



Community Science

Urban Wildlife

Lesson 1: What is community science?

Duration: 45 mins to 1 hour **Location:** Indoors

Overview

In this lesson students will:

Discover what community science AKA citizen science is, its purpose, and how they can become involved. They will be introduced to biodiversity, niches, and a food web activity to explore mutualism, commensalism, and parasitism. Students will learn about climate change and its impacts to food webs, and our urban wildlife, as well as climate actions to take to prevent climate change in the future.

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Learning objectives

By the end of the session, students will be able to:

- Define citizen science and understand how to contribute to solve real world problems
- Define biodiversity on various levels: ecosystem, population and genetic
- Understand and apply mutualistic, commensal and parasitic relationships between organisms in food webs
- Provide an example of ecosystem dependencies among species
- Understand what climate change is, why it's happening and actions to take to prevent it

Curriculum links

Grade: 9

Subject and Unit: Science, Biological Diversity

- observe variation in living things, and describe examples of variation among species and within species;
- identify examples of niches, and describe the role of variation in enabling closely related living things to survive in the same ecosystem;
- investigate and interpret dependencies among species that link the survival of one species to the survival of others;



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Equipment required

- PowerPoint called "Lesson 1 what is citizen science (grade 9 UW)"
- Climate jug activity supplies (two water bottles labelled "sink" and "source", and jug with spout labelled atmosphere)
- iPads/tablets
- Laminated climate action activity sheets
- Erasable markers
- Computer with Wi-Fi
- Projector

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Additional information

The students will be doing an activity that will utilize the City of Calgary Climate Actions webpage during this lesson. Please briefly refer to this [webpage](#) and its contents before the session.



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Lesson plan

Time	Activity	Equipment needed
5 mins	Citizen science and biodiversity introduction (slides 2-3) <ul style="list-style-type: none">- Play video on slide 2- Go through the slide notes	<ul style="list-style-type: none">• Computer with Wi-Fi• Projector
2 mins	What is a Niche? Video (slide 4) <ul style="list-style-type: none">- Play video	<ul style="list-style-type: none">• Computer with Wi-Fi• Projector
5 mins	Food web frenzy virtual activity (slides 5-6) <ul style="list-style-type: none">- Virtual activity to explore mutualism, commensalism, and parasitism- Use the PowerPoint notes as a guide through the activity	<ul style="list-style-type: none">• Computer with Wi-Fi• Projector
15 mins	Climate change introduction and climate change jug activity (slides 7-12) <ul style="list-style-type: none">- Play video on slide 8- Go through the slide notes- Play video on slide 10 as a guide for the Climate Change Jug Activity	<ul style="list-style-type: none">• Computer with Wi-Fi• Projector• Climate jug activity supplies (two water bottles labelled "sink" and "source", and jug with spout labelled atmosphere)
15-20 mins	Climate Resilience Strategy Activity Sheet and conclusion (slide 13-14) <ul style="list-style-type: none">- Hand out the laminated Climate Resilience Strategy Activity Sheet and iPads/tablets to groups (should we 7 groups of students, iPads/tablets should be connected to Wi-Fi)- Show students the 'Actions you can take to help limit climate change' website (linked on slide)- Read through the questions on the sheet and instruct groups to work together to answer these questions	<ul style="list-style-type: none">• iPads/tablets• Laminated climate action activity sheets• Erasable markers



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| | <ul style="list-style-type: none">- Debrief with the class, encourage students to share their findings- Review slide 14 to close the lesson | |
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