Wildlife in The City

TEACHER’S GUIDE

Wildlife plays a vital role in urban ecosystems. This unique series investigates the wild and semi-wild animals that live among and around us. They live in our parks, backyards, woodlands, and on the edges of human spaces. Some even invade our homes. Special illustrated spreads focus on the specific anatomy, adaptations, and skills of key species, as well as the threats to their existence. Readers will also learn how biologists study urban animals and how cities deal with animal control.

Becoming inquisitive participants in the analysis of animal adaptations and interactions with human kind is a learning goal in schools across Canada and the United States. Wildlife in The City supports this initiative by providing non-fiction reading material on wildlife and their adaptations to urban living. Each book examines key scientific vocabulary and different kinds of wildlife that must change as their environment does. These books prompt readers to engage with the sources through presenting questions and encouraging students to draw their own conclusions. The Wildlife in The City Teacher’s Guide includes lessons that develop the critical-thinking skills students need to understand non-fiction materials, analyze them to gather evidence, and support research skills.

The multi-modal lesson plans in this guide are tailored for grades 3 to 6, and help students learn to analyze and draw conclusions from multiple sources of information. Students will learn how to gather and organize a variety of facts and statistics and use them to support their own predictions and inquiries about wildlife. Lessons focused on how humans impact animals and how conservations strive to protect animals encourage students to not just be knowledgeable, but also to be activists.

Each lesson plan is designed to stand alone, and can be taught in any order to develop a wide range of understanding around human and animal interactions. Reproducible worksheets and assessment tools accompany each lesson plan. The titles in Wildlife in The City include:

- Abandoned and Escaped Animals
- Animals on the Outskirts
- Backyard Dwellers
- Habitat Clashes
# PACING CHART AND VOCABULARY

<table>
<thead>
<tr>
<th>Lesson Plan Title</th>
<th>Pacing</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival in the City</td>
<td>1-2 class periods</td>
<td>adaptation, domesticated, feral, habitat, species, stray, urban</td>
</tr>
<tr>
<td>Humans and Animals Interact</td>
<td>1 class period</td>
<td>adaptation, adapter, habitat, inter-breed, species, urban, wildlife</td>
</tr>
<tr>
<td>Wildlife Scavenger Hunt</td>
<td>1 class period</td>
<td>adaptations, adapter, associate, avoiders, domesticated, exploiter, feral, habitat, stray, urban, wildlife</td>
</tr>
<tr>
<td>Class Conservationists</td>
<td>2-3 class periods</td>
<td>climate change, conservation, endangered, extinction, habitat, poaching, species</td>
</tr>
</tbody>
</table>

* 1 class period = 40 to 60 minutes
Accommodations provide equal access to learning and equal opportunity to demonstrate what is learned. Accommodations allow a student access to the subject or course without any changes to the knowledge and skills the student is expected to demonstrate.

Educators are encouraged to adapt the instructional approach, activities, and assessments included in this guide to best meet the diverse interests, needs, and abilities of their students. Possible accommodations may include:

### Instructional Strategies
- Break tasks into parts with accompanying time lines
- Provide extra time for processing of oral information.
- Pair oral instructions with visual ones (writing or symbols)
- Pre-teach new vocabulary and regularly review previously taught vocabulary
- Provided model of completed work
- Frequently check with the student to get him/her started
- Provide oral and visual instructions and examples
- Provide a checklist of tasks for the student

### Environmental Strategies
- Proximity to teacher
- Strategic seating
- Flexible or mixed-ability grouping
- Provide an alternative setting for learning that is free from visual and auditory distractions.

### Assessment Strategies
- Build in extra time to allow student to process questions asked and answers given
- Provide written instructions and rubrics for assignments
- Offer a choice of assessment activities so that the student can choose one suited to their strengths
- Space out or extend assignments to prevent student feeling overwhelmed
- Reduce the number of tasks used to assess skill or concept
- Allow students to use assistive devices or technology
LESSON 1
Survival in the City

Curriculum Correlations

Common Core State Standards
RI.4.2, RI.5.2, RI.5.4

Ontario Language Arts
Grades 5-8. Reading: Overall Expectation 1
1.4, 1.5, 1.6, 1.8

Ontario Science
Grade 4 A. Habitats and Communities
Overall Expectation 1
1.1

Next Generation Science Standards
3-LS4-3

Materials

- *Abandoned and Escaped Animals (Wildlife in The City Series)* p. 6, 7, 10-11, 14-15, 18-19, 22-23 and 26-27
- Chart paper
- Markers, pens, or pencils
- White board or chalkboard
- *Survival in the City Worksheets*
- *Survival in The City Exit Tickets*

Objectives

Students will be able to:

- Determine if animals can adapt to survive in an urban area.
- Analyze which animals have a better chance of survival based on their ability to adapt.

