

Wildlife Soundscapes

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Duration: 90 minutes

LEVEL	SUBJECTS	PROVINCES / TERRITORIES	TOOL
Grades 1-3	English Language Arts Science and Technology Social Sciences	Across Canada	Scratch

Overview

In this lesson students will explore the sounds of wildlife in protected environments and begin to consider how we can restore and protect animal habitats.

Prep Work

- Review the completed version of the project: <http://bit.ly/soundscape-example>
- Watch this video about wolves: <http://bit.ly/howwolves-change-rivers-video>
- Print the Solution Sheet for the main activity: bit.ly/wildlife-soundscapes-solution (see below)

Lesson

Key Coding Concepts

- ✓ Algorithms
- ✓ Events
- ✓ Sequences

Terminology

Algorithm

A step-by-step set of operations to be performed to help solve a problem

Events

One thing causing another thing to happen i.e. 'when clicked' block

Sequence

This lesson was made in partnership with



David
Suzuki
Foundation

SOLUTIONS ARE IN OUR NATURE

Introduction

Watch this video about wolves:

<http://bit.ly/howwolves-change-rivers-video> (~4 minutes).

Ask: What does this video tell us about [wildlife / ecosystems]? (A: That they're all connected!)

Provide some background information on the boreal woodland caribou:

The boreal woodland caribou is threatened with extinction in every province and territory. (Ask: What does 'extinction' mean?)

These shy animals need large forests without roads and buildings to survive. At least half of the boreal caribou have been lost as their homes have been destroyed. For example - All of the woodland caribou in oil and gas development areas of Alberta are shrinking in half every 8 years.

We're making a "wildlife soundscape" for the woodland caribou using Scratch. A soundscape is when we take all of the sounds we might hear in a

Identifying a series of steps for a task. Computers and Scratch read and perform commands in order from top to bottom

Curricular Connections

Understanding life systems; Needs and characteristics of living things; Habitats and communities; Sustainability and stewardship;

References

Image from:

<https://animalcorner.co.uk/animals/caribou/>

Boreal woodland caribou - A Canadian icon

<http://davidssuzuki.org/issues/wildlife-habitat/science/critical-species/boreal-woodland-caribou/>

Indigenous people hold the key to caribou survival

<http://davidssuzuki.org/blogs/science-matters/2016/12/indigenous-people-hold-the-key-to-caribou-survival/>

Half measures aren't enough to save caribou

<http://davidssuzuki.org/blogs/science-matters/2016/08/half>

place, and put them together.

Ask: What is wildlife? What sorts of sounds might we hear in a wildlife soundscape? (Take note of the answers on a whiteboard or anchor chart paper)

Create a wildlife soundscape with your class!

- Tell learners that we are making a soundscape. Each of them will take turns adding a sound that they would hear in a forest (when you point at them, or when they pass a 'talking stick' item).
- Remind them that forests are quiet and peaceful, so let's try to make our soundscape sound the same!
- If learners can't think of a sound effect, they can use a sound from the list that you created (from the previous question)
- Go through the entire class until everyone has had a chance to add their sound.
- Congratulate learners on creating their first soundscape. Now let's make one using the computer!

Code Along

- Open up a new Scratch project at scratch.mit.edu and click on "create" (top, left corner).
- Point out the main elements: Stage, Sprites, and Scripts (especially the

[-measures-arent-enough-to-save-caribou/](#)

The simple-minded nature of human super predators
<http://davidsuzuki.org/blogs/science-matters/2016/09/the-simple-minded-nature-of-human-super-predators/>

Manufacturing the Wild
<https://curio.ca/en/video/manufacturing-the-wild-8265/>

B.C. Wolf Cull: Saving Endangered Caribou?
<https://curio.ca/en/video/bc-wolf-cull-saving-endangered-caribou-5707/>

Nature Bites Back: The Case of the Sea Otter
<https://curio.ca/en/video/nature-bites-back-the-case-of-the-sea-otter-867/>

“sounds” category). Demonstrate how to drag and connect blocks.

