Steelhead Survival Game

Objective:
Students will understand some of the threats that steelhead smolts face as they migrate through the Salish Sea.

Time Needed:
30-45 minutes

Grade Level:
K - 3

Setting:
Classroom

Materials Needed:
- Printed Steelhead Survival Cards (pages 4-13)

Vocabulary:
- Migration/migrate
- Pollution
- Predation/predator

Preparation

1. Position several tables or desks around the room so that students have room to walk from one table to another. On the table tops, set out the playing cards in sequential order.

*Note: The game cards could just as easily be set up on the floor if you don't have tables in your classroom.

Background

This lesson will allow students to take on the role of a young salmon or steelhead trout. Students will act out different movements to show the different challenges that these fish face on their way out to the ocean.

Introduction

Ask the students, "Do you know what migration is?" Can anyone give an example of an animal that migrates? Salmon and steelhead trout are fish that migrate from the river to the ocean, but it is not easy for them! In this game, we will pretend to be a salmon and we will learn about the challenges that they face during their journey to the ocean.

Ask students to share their ideas about why it might be difficult for fish to survive as they migrate through the Salish Sea. When they run out of ideas, give a quick explanation of any of the threats the students may not yet have mentioned. Predation, the preying upon of one animal on others, is one of the most dangerous threats at this stage. Passage barriers, or blocks in their way such as dams and bridges, is another.

Steelhead Survival Game

Activity

Let the class know that they will be acting as young steelhead trout making their migration to the ocean. Young salmon and steelhead migrate, or move from one region or habitat to another, when they are in the smolt stage of their lifecycles. They travel to the ocean to feed.

Explain the rules before you have students line up to play. Tell students that each of the cards will represent one of the threats you previously discussed. They will start at Card #1 ("Start in the River!") and attempt to work their way around the room to their destination, the open ocean. At each card, students will complete a movement or action that helps them understand the challenge that a fish might face during its migration.

Rules:

1. At each station, students must complete an action before moving on. The action is different for each station, but is designed to help the student act out and pretend to be a fish that is facing that threat.
2. Students must complete every challenge (overcoming each threat or obstacle) in order to finish the game.

The following are descriptions of each station and the action required to move on from them:

Station #	Description	Action
1	**Start in the river!**	**Skip and jump to the next station!**
2	**Nowhere to hide!**	**Duck down and cover your head with your hands, like you're hiding!**
3	**Not enough water!**	**Pretend to take a sip from a cup of water!**
4	**Not enough food!**	**Rub your belly like you're hungry!**
5	**Pollution!**	**Pinch your nose like you smell something stinky!**
6	**Things in the way!**	**Jump up and down 3 times, like you need to hop over something!**
7	**Predators!**	**Clap your hands together like a seal and pretend to take a big bite of salmon!**
8	**Diseases!**	**Move slowly to the next station, like you're sick and tired!**
9	**Hot water!**	**Fan yourself with your hand, like it's a very hot day!**
10	**You reached the ocean!**	**Do a happy dance to celebrate!**

SURVIVE the SOUND
Ready, Set, Migrate!

Steelhead Survival Game

Wrap-up and Discussion

After all students have completed their 'migration' at least once, gather them together to talk about what happened. Ask the students:

- Do you think salmon and steelhead have an easy migration?
- What do you think is the biggest challenge that these fish have to face?
- Were there any challenges that we might be able to help fix? Which ones can people do something about? Do you have ideas of how we can help fish in the real world?

Extensions

For an additional challenge, you can have students play in reverse after they complete the game. This represents the next stage of the salmon life cycle, when they return home to spawn and lay eggs. This can go on indefinitely—after they make it back to the start, they can go through the game again as a young fish!

Science Standards Applied

K-ESS2 Earth's Systems
K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time. **K-ESS2-2.** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
K-ESS3 Earth and Human Activity
K-ESS3-1. Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. **K-ESS3-3.** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*
3-LS4 Biological Evolution: Unity and Diversity
3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. **3-LS4-4.** Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

DO THIS ACTION:

START IN THE RIVER!

1

SKIP AND JUMP TO THE NEXT STATION!

Image: NOAA

DO THIS ACTION:

NOWHERE TO HIDE!

2

DUCK DOWN AND COVER YOUR HEAD WITH YOUR HANDS, LIKE YOU'RE HIDING!

Image: NOAA

DO THIS ACTION:

NOT ENOUGH WATER!

3

PRETEND TO TAKE A SIP FROM A CUP OF WATER!

Image: NOAA

DO THIS ACTION:

NOT ENOUGH FOOD!

4

RUB YOUR BELLY LIKE YOU'RE HUNGRY!

Image: National Geographic

DO THIS ACTION:

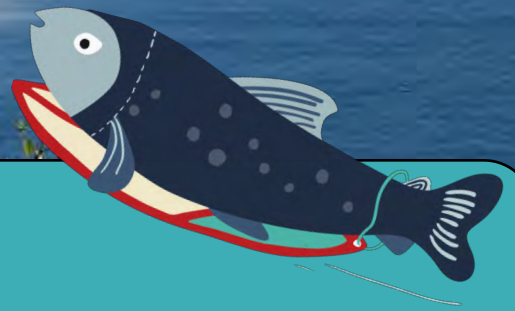
POLLUTION!

5

PINCH YOUR NOSE LIKE YOU SMELL SOMETHING STINKY!

Image: USFWS

DO THIS ACTION:



THINGS IN THE WAY!

6

JUMP UP AND DOWN 3 TIMES,
LIKE YOU NEED TO HOP OVER SOMETHING!

Image: Long Live the Kings

DO THIS ACTION:

PREDATORS!

7

CLAP YOUR HANDS TOGETHER LIKE A SEAL
AND PRETEND TO TAKE A BIG BITE OF SALMON!

Image: Puget Sound Institute

DO THIS ACTION:

DISEASES!

8

MOVE SLOWLY TO THE NEXT STATION,
LIKE YOU'RE SICK AND TIRED!

Image: Columbia Riverkeeper

DO THIS ACTION:

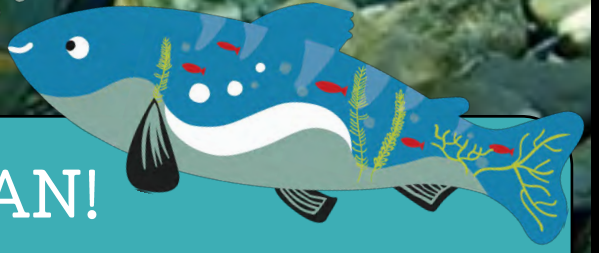
9

HOT WATER!

FAN YOURSELF WITH YOUR HAND,
LIKE IT'S A VERY HOT DAY!

Image: Scientific American

DO THIS ACTION:



YOU REACHED THE OCEAN!

10

DO A HAPPY DANCE TO CELEBRATE!

Image: NOAA