

Summary

This lesson explores species at risk in Canada. Students will discuss the different designations for species at risk and create a game using species at risk as the main theme.

Activity Info



Level: Grades 6 and 7

Subject: Diversity of Life, Interactions within Ecosystems

Estimated Duration: 30 minutes discussion, 30 minutes group planning, 60 minutes prepare game

Materials: pencils, paper, markers

Learning Outcomes

Students will:

- Describe the potential impact of the use by humans of regional natural resources.
- Identify populations of organisms within an ecosystem and the factors that contribute to their survival in that ecosystem.
- Use appropriate vocabulary including correct science and technology terminology to communicate ideas, procedures and results, in the form of a game.

Teacher Background

Can you believe it? Almost all of the species that have ever lived on Earth are now extinct. Think of the dinosaurs and many of the other animal and plant species that existed long ago. They have all become extinct through natural processes.

In Canada, as of 2000, 173 species, subspecies, or populations of wild plants and

animals were listed as threatened or endangered, and 153 were considered of special concern. The number of species at risk in Canada is updated regularly and continues to climb.

Humans, with our need for cities, highways and farmland, and our insensitivity to the needs of other species, are a major factor in the risk of extinction today. But we also have the power to lower that risk or even eliminate it by changing the way we do things.

Some of the things that can put a species at risk include:

- habitat change or modification
- over exploitation of resources
- unregulated or poorly regulated commercial harvest
- disruption of migration routes and breeding behaviours
- contamination of habitat
- introduction of exotic species

There are five designations for species at risk:

Extinct

A species that no longer exists anywhere on the planet (such as the passenger pigeon and the Labrador duck).

Extirpated

A species that no longer exists in one area, but occurs elsewhere (such as the grizzly bear in the Prairies, the grey whale in the Atlantic, and the pygmy short-horned lizard in British Columbia).

Endangered

Species that are facing imminent extinction or extirpation (such as the drooping trillium, the leatherback turtle, the mudpuppy mussel, and the whooping crane).

Threatened

Species that are likely to become endangered in Canada if limiting factors are not reversed (such as the barn owl, the dense blazing star plant, the eastern massasauga rattlesnake, the killer whale, and the water-pennywort plant).

Special Concern (formerly Vulnerable)

Species that have characteristics making them particularly sensitive to human activities or natural events (such as the Atlantic cod, the beluga whale, buffalograss, and the eastern prairie fringed orchid).

Discuss the different parts of a board game – dice, question/answer cards, markers, etc.

Procedure**Step 1**

Begin by writing *Species at Risk* on the board. Introduce and explain the five designations: extinct, extirpated, endangered, threatened and special concern. Ask the class if they understand the differences between them. Can they give examples of any species at risk (plant, animal, bird, reptile)? Do they know of any local, regional or provincial species at risk?