- Give learners a few minutes to click on blocks and explore.
- Go through 1-2 challenges with the group, where learners are tasked with trying to make something happen in Scratch. For example, “Try to make Scratch move” or “Try to make Scratch say something when the space key is pressed” (See the Code-Along Challenges doc (<http://bit.ly/scratch-challenge-solutions-doc>) for more examples and solutions)

Activity

Show the example project (<http://bit.ly/soundscape-example>) so learners know what they are working towards. Ask them what they see/hear - what is happening in this project?

Open the starter project (<http://bit.ly/soundscape-starter>) and review the Sprites and backgrounds. Have learners open the starter project on their screens and click "REMIX."

Use the Solution Sheet to guide learners through the following steps:

- Animal sounds
- Change the backdrop
- Showing/hiding animals

Give learners time to work on their projects, and add as many sounds and changes as they like.

Assessment

Learning Outcomes

I can use code to tell the computer what to do

I can use events to control when things happen in my project

I can create a soundscape in Scratch

Success Criteria

I remixed the starter project and renamed it with my first name.

All of the animals in my project make a sound.

My backdrop changes from day to night (or the other way around).

I made at least 1 animal show, then hide (or the other way around).

Assessment Ideas:

Have students write a reflection on the effects of human activity on animal life.

- What did they learn from creating a rich soundscape in Scratch?
- What would their forest sound like if there were fewer or even no animals?

Show learners how to add a “say [hello] for _ secs” script to provide some context for their soundscape. They can edit the ‘hello’ text to describe what they learned about the caribou and their habitat.

Extensions

Complete a KW(D)L chart with the class (Know, Want to know, (Do), Learned). Ask them what they think they know about habitats (or caribou) at the beginning of the lesson, and what they want to know. After the lesson, regroup and complete the ‘learned’ column as well. Brainstorm and research what we can DO as a class. How can we work towards helping save the boreal woodland caribou and their habitat (or endangered species in general)?

Use this as an opportunity to learn about onomatopoeia (when words look the way they sound - like ‘buzz’). When brainstorming sounds in a wildlife soundscape, have learners think of these words and write them at the front.

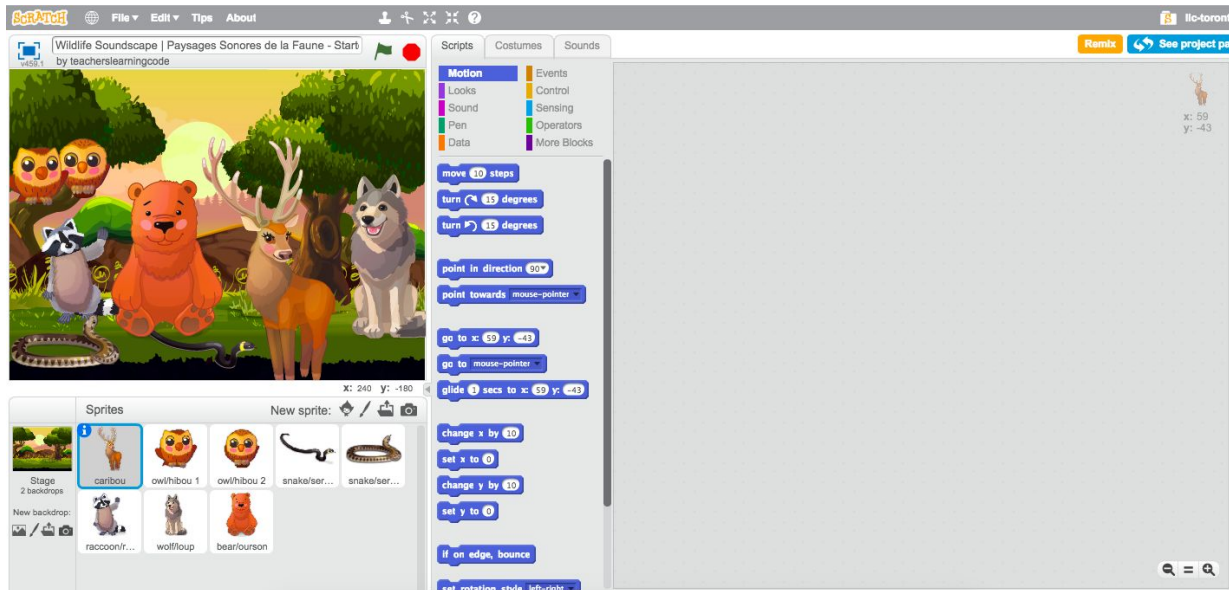
Define “nocturnal” and spend time discussing which animals come out at night, and which are out during the day.

