

# Learning Cycle 3:

## The Life Cycle of a Salmon

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### About this Lesson

In this lesson, students will become familiar with the salmon life cycle, and connect it to the life cycle of another organism of their choosing. They will build off their work from the previous lesson in which they became familiar with salmon that share our watershed here in the PNW. This lesson also prepares students to learn more about salmon habitats and our influence on the health of habitats. Students will learn about a unique aspect of salmon– they spend different stages of their life in different environments, while also understanding the commonalities among organisms of birth, growth, reproduction, and death (NGSS 3-LS1-1).

### Materials, Resources, & Advance Preparation

For each student:

- [Cards for card sort](#)
- Sticky notes
- Students' scientific drawing of a salmon from [Learning Cycle 2](#)

For each group:

- [NSEA Salmon Fact Sheets](#)
- Poster paper
- [Life cycles of various organisms](#) for students to choose from (bird, plant, mammal...)  
\*Teachers are encouraged to provide additional examples through children's literature or other resources

### Engage Phase

#### Think-Pair-Share

Ask students to imagine you took a picture of them today, then time traveled 30 years into the future– would that picture be helpful in identifying future you? Why or why not? Students may suggest that they will have changed by then– probe their thinking to ask how they may have changed (they may grow, change hair color, appearance, etc.)

Suggest that instead you were to travel *back in time* several years to when they were two year old– would the picture you took be more helpful in identifying them then? Why or why not? Students will recognize that they have changed a lot since then as well (grown from baby/toddler/etc.) Acknowledge that humans go through many changes throughout their lifetime.

#### Think-Pair-Share

*In the last lesson, you made a scientific drawing of a salmon. Do you think that salmon also go through changes throughout their lifetime like humans do?* Ask students to draw and/or share

some of the changes they think salmon go through. Tell them that in the next part of the lesson, they will be looking at some pictures of salmon taken throughout their lives.

**\*Teacher note:** *It is OK at this point if students do not have accurate ideas about changes salmon undergo during their lifetime– the focus is on eliciting their current ideas, which will develop throughout the lesson.*

## Exploration Phase

Provide each student pair with a set of [cards](#) with photos of salmon at different life stages, and ask them to put them in an order that makes sense to them. Students may choose to put them in a line or circle, etc.

Invite students to share and compare how and why they sequenced the cards the way they did through a Gallery Walk.

- What are commonalities in how you arranged the photos? Differences?
- What did you think about when deciding how to sequence the photos?

At this point, students may want to know if they got it “right”-- particularly if there are differences in how groups sequenced the photos. Let students know that you will now watch a video that will help them check their ideas.

## Explanation Phase

Play the [salmon life cycle video](#), which tells about the life cycle of coho salmon from the perspective of a salmon. Encourage students to engage in active listening by having their cards in front of them, and following along and adjusting their sequence as needed. They can also fill in the names of different stages of the life cycle with whiteboard markers on each card (you can pause the video to allow them to read and write the names when given) and use their sticky notes to write down a fact or idea they learn about each stage.

After the video, discuss and reevaluate the card sort as a class. Ask each group to share the name of a life cycle stage and/or something about that stage. If needed playback the video and pause at each specific stage. Students will notice that two of the cards are not named in the video (adult and spawning adult).

- Which cards don't have names? What names should we give those?

## Extension Phase

Provide groups with the [salmon fact sheets](#) with details about the life cycle of their species of salmon. Ask students how the salmon life cycle compares to their own human life cycle and the changes they talked about earlier in the lesson.

- What are the similarities between the changes that salmon and humans undergo during their lifetime?
- What are the differences between the salmon life cycle and the human life cycle?

- How does this compare to other life cycles that we have learned about/know about?

