleanups etc)</i>  |  |
| 6 | <ul style="list-style-type: none"> <li>• Multicellular organisms rely on internal systems to survive, reproduce, and interact with their environment.</li> </ul>  | <ul style="list-style-type: none"> <li>• <i>How do the body systems of marine invertebrates support survival in the intertidal zone?</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Demonstrate a sustained curiosity about a scientific topic or problem of personal interest</li> <li><sup>a</sup> Make observations in familiar or unfamiliar contexts</li> <li>• Experience and interpret the local environment</li> <li>• Contribute to care for self, others, and community through personal or collaborative approaches <i>(ex. conservation work, shoreline/habitat cleanups etc)</i></li> </ul> | <ul style="list-style-type: none"> <li>• the basic structures and functions of body systems (in humans and animals)</li> </ul>   |
| 7 | <ul style="list-style-type: none"> <li>• The theory of evolution by natural selection provides an explanation for the diversity and survival of living things.</li> <li>• Earth and its climate have changed over geological time.</li> </ul> | <ul style="list-style-type: none"> <li>• <i>How is this animal/plant adapted to its local environment? How has it changed over time?</i></li> <li>• How do people and their practices impact the environment?</li> </ul> | <ul style="list-style-type: none"> <li>• Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest</li> <li>• Make observations aimed at identifying their own questions about the natural world</li> <li>• Apply First Peoples perspectives and knowledge, other ways of knowing <i>(ex. naturalist knowledge)</i> and local knowledge as sources of information</li> </ul>                                    | <ul style="list-style-type: none"> <li>• organisms have evolved over time</li> <li>• survival needs</li> <li>• natural selection</li> <li>• evidence of climate change over geological time and the recent impacts of humans:</li> </ul> |

\*Big Ideas, Curricular Competencies and Content taken directly from <https://curriculum.gov.bc.ca> (*italicized content has been added by FOSBS to help you make direct connections to our programs*)

For more information about our programs, please visit [www.birdsonthebay.ca](http://www.birdsonthebay.ca)

Please also visit [www.oceanliteracy.net](http://www.oceanliteracy.net) to download a comprehensive document that will help you and your students explore the essential principles of ocean sciences.

Your students might also enjoy Washington State University's E-Z ID Game!

<https://soundwaterstewards.org/ezydweb/>



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