



# Animal Life Cycles Unit Plan

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**GRADE(S):** 1-2

**CATEGORY:** Animals, Lifecycles

**SETTINGS:**

Options for classroom, playground and other outdoor settings

**SUBJECTS:**

Science, Language Arts, Physical Education

**KEYWORDS:**

Animals, plants, salmon, insects, biodiversity, life cycle, First Peoples, aquatic, invertebrate, habitat, fishing, marsh or wetland, dragonfly, seasons.

## Overview:

An Animal Life Cycle Unit providing a curriculum outline of the Big Ideas and curriculum connections for Core Competencies, Curricular Competencies, Content and Assessment. HCTF Education and other local resources and along with activity descriptions offer teachers a complete package to address animal life cycles with Grades 1 and 2.

### HCTF Education Resources:

- Project Wild
- Project WET

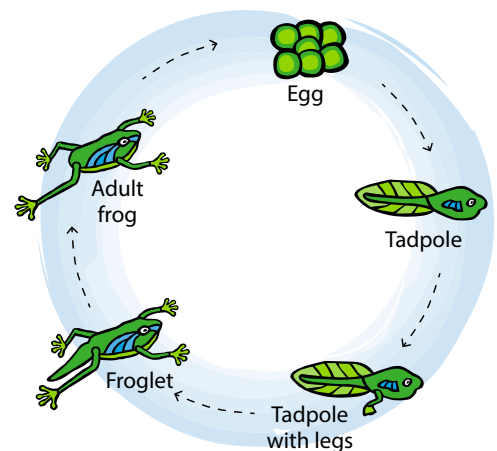
### Other BC Resources:

- Salmonids in the Classroom
- Streamkeepers
- SFU virtual museum
- Web Resource: First Nations relations with salmon

## Animal Life Cycles Unit

BC is the most biodiverse province in Canada and teachers have great opportunities to explore this biodiversity with their students while learning topics like animal life cycles. This animal life cycles unit provides curriculum connections, resources and activity descriptions for place-based, inquiry focused learning.

Students can experience salmon and aquatic insect lifecycles through games, hands-on outdoor explorations, classroom resources and lessons, First Peoples connections and much more. Students can also make personal connections such as relating how they use water and the water needs of local animals during their life cycles. Resources and programs provided for this unit include BC specific tools for learning.



# Grades 1/2 Science

Animal Life Cycles		
Big Ideas (Understand)	Rationale / Relevance	Essential Questions
<p><b>Grade 1</b></p> <ul style="list-style-type: none"> <li>Living things have features and behaviours that help them survive in their environment.</li> <li>Observable patterns and cycles occur in the local (sky and) landscape.</li> </ul> <p><b>Grade 2</b></p> <ul style="list-style-type: none"> <li>Living things have life cycles adapted to their environment.</li> </ul>	<ul style="list-style-type: none"> <li>Students will understand the fascinating biological complexity of anadromous fish (salmon) and aquatic invertebrates.</li> <li>Students will understand why different life cycle stages occur at the times of year that they do, and consider how humans can act in ways that protect aquatic biodiversity.</li> </ul>	<p><b>Grade 1</b></p> <ul style="list-style-type: none"> <li>What kinds of patterns in (the sky and) landscape are you aware of?</li> <li>How do patterns and cycles in (the sky and) landscape affect living things?</li> <li>How do local plants and animals depend on their environment?</li> <li>How do plants and animals use their features to respond to stimuli in their environments?</li> </ul> <p><b>Grade 2</b></p> <ul style="list-style-type: none"> <li>Why are life cycles important?</li> <li>How are the life cycles of local plants and animals similar and different?</li> <li>How do offspring compare to their parents?</li> <li>How do salmon support human and animal populations?</li> <li>What can humans do to protect salmon and the places they live?</li> </ul>