## Evaluation Phase

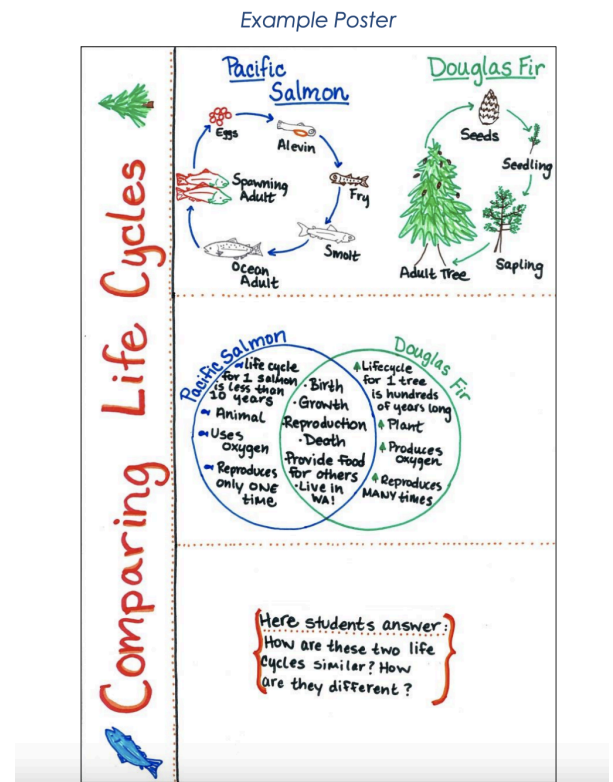
The following can be completed individually, in pairs, or in groups, depending on your assessment needs.

For this task, students will compare the life cycle of salmon to another organism (assigned or of their choosing). This can take multiple forms:

- Comparative Input Chart ([GLAD](#))
- Venn Diagram Comparison Poster (example shown right)
- Infographic

Once finished, the class will participate in a Gallery Walk/Presentation. Across all organisms, students should be asked to identify what all life cycles have in common, even though they are unique. This includes birth, growth, reproduction, and death.

In life cycle diagrams, such as those shown right, death often happens at the *end* of the cycle, though it can occur at any time. In the next lesson, students will examine threats to salmon survival that they face throughout their lifetime.



## References & Related Resources

### [Using Infographics in the Classroom](#)

Keeley, P. (2010). Does It Have a Life Cycle?. *Science and Children*, 48(3), 26.

## Connecting to Indigenous Knowledge and Since Time Immemorial (STI) Curriculum

The [Plant Teachings guide](#) connects Northwest Regional plants, used to compare life cycles with that of salmon, to cultural teachings, stories, ecological relationships, and social-emotional skills.

Lummi Nation produced a series of videos at their Skookum Creek Hatchery, showing the process of salmon returning to the hatchery and harvesting eggs to continue the lifecycle for future generations of salmon. These are broken into three parts: [Part 1 - Sorting](#), [Part 2 - Spawning](#), and [Part 3 - Incubation](#).

The activities in this lesson are complementary and support those in the Since Time Immemorial Unit: [STI Elementary Unit 3 Washington State History: Salmon Recovery & the Boldt Decision](#). Specifically, this lesson connects to the [habitats salmon occupy throughout their lifecycle](#) and the importance of healthy water and habitat.

## Connecting to the Next Generation Science Standards

### Performance Expectation(s):

[4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.](#) *\*This learning cycle is one step towards meeting this performance expectation but does not help students fully meet the standard.*

*This learning cycle builds on what students learned in grade 3:*

[3-LS1-1.Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.](#) [Clarification Statement: Changes organisms go through during their life form a pattern.] [Assessment Boundary: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.]

### 3 Dimensions of Learning

### Activity Connections

#### Science and Engineering Practices

##### [Developing and Using Models](#)

Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.

- Develop a model using an example to describe a scientific principle.

Students construct pictorial models of life cycles of salmon and other organisms.

##### [Engaging in Argument from Evidence](#)

Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).

- Construct an argument with evidence, data, and/or a model.

Students use their models to gather evidence that all life cycles have birth, growth, reproduction, and death in common.

#### Disciplinary Core Ideas

##### [LS1.A: Structure and Function](#)

[Plants and animals have both internal and external structures that serve various functions](#)

Students use their models to identify unique features of organisms and the changes they undergo throughout their life

in growth, survival, behavior, and reproduction. cycles.

### ***Crosscutting Concepts***

#### Patterns

Patterns can be used as evidence to support an explanation.

Students identify patterns across different life cycles.