

HERE TODAY, GONE TOMORROW



Grade Level: Intermediate

Duration: One Class Period

Location: Classroom

Key Vocabulary: Endangered, Extinct, Organism, Population, Habitat

Materials

- Blackline Masters - "I Am" and "Survival Factors" (pages 7 & 8)
- Tape
- Six toothpicks for each student

Learning Outcomes

The student will be able to:

- a) describe the difference between the terms endangered/extinct,
- b) analyze the impact of humans on other living things as a result of human, social, economic, and political activities, and
- c) compare and contrast three endangered species and their habitats in British Columbia.



Method

The students will play a game, which shows how animal populations are reduced by human interference.

Background

Because of the variety of habitats, British Columbia is home to a tremendous diversity of plants and animals. Many of these habitats are being destroyed or altered by humans and other factors such as global warming and fire. Diversion of water, construction of roads, agricultural pollutants, and many other factors affect the ecosystem and the plants and animals that live here. As these habitats are destroyed, danger of extinction increases for these plants and animals. Today, British Columbia is home to many threatened or endangered animal species. Refer to the enclosed "Red List" on endangered species in BC (if you purchased the complete FORED package. If you downloaded the activity, visit the following sites for red list species information.

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists>

<https://cosewic.ca/index.php/en-ca/>

<https://www.crd.bc.ca/docs/default-source/parks-pdf/sarfactsheetivb.pdf?sfvrsn=2>

Suggested Procedure

1. Copy and cut both blackline masters into cards.
2. Have students stand in a large circle. Tape the name of an animal or plant to their shirts (taken from the "I Am" blackline master). If there are more than 32 students in your class, some plants and/or animals may be used more than once. The plants and wildlife found on the blackline master "I Am" are all endangered species native to British Columbia.



3. Distribute six toothpicks to each student. Tell them that the toothpicks represent a population of organisms (any living thing). Review the population concept. (Remind them that a population is all organisms found in a specific area; there are plant and animal populations; and the size of a population is determined by the number of individuals). The student populations are all the same size. Tell them that each toothpick represents hundreds of organisms.
4. Tell students that you are going to read some statements. Give them the following instructions:

Everyone stand up in a circle.

I am going to read some survival factors.

Each time I read a statement that limits or reduces your chances of survival, put one of your toothpicks on the floor in front of you.

Whenever I say "Human Population Growth Increases" everyone puts down a toothpick.

When you have two toothpicks left, sit down on the floor and say, "I'm in big trouble."



5. Draw the "Survival Factors" from a box or hat and read them off one at a time. Be sure that "human population growth increases" gets drawn more frequently than the other factors.
6. Continue to draw factors until everyone is sitting. During the game, ask questions such as: How many of you have toothpicks left? How many have none? Is this game life-like? Why or why not? What are the important ideas in this game?
7. Write the words **EXTINCT** and **ENDANGERED** on the chalkboard. Tell students that their populations became endangered when they became small in number. Endangered refers to any population of plants or animals in danger of extinction. There are still some left. Extinction is final. The plant or animal is "gone forever", eg. dinosaurs. Can students name any other extinct animals? (for example: passenger pigeon)
8. Tell students that there is an official list of endangered species for Canada and one just for British Columbia. Plants and animals are placed on this list after careful study and review by the [Committee on the Status on Endangered Wildlife in Canada \(COSEWIC\)](#). Tell them that there are many endangered species living in British Columbia.

Evaluation

Summarize the lesson with a discussion. You may want to use these kinds of questions:

What are factors that influence the survival of populations of plants and animals in British Columbia? Can you think of some factors that this game did not consider? Does this game contain any facts? What are they? Are they accurate? How could you find out? Did populations have any choices? Why or why not? How could this game be changed to make it even more like real life? How would you change this game to have winners? (Does this game have any winners?) Do populations lose this game by chance?

Extension

- Have the students come up with a list of survival factors that would increase each population's chance of surviving. For example, an oil company has come up with a new way of getting oil out of the ground that greatly reduces the chance of oil spills.
- Ask students to research in the library or on Internet to find information on the animal they have been assigned including photographs or illustrations and to choose in their opinion the greatest single factor affecting their survival. Interview some environmental, governmental and industrial interests (eg. CPAWS, Environment Canada, Weyerhaeuser) and see how each group perceives the problem of endangered species and the solution. How do they differ and how are they similar in their approaches?



This activity was adapted by *FORED BC* from the Everglades National Park classroom activities.

I AM

I AM a White Sturgeon (Fish)	I AM a Speckled Dace (Fish)
I AM a Cisco (Fish)	I AM a Tiger Salamander (Amphibian)
I AM a Northern Leopard Frog (Amphibian)	I AM Pacific Giant Salamander (Amphibian)
I AM a Western Pond Turtle (Reptile)	I AM a Pigmy Short-Horned Lizard (Reptile)
I AM Sharp-tailed Snake (Reptile)	I AM a Gopher Snake (Reptile)
I AM a Leatherback (Reptile)	I AM a Western Grebe (Bird)
I AM an American White Pelican (Bird)	I AM a Caribou (Mammal)
I AM a Swainson's Hawk (Bird)	I AM a Peregrine Falcon (Bird)
I AM a Sandhill Crane (Bird)	I AM a Horned Puffin (Bird)
I AM a Marbled Murrelet (Bird)	I AM a Burrowing Owl (Bird)
I AM a White-Headed Woodpecker (Bird)	I AM a Pacific Water Shrew (Mammal)
I AM a Townsend's Mole (Mammal)	I AM a Western Red Bat (Mammal)
I AM a White-tailed Jackrabbit (Mammal)	I AM a Mountain Beaver (Mammal)
I AM a Red-tailed Chipmunk (Mammal)	I AM a Vancouver Island Marmot (Mammal)
I AM Killer Whale (Mammal)	I AM a Northern Sea Lion (Mammal)
I AM a Badger (Mammal)	I AM a Sea Otter (Mammal)

SURVIVAL FACTORS

A major road is built across your habitat dramatically increasing traffic.	Recreational power boaters ignore the posted speed limit in your habitat.
Mercury contamination in the water is ultimately affecting your food source.	Lumber from your habitat is used for school supplies (paper and pencils).
A forest is cleared, destroying your habitat.	Acid rain is killing aquatic life and damaging soil environments.
Fire has burned Douglas fir habitat.	A four year drought has affected the water level in the lakes surrounding your habitat.
A restoration project restores the flow of water to an area that has been dry for some time.	Your habitat is threatened by oil drilling.
Human population growth increases.	Forests have been cleared for agricultural farmland.
A poacher has shot you illegally.	Human population growth increases.
An oil tanker has spilled thousands of gallons of oil into the Pacific Ocean.	Agricultural fertilizers have washed into your habitat.
Pesticides have polluted the water.	An oil company is paid to test the effect of oil drilling off the Pacific Coast.
New zoning allows development nearby but protects your critical habitat.	Human population growth increases.
Drought and fire.	Recreational, commercial and native fisheries have over fished this year.
Wetlands are destroyed because of development pressure.	In the past, you were hunted for your feathers, which were used in ladies' hats.
Scientists have overestimated the amount of salmon left in rivers/oceans.	A new subdivision is being built on Cypress Mountain.