Setting the Stage

Facilitate a class discussion on adaptations. Use the think, pair, share method to ask students to come up with a definition for the term “adaptation.” A definition could be similar to the following:

- **Adaptation**: the process of change by which an organism or species becomes better suited to its environment.

Write down the definition on the board or on chart paper. Explain to the students that some animals have to adapt to living outdoors if they lose their homes. This includes domesticated animals who have lost their homes with humans.

- **Domestic**: Animals that are tame and kept as pets.

Ask the students to think about all the different pets humans have. Which of these animals would be more likely to adapt to living outdoors?

As a class, decide whether the following animals could adapt to life in the city or not:

- Cat
- Dog
- Reptiles: snakes, lizards
- Caged animals: hamsters, rats, mice, guinea pigs
- Pigs
- Goldfish
- Birds: parrots, budgies, pigeons

Record predictions on the board or a piece of chart paper. Read pages 6 and 7 in *Abandoned and Escaped Animals* from the Wildlife in The City series to begin to uncover how accurate predictions are.

Activity

Have students work in small groups to explore the physical adaptations pets have undergone in order to become better suited to a city environment. Use the *Abandoned and Escaped Animals* pages 10-11, 14-15, 18-19, 22-23, and 26-27 to fill in their *Survival in the City Worksheets*. 
Extensions

- Using different scenario cards, have students determine whether an animal could adapt to various different environments. For example, could a domestic cat adapt to a town in the Arctic? Why or why not? What physical features would help them survive? Example scenario cards are provided.

- Have students create an animal that has to adapt to a specific environment. What adaptations will the animal have to make in order to thrive in their new environment?

Wrap-Up

Explore how domesticated animals adapt to outdoor living by hosting a class debate. Have students debate which of the pets from their Survival in the City Worksheets would have the best chance of survival. Allow students to explain their opinion using the evidence they have gathered from their research. Encourage the students to evaluate the importance of adaptations in order to survive in a new environment. Add to students’ ideas if necessary.

Review the list of animals that the students believed could adapt to living in the city during the setting the stage portion of the lesson. Were there predictions accurate? Why or why not?

Pass out the Survival in the City Exit Card. Ask students to hand in the exit cards at the end of the lesson.

Assessment

Assess exit cards for understanding of domestic animal adaptations. Assess student understanding during the lesson using observational notes. Review definitions to clarify misunderstandings as needed.
# Survival in the City

<table>
<thead>
<tr>
<th>Animal</th>
<th>Page #:</th>
<th>Adaptations that help the animal live in the city:</th>
<th>Chances of Survival in the City (check the one that most applies):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat:</td>
<td></td>
<td></td>
<td>Likely</td>
</tr>
<tr>
<td>Dog:</td>
<td></td>
<td></td>
<td>Likely</td>
</tr>
<tr>
<td>Pig:</td>
<td></td>
<td></td>
<td>Likely</td>
</tr>
<tr>
<td>Goldfish:</td>
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<td>Likely</td>
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<tr>
<td>Pigeon:</td>
<td></td>
<td></td>
<td>Likely</td>
</tr>
</tbody>
</table>
Extension Scenario Card Examples:

Could a domestic cat adapt to an Arctic town? Why or why not? What physical features would help them?

Could a domestic dog cat adapt to living in a rural town? Why or why not? What physical features would help them?
Survival in the City Exit Ticket

Name: _____________________________________________  Date: ____________________

In your own words, describe what an adaptation is:
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Provide two examples of adaptations that animals have made to live in the city: ___________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
LESSON 2
Humans and Animals Interact

Curriculum Correlations

Common Core State Standards
RI.4.2, RI.5.2, RI.5.4

Ontario Language Arts
Grades 5-8. Reading: Overall Expectation 1
1.4, 1.5, 1.6, 1.8

Ontario Science
Grade 4. Habitats and Communities: Overall Expectation 1
1.1

Next Generation Science Standards
3-LS4-3, 3-LS4-4

Objectives

Students will be able to:

• Understand what adapters are and how animals adapt to urban life.
• Explore how humans, wildlife, and nature interact with one another.