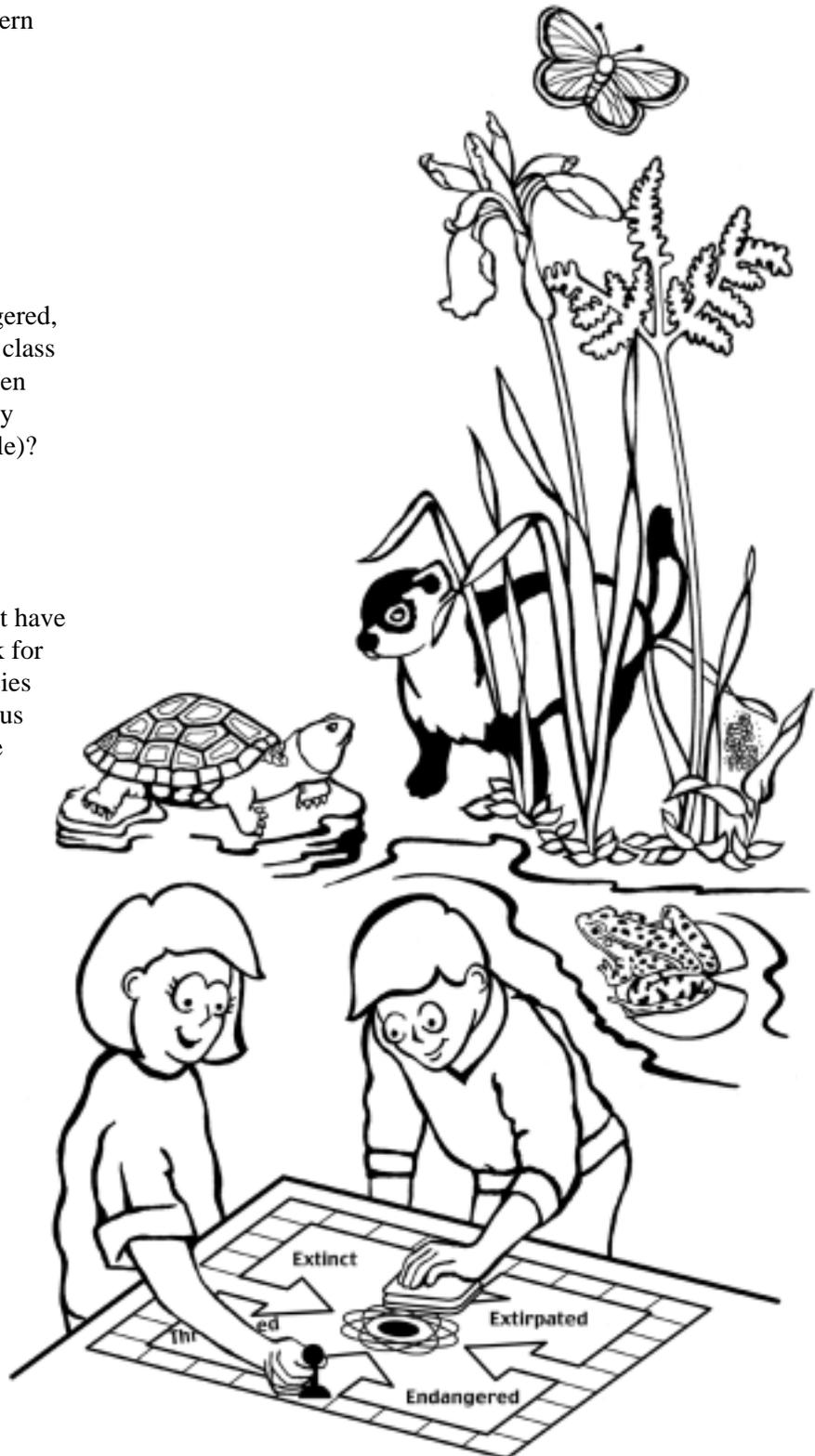
Step 2

Ask your students what they think might have put these species at risk. Help them look for things that might be common to all species at risk. Encourage them to discuss various human impacts. Consider things like the illegal harvest of animals, exotic pet trade, land development, and other activities where people either damage the habitat or threaten the survival of the species in some way.

Step 3

Move to a discussion about different types of board games. Ask your class questions such as:

- What are some different kinds of games that they like to play? (Monopoly, Trivia games, Snakes & Ladders, Clue)
- What do they like or dislike about various kinds of games?



Step 4

Explain that they will be creating a game based on species at risk. Their design could be a board game, or an activity like Red Light, Green Light. Encourage creative thinking and problem solving to help them include as many concepts and variables as possible.

Step 5

Divide the class into four or five working groups.

Step 6

Explain to the class that their game must consider some of the following:

- It should have a start and a finish.
- It should include different types of habitats (for example a forest, wetland or field).
- It could include Pause and Reflect squares where people do some action that may impact negatively or positively on a species at risk (for example you littered, move back three spaces or, you tried to save a wetland, move forward four spaces).
- Explore various concepts associated with species at risk, such as what causes the risk and the different levels of risk. This could be incorporated into a Question and Answer card or a consequence square on the board (for example your level of risk has been increased from threatened to endangered, move back four spaces).
- Incorporate various human causes of species at risk:
 - Road construction
 - Housing development
 - Introduction of exotic species
- Include at least four questions and answers, created by each student in the group.

- The game should not take more than half an hour to play.
- It should have a creative name.
- It must have rules or instructions.

Step 7

Ask each group to prepare a brief game proposal that must be reviewed and approved by the teacher before each group initiates work on their game. The proposal should include: proposed name, brief description of game and the materials needed. This proposal can be a written proposal, or simply a conversation with the teacher.

Step 8

Once the game proposal has been approved, the group can prepare their game.

Step 9

Depending upon time constraints, ask each group to play another group's game.



Extensions

- Prepare a presentation for Grade 4 students about species at risk.
- Have each student create a brochure or television commercial promoting their game.
- Play the games with other classes or grades.