

TTCD Lesson Plan (14): Salmon Life Cycle Tag

Unit:	Grade(s): K-12	Class Size: 10-25	Lesson Duration: 60-90 minutes	Location: Gym
Topic(s):	Salmon life cycle, subsistence harvest			
Student Prerequisites:	Students have a basic understanding of the salmon life cycle. Salmon hatch in streams, live in the ocean, and return to streams to spawn and die.			
Essential Questions:	What are the challenges that juvenile salmon face while in the stream? How about adult salmon in the ocean?			
Student Objectives:	Students will learn the different stages of the salmon life cycle. Students will be able to identify some of the threats to salmon at each of its life stages.			
Standards:	Supports NGS Standards: 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. Supports Cultural Standards: A.3 & A.4: Culturally-knowledgeable students are well grounded in the cultural heritage and traditions of their community by: acquir[ing] and pass[ing] on the traditions of their community through oral and written history; and practice their traditional responsibilities to the surrounding environment. E.2: Culturally-knowledgeable students demonstrate an awareness and appreciation of the relationships and processes of interaction of all elements in the world around them by: understand[ing] the ecology and geography of the bioregion they inhabit.			
Local Context:	Students are asked to reflect on their own connections with salmon.			
Vocabulary:	Salmon redd, eggs, alevin, fry, spawner, predator, predation, eggs, sac fry, fry, fingerling			
Dena'ina language words:	<i>Added by TTCD or community partners</i>			
Materials:	● Gallon bag of reusable tokens, such as buttons or bottle caps, to use as food tokens ● Book about salmon or subsistence harvest ● Laminated photos of salmon at each of their life stages: egg, alevin, fry, smolt,			

	and adult
Instructor Prep:	Scatter food tokens all around the gym, trying your best to distribute evenly. Identify several adults or students helpers to be salmon “predators” for each round of the tag game.
Introduction:	Before entering the gym, explain to students that the food tokens are important for a game they will play later, so they should leave them where they are on the floor. Gather students in a circle in the center of the gym or outdoor space. Read a story relating to salmon or wild harvest. This year we chose the book “Let’s Go!: A Harvest Story” by Hannah Lindoff. Ask students to reflect on their favorite experiences with salmon. Go around the circle, encouraging each student to share.
Directions:	1. Have students line up on one side of the gym. Explain that this game requires us to recall a salmon’s life cycle. Have students turn to the people near them and see if together they can come up with all five life stages of salmon: egg, alevin, fry, smolt, adult. Once they have all five, they should place their hand on their head and stop talking to show they are ready to play. Then review the stages as a group. 2. Explain that this game will simulate a year of a salmon’s life each time we cross the gym. Each round will contain taggers that represent threats to salmon at each of the life stages. If tagged, students should return to the salmon redd (the bleachers) and become an egg until the next game. 3. Everyone will start out as an egg. In order to survive this life stage, students must run to the salmon redd (the bleachers) and become an “egg” (curl up in a ball) without getting tagged. They do not need to pick up any food tokens during this round, since the egg contains all of the nutrients they need. Students run when the leader says “salmon, run!” You may choose to do a practice round and allow students to run to the bleachers and become “eggs” without any taggers, then return to the wall to start the game. 4. Now, eggs develop and become “alevin.” Have students line up on one wall again and cross their arms over their chest to represent the yolk sac that provides the growing salmon with nutrients. When you say “salmon, run!” they must cross to the other side of the gym with their arms still crossed, and avoid being tagged by any “eagles” that are spying on the stream. Once again, they do not need to pick up any food tokens during this round. 5. The students that have survived to this round become “fry,” and must cross the gym while running sideways, “karaoke/grapevine”-style, without being tagged by the “larger fish” taggers. They must also pick up one food token as they cross. 6. The students that survive the fry round have made it to the smolt stage! These

	salmon must run backwards across the gym without being tagged by the “larger fish” taggers, and pick up one more food token. 7. The students that survive the fry round have made it to the OCEAN stage, and have become adult salmon! Students can now run across to the opposite wall normally. In order to win the game, they must cross back and forth 5 times as adult salmon without being tagged by the “orcas” and “fishermen”, picking up one food token each time they cross for a total of 7 tokens at the end of the game. 8. Have students scatter their food tokens back on the floor and return to one wall to play another round. Before starting the next round, ask students to turn to a partner and each share one challenge that salmon face while they are in the stream. Have them share with a different partner one challenge that salmon face while in the ocean.
Wrap Up:	Have students return all of the food tokens to your storage bag, and gather again in the center of the gym. Assess learning by asking students to show on one hand how confident they would feel teaching someone else about the life cycle of a salmon, from fist (not at all confident) to five fingers (very confident). <i>Evidence of Learning for older students: Explain that this game is a simple model representing the salmon life cycle and predators they face. Ask each student to suggest one adjustment that could be made to the game to make it more accurate to real life. These suggestions could be done verbally, or on small slips of paper the students submit before leaving. Students who demonstrate learning will make suggestions for additional predators, movements or food requirements that are more representative of that life stage, or inclusion of non-predator threats to salmon at relevant life stages.</i>
Lesson Adaptations:	
Extensions:	Have students draw a picture or write a journal entry that describes their connection to salmon. This may include eating, smoking, fishing, or any other connection or experience with salmon that the student identifies. For older students, build on the evidence of learning activity above by trying the game with some of the additions and changes.
Reflections:	How did it go? What did students understand most/least? What could change about instruction or lesson plan?
Resources Used:	Internet links, articles, organizations, and books that informed this lesson and background information.