Setting the Stage

Generate a class discussion on wildlife found in urban areas. Using the think pair share method, ask students what they think an adapter might be. Have students share answers and create a class definition together on chart paper. Definition could be something like:

- An adapter is a wild animal that adapts to urban life.

Ask students for examples of adapters from their community. Possible examples might include:

- Foxes, deer, cardinals, coyotes, hawks

Option to read or review pages 4-9 in Animals on the Outskirts from the Wildlife in The City series to explore the concept of adapters in urban communities.

Continue to engage in a class discussion about the co-existence of wildlife and humans. Create a pros and cons list on the board or chart paper for animals living in the city alongside humans.

Use prompts such as:

- How could living with wildlife in our cities be a good thing?
- Could wild animals eat certain animals that we do not want living in our cities?
- Could wild animals help us know if our environment is healthy?
- Can wild animals be harmful in any way?
- Can wild animals take food away from humans?

Use the Animals on The Outskirts book to review possible pros and cons to sharing a city with wildlife. Take-away concepts:

- Wildlife adapt to urban communities.
- The co-existence of humans and wildlife in urban communities can have pros and cons.

Activity

Explain to the students that whether we want wild animals to be around or not, cities are built in their natural habitats and we have disrupted their home environments. This means that we will co-exist in the same areas.

Ask the students to complete the Humans and Animals Interact Worksheet, where they will choose an animal to study and explore how they interact with humans in the city. This task will encourage them to think about what part of the environment drew them to the area, if humans benefit from or are disrupted by the animal’s presence, and how this impacts the natural environment in the area.

Students are encouraged to use the Animals on The Outskirts book from the Wildlife in The City series to complete this task.

Materials

- Animals on the Outskirts (Wildlife in The City Series)
- Chart paper
- Markers, pens, or pencils
- White board or chalkboard
- Humans and Animals Interact Worksheets
- Humans and Animals Interact Exit Tickets
Extensions

• Have students write a story about their animal living in the city. Did their habitat grow to become a city? What does the animal like about living in the city? What are its challenges? How does it feel about humans? How has it had to adapt?

• Teach students about different species of animals that breed together. For example, coy-wolves. Ask the students to create an inter-breed species of two animals and describe in detail all their adaptations to their environment.

Wrap-Up

Have students swap their Humans and Animals Interact Worksheet with a partner upon completion. Ask them to add any further details or perspectives their partner might have missed.

Pass out the Humans and Animals Interact Exit Ticket. Ask students to hand in the exit cards at the end of the lesson.

Assessment

Assess Humans and Animals Interact Exit Ticket for understanding of adapters and human, nature, and wildlife interactions. Assess student understanding during the lesson using observational notes. Review definitions to clarify misunderstandings as needed.
Humans and Animals Interact

How did your animal come to live in the city?

How do humans react to the animal being in the area?

How do humans feel about the animal’s presence?

How do they impact the natural environment?

How do they impact human activities?

My answer:

My answer:

My answer:

My answer:
Humans and Animals Interact Exit Ticket

In your own words, describe what an adapter is:
____________________________________________________________________________
____________________________________________________________________________

Based on your explorations this lesson, would you say humans and wildlife have a beneficial relationship or a troublesome one? Explain your opinion.  ___________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
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Humans and Animals Interact Exit Ticket

In your own words, describe what an adapter is:
____________________________________________________________________________
____________________________________________________________________________

Based on your explorations this lesson, would you say humans and wildlife have a beneficial relationship or a troublesome one? Explain your opinion.  ___________________________________________________________
____________________________________________________________________________
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____________________________________________________________________________
LESSON 3
Wildlife Scavenger Hunt

Curriculum Correlations

Common Core State Standards
RI.4.2, RI.5.2, RI.5.4

Ontario Language Arts
Grades 5-8. Reading: Overall Expectation 1
1.4, 1.5, 1.6, 1.8

Ontario Science
Grade 4 A. Habitats and Communities: Overall Expectation 1
Specific Expectation 1.1

Next Generation Science Standards
3-LS4-3, 3-LS4-4

Setting the Stage

Explain to students that there are all kinds of animals we see in urban communities. There are animals that are strays, animals that adapt to new habitats, animals that avoid humans, and animals that are associates to humans.

Put the words “adapter,” “associate,” “avoider,” and “stray” on the board or on a piece of chart paper. Ask the students in pairs to think about each of these categories. What could they mean? Ask them to use words they already know and knowledge they already have about wildlife to help them come up with definitions for each of the words.