## Curriculum Connections

CORE Competencies	Curricular Competencies (DO)	Content (KNOW)
<p><b>Social Responsibility: Contributing to Community and Caring for the Environment</b></p> <ul style="list-style-type: none"> <li>▪ With some support, I can be part of a group.</li> <li>▪ I can participate in classroom and group activities to improve the classroom, school, community, or natural world.</li> <li>▪ I contribute to group activities that make my classroom, school, community, or natural world a better place.</li> <li>▪ I can identify how my actions and the actions of others affect my community and the natural environment and can work to make positive change.</li> </ul>	<p><b>Questioning and predicting</b></p> <ul style="list-style-type: none"> <li>▪ Demonstrate curiosity and a sense of wonder about the world</li> <li>▪ Observe objects and events in familiar contexts</li> <li>▪ Ask questions about familiar objects and events</li> <li>▪ Make simple predictions about familiar objects and events</li> </ul> <p><b>Processing and analyzing data and information</b></p> <ul style="list-style-type: none"> <li>▪ Experience and interpret the local environment</li> <li>▪ Recognize First Peoples stories (including oral and written narratives), songs, and art, as ways to share knowledge</li> <li>▪ Sort and classify data and information using drawings, pictographs and provided tables</li> <li>▪ Identify simple patterns and connections</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>▪ Consider some environmental consequences of their actions</li> </ul>	<p><b>Grade 1</b></p> <ul style="list-style-type: none"> <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> <li>▪ Local First Peoples knowledge of the local landscape, plants and animals</li> </ul> <p><b>Grade 2</b></p> <ul style="list-style-type: none"> <li>▪ Metamorphic and non-metamorphic life cycles of different organisms</li> <li>▪ Similarities and differences between offspring and parent</li> <li>▪ First Peoples use of their knowledge of life cycles</li> </ul>



## Assessment

### Rich Culminating Task (Summative)

- Portfolio of learning stages in Science notebook
- Presentation of learning at Open House, with self-assessment of learning outcomes.

### Other Evidence (Formative)

- Salmon life cycle diagram (WRITE)
- Aquatic invertebrate life cycle diagram (WRITE)
- Class discussion comparing metamorphic (insect) vs. non-metamorphic (fish, human) life cycles
- Class Discussions about ways to save water protect salmon habitat (save water, don't litter), and the importance of salmon to modern communities (SAY)
- Guided Reading – books about importance of salmon to FN communities (SAY)

## Resources

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| <ul style="list-style-type: none"> <li>▪ HCTF Project WILD Activity Guide, “Are You Me?” (page 64)<br/><a href="http://hctfeducation.ca/product/project-wild/">hctfeducation.ca/product/project-wild/</a></li> <li>▪ HCTF Project WET Activity Guide, “Macroinvertebrate Mayhem” (page 322)<br/><a href="http://hctfeducation.ca/product/project-wet">hctfeducation.ca/product/project-wet</a></li> <li>▪ PBS Video on metamorphosis: <a href="http://www.pbslearningmedia.org/resource/tdc02.sci.life.cyc.metamorph/metamorphosis-change-of-plans/?#.WvutAYgvzIU">www.pbslearningmedia.org/resource/tdc02.sci.life.cyc.metamorph/metamorphosis-change-of-plans/?#.WvutAYgvzIU</a></li> <li>▪ Salmonids in the Classroom – Primary, and other resources: <a href="http://www.pac.dfo-mpo.gc.ca/education/primary-primaire/index-eng.html">www.pac.dfo-mpo.gc.ca/education/primary-primaire/index-eng.html</a></li> </ul> | <ul style="list-style-type: none"> <li>▪ Streamkeepers Unit on Aquatic Insects: <a href="http://www.pskf.ca/mod04/index.html">www.pskf.ca/mod04/index.html</a></li> <li>▪ SFU virtual museum about the Sto:lo First Nations with salmon resources and videos: <a href="http://www.sfu.museum/time/en/flash/">www.sfu.museum/time/en/flash/</a></li> <li>▪ Return to the water: First Nations relations with salmon: <a href="http://www2.laiwanette.net/fountain/return-to-the-water-first-nations-relations-with-salmon/">www2.laiwanette.net/fountain/return-to-the-water-first-nations-relations-with-salmon/</a></li> <li>▪ First Peoples Books about salmon:               <ul style="list-style-type: none"> <li>▪ <i>The Journey of Dog Salmon</i> by Terri Mack and Bruce Martin</li> <li>▪ <i>P'esk'a and the First Salmon Ceremony</i> by Scot Ritchie</li> <li>▪ <i>A Salmon for Simon</i> by Betty Waterton</li> </ul> </li> </ul> |
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## Description of Learning Activities

