



YYC Young Citizen Scientists

Urban Wildlife

Lesson 5: Knowledge review session

Duration: 1 hour **Location:** Indoors

Overview

In this lesson students will:

Re-cap and test the knowledge gained so far in this sequence of lessons. During the Bio-diverCITY board game, students will be presented with a range of scenarios, and see how urban wildlife is impacted by humans.

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Learning objectives

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

Grade 7

- Explain the ways in which humans impact ecosystems.
- Identify consequences of human activities within the local environment.
- Explain interactions and interdependencies within an ecosystem and give examples of this.

Grade 9

- Explain dependencies between species and give examples of this.
- Explain the ways in which humans impact ecosystems, and can influence species survival.
- Explain how personal and public decision making can impact local species.

Curriculum links

Grade: 7

Science Unit A: Interactions and Ecosystems

- describe examples of interaction and interdependency within an ecosystem.
- identify examples of human impacts on ecosystems, and investigate and analyse the link between these impacts and the human wants and needs that give rise to them.



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- identify intended and unintended consequences of human activities within local and global environments (e.g., changes resulting from habitat loss, pest control or from introduction of new species; changes leading to species extinction).

Grade 9

Science Unit A: Biological Diversity

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- Investigate and interpret dependencies among species that link the survival of one species to the survival of others.
- Identify impacts of human action on species survival and variation within species and analyse related issues for personal and public decision making.

Equipment required

- Bio-diverCITY board game kits (10 kits). Each kit contains:
 - 1 game board
 - 4 health point tokens
 - 4 character sheets
 - 1 animal figurine
 - 1 die
 - 1 scenario card ring
 - 1 marker and eraser
 - 1 laminated worksheet

Additional information

This lesson is designed to be a fun re-cap session, and a chance to check the knowledge and skills gained before moving on to the practical citizen science outdoor sessions.



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Lesson plan

Time	Activity	Equipment needed
5 minutes	<p>Introduce the session for today: we are playing the Bio-diverCITY board game to apply the knowledge gained in these lessons so far.</p> <p>Explain to students that they will be taking on the role of a species in an urban environment. They will encounter different scenarios as they move around the board, and must make decisions which could gain or lose health points.</p> <p>Full game instructions can be found in the instruction manual in each game kit.</p>	<ul style="list-style-type: none">• Board game kits (10)
40 minutes	<p>Split students into (up to) 10 groups, and allow them time to play the game. They may have time to swap characters and play more than once.</p> <p>Following completion of the game, students should complete the laminated question sheets.</p>	<ul style="list-style-type: none">• Board game kits.• Laminated question sheets (in board game kits)
15 minutes	<p>Following game play, students should have completed the laminated question sheets. Go through their answers to these questions in a class discussion:</p> <p>Grade 7:</p> <ol style="list-style-type: none">1. Name 3 biotic and abiotic characteristics you encountered throughout the game.2. What are 3 examples of human impacts your species encountered during the scenarios?3. Identify two plant species discussed in the scenarios. Describe their uses.4. How do urban habitats impact the ecosystem of your specie's habitat/range?5. In the game, what is the example provided of citizen science in action?6. How is citizen science helpful to urban wildlife?7. Identify one or more signs of climate change encountered throughout the game.	<ul style="list-style-type: none">• Laminated questions sheets (completed by students)



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8. Draw a food web with your species in the middle. Share ideas as a class.

Grade 9:

1. List 3 human impacts your species experienced during the scenarios.
2. Provide examples of abiotic and biotic ecosystem characteristics your species encountered.
3. Identify 2 species of plants and their uses you encountered during the board game.
4. In the game, what is the example provided of citizen science in action?
5. How does/could citizen science alleviate the stressors urban wildlife encounter living in cities?
6. Identify one or more signs of climate change encountered throughout the game. Identify ways you can reduce your climate footprint.
7. Draw a food web with your species in the middle. Share ideas as a class.



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Board game instructions:

SET UP

1. Open the game board.
2. Give each player a 'Character Sheet' and 1 'Health Point Token'. All Players read their 'Character Sheets'!
3. Place your animal figurine on the starting space. You will learn which space this is by looking on the back of the cover card on your 'Scenario Card Ring'.
4. All players read through the worksheet.
5. Give one player the following role.
Scribe: this player will be in charge of writing down the answers on the worksheet.
Other players can help the scribe by knowing what questions they are looking to answer, or each player can be given question(s) to answer to share the scribe duties.

** Note
If you use the laminated worksheet & marker please erase your answers from the sheet when packing up!*

HOW TO PLAY

1. All players place their Health Point Tokens on 3.
2. The player with the lowest initiative goes first.
3. Players start their turn by reading a scenario and then choosing Option A or B as their action. Characters will choose an action based on their individual character's personality, not necessarily what the best decision would be.
 E.g., If your character is young and brave you will choose the most daring option.
4. After the player chooses their scenario Option, they will read the corresponding Outcome on the back of the Scenario Card. Player(s) then will move (or not move) the animal figurine and health tokens according to the instructions in the Outcome.
5. The player with the next lowest initiative will follow the same steps. Play continues to rotate (1, 2, 3, 4, 1, 2, 3, 4...) until all the scenarios have been completed.

GAME GOAL

1. Play as your animal personality
2. Survive

DEATH

How do you die?
 If you have no more Health Points (less than 1), you have died. If a scenario says you (or everyone) has died. If you die you cannot play until you come back to life. This means you cannot read a Scenario Card when it is your turn and all scenario Outcomes do not affect you until you come back to life.
How can I come back to life?
 When your turn comes around again use the die and try to roll a 3 or 6.
 If you DO roll a 3 or 6 you may rejoin the game and start your turn by reading the Scenario Card for that turn.
 If you do NOT roll a 3 or 6 you cannot rejoin the game this round and play moves to the next player. You can attempt a roll every time your turn comes around. When you come back to life your Health Points start at 3.

What happens if everyone dies?
 You have finished the game! If there is time to start a new game read "If You Finish Early" below.

IF YOU FINISH EARLY

A. Rotate starting initiatives and start the game again.
 E.g., If your player sheet has an initiative of 2, you will become player 1. The player sheet that has an initiative of 1 will become the last player (initiative 4).
 or
B. Exchange games with another group and start play again from the beginning. See 'Set Up'.