Have learners demonstrate their understanding by having animals in the project ‘show’ and ‘hide’ according to the backdrop.

Wildlife Soundscapes

STEP 1: Opening the Starter Project

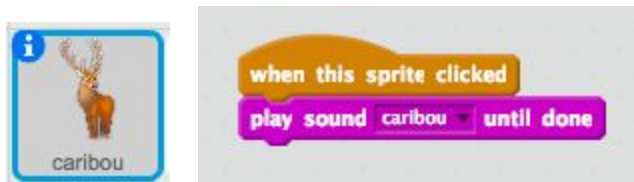
1. Sign in to Scratch
2. Open the starter project: <http://bit.ly/soundscape-starter>
3. Remix the project & change the project name



*Starter project has 2 backdrops and 8 sprites with sounds

STEP 2: Adding Animal Sounds

1. Select the caribou sprite
2. Make the caribou say something (play sound until done will make sure that the sound doesn't get cut off)
3. Make this happen when the sprite is clicked



4. Show learners how to select another animal sprite and add the same instructions - to make a sound when the sprite is clicked.

- Give them 5 extra minutes to add sounds to the other animals in the project
For example, the raccoon:



STEP 3: Changing the Backdrop

- Select the stage
- Use the 'switch backdrop' script to change the backdrop to the night scene
- Make this happen when we press the space key
- Make the backdrop reset to the day scene when the green flag is pressed



STEP 4: Showing/Hiding Animals

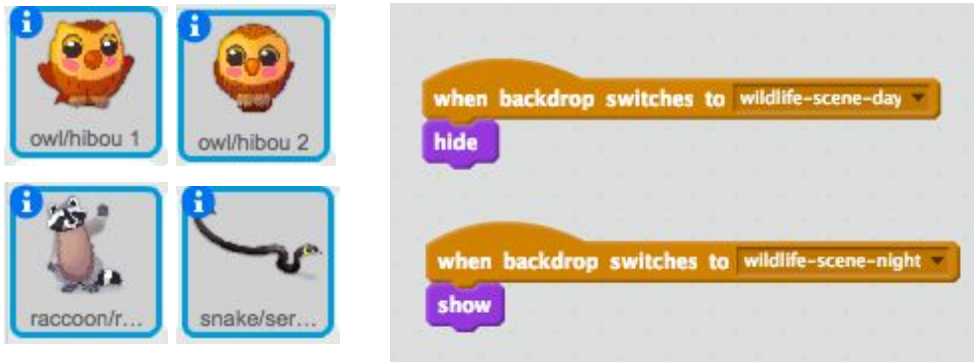
- Select the Caribou sprite
- Make the sprite hide
- Make this happen when the backdrop changes to the night scene
- Make the caribou show when the backdrop changes to the day scene



ADD-ON: Nocturnal or Diurnal?

- Discuss which animals would come out at night (nocturnal) or during the day (diurnal)
- For each animal that comes out at night, make them:

- a. Hide when it switches to the day scene backdrop
- b. Show when it switches to the night scene backdrop



3. For each animal that comes out during the day, make them:
 - a. Show when it switches to the day scene backdrop
 - b. Hide when it switches to the night scene backdrop



ADD-ON: Background sounds

1. Select the stage
2. Make the night time sounds play after we switch to the night scene
3. Make the day time sounds play after we switch to the day scene