Learning Intention/Scope and Sequence	Teaching/Learning Activity
<p><b>Lesson 1</b></p> <ul style="list-style-type: none"> <li>I can list the many ways people use water.</li> <li>I know that saving water at home leaves more water in rivers for salmon to live and spawn.</li> </ul>	<ul style="list-style-type: none"> <li>Mystery Bag (small toilet, tub, fishing rod, sponge, cooking pot, toothbrush, etc.)</li> <li>Connect students to previous unit on the water cycle, introduce the idea that all water comes from nature, which is also habitat for living things like salmon</li> </ul>
<p><b>Lesson 2</b></p> <ul style="list-style-type: none"> <li>I can describe the importance of salmon to many living things in the environment.</li> </ul>	<ul style="list-style-type: none"> <li>Look at Life Cycle of Pacific Salmon poster and vials of preserved life stages from egg to fry.</li> <li>List all the things that eat/need salmon: eagles, bear, orca, humans, raccoons, otters, trees.</li> </ul>
<p><b>Lesson 3</b></p> <ul style="list-style-type: none"> <li>I can describe the 6 life cycle stages of salmon: egg, alevin, fry, smolt, adult, spawner.   2 lessons</li> </ul>	<ul style="list-style-type: none"> <li>Watch “I Will Survive” video of salmon life cycle, then cut and paste pictures of each life stage in order on a poster.</li> </ul>
<p><b>Lesson 4</b></p> <ul style="list-style-type: none"> <li>I can consider the many ways that salmon have influenced First Nations and modern culture.   2 lessons or more – <i>Science, Language Arts, Social Studies</i></li> </ul>	<ul style="list-style-type: none"> <li>Read books about significance of salmon to First Nations people.</li> <li>Look at SFU website of a traditional village: <a href="http://www.sfu.museum/time/en/flash">www.sfu.museum/time/en/flash</a></li> <li>Discuss personal connections to salmon fishing on the West Coast.</li> </ul>
<p><b>Lesson 5</b></p> <ul style="list-style-type: none"> <li>I can compare the salmon life cycle (non-metamorphic) to an aquatic insect life cycle (metamorphic).   2 lessons</li> </ul>	<ul style="list-style-type: none"> <li>Play “Are You Me?” from Project WILD Activity Guide</li> <li>Watch PBS video of metamorphic life cycles and trace the path of the dragonfly life cycle.</li> </ul>
<p><b>Lesson 6</b></p> <ul style="list-style-type: none"> <li>I can investigate aquatic insects in their larval stages and consider how human land use could impact their health.</li> </ul>	<ul style="list-style-type: none"> <li>Visit a wetland or pond and dip for aquatic insects</li> <li>Colour insects on Streamkeepers sheet – red for always present, yellow for sign of decent water quality, green for indicator of very good water quality.</li> <li>Extension: Project WET Activity Guide, Macroinvertebrate Mayhem</li> </ul>
<p><b>Lesson 7</b></p> <ul style="list-style-type: none"> <li>I can consider how plants and animals survive long, dark days and cold temperatures. Why do most plants and animals grow and reproduce in the spring and summer?</li> </ul>	<ul style="list-style-type: none"> <li>Season demonstration.</li> <li>Colour picture of forest in winter and summer.</li> </ul>