As a class, feedback thoughts and create definitions for each term. Possible definitions include:

- **Adapter**: Wild animals that adapt to urban life.
- **Associate**: Urban wildlife that live closest to humans.
- **Avoiders**: Animals that try to avoid humans.
- **Strays**: Animals that were once domesticated but now fend for themselves.

Based on these definitions, have the class sort wildlife into these categories. Use the Wildlife Cards to sort the animals into the categories. At this point, do not correct students if they sort them wrong.

Activity

Tell students that they are going to get more practice sorting animals into these categories by completing a wildlife scavenger hunt. They will use all the books in the Wildlife in the City series to help them locate the animals, categorize them, and learn about adaptations they make to survive in the city. Hand out the Wildlife Scavenger Hunt Worksheets for students to complete the task.

Wrap-Up

Discuss the worksheet as a class. As a class review the sorting activity completed at the beginning of the lesson. Are there any animals the students would change after having more time to read about the different wildlife? Make adjustments if needed.

Pass out the Sort the Wildlife Quiz. Ask students to hand in the quiz at the end of the lesson.

Assessment

Assess quizzes for understanding of different kinds of animals that adapt to living in urban communities. Assess student understanding during lesson using observational notes. Review definitions to clarify misunderstandings as needed.

Objectives

Students will be able to:

- Understand why animals adapt to urban areas.
- Explore how humans, wildlife, and nature interact with one another.

Materials

- *Wildlife in The City Series*
- Chart paper
- Markers, pens, or pencils
- White board or chalkboard
- *Wildlife Scavenger Hunt Worksheets*
- *Sort the Wildlife Quiz*
- *Wildlife Cards*
<table>
<thead>
<tr>
<th>Animal and page #</th>
<th>Describe any adaptations the animal makes to live in the city</th>
<th>How does the animal react to living near humans?</th>
<th>How would you classify them? (adapter, associate, avoider, stray)</th>
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</tbody>
</table>
Sort the Wildlife Quiz

Name: _____________________________________________  Date: ____________________

1. Match the term to its definition:

   Adapter  An animal that was domesticated but now has to fend for itself in the wild

   Associate  An animal that avoids humans

   Stray  An animal that adapts to a new habitat

   Avoider  An animal that lives closest to humans

2. Provide one example of an animal that could be classified in each category:

   Adapter  

   Associate  

   Stray  

   Avoider  
LESSON 4
Class Conservationists

Curriculum Correlations

Common Core State Standards
Language:
Grades 4-5. Reading:
RI.4.2, RI.5.2, RI.5.4

Ontario Language Arts
Grades 5-8. Reading: Overall Expectation 1
1.4, 1.5, 1.6, 1.8

Ontario Science
Grade 4 A. Habitats and Communities: Overall Expectation 1
Specific Expectation 1.2

Next Generation Science Standards
Grade 5. Interdependent Relationships in Ecosystems:
Environmental Impacts on Organisms:
5-ESS3-

Materials
- Habitat Clashes (Wildlife in The City Series)
- Chart paper
- Markers, pens, or pencils
- Whiteboard or chalkboard
- Protecting the Environment Brainstorm Worksheets
- Poster Rubrics
- Poster Checklists

Objectives
Students will:
- Identify reasons for extinction of an animal species.
- Propose possible actions for preventing extinction from occurring.

Setting the Stage

Have a class discussion about different endangered species. Display facts on the board about endangered species such as:
- In 2018, there were around 39,000 polar bears. In 2019, this number has dropped to 25,000.
- In 2018, there were only 1,004 mountain gorillas. In 2019, this number has dropped even lower, to 880.

Ask the students to consider why the number of polar bears has decreased. Possible responses may include:
- Their habitat is being destroyed by climate change. They have less time each year to hunt on the melting ice.

Ask the students why the amount of mountain gorillas could be decreasing. Possible answers may include:
- Poaching (illegal hunting) and selling of animals
- Habitat destruction

Ask the students if they know what the term is for when animals are close to being completely gone? Students should come to the term "endangered." Write down this definition on the board or on chart paper.

Ask the students what the term is for when an animal species is completely gone and there will be no more. Students should come to the term "extinct." Write this definition down for students to refer to.

Explain to the student that many species, like the polar bear and the mountain gorilla, are endangered because of human activity. This does not have to be the case though.

Present facts about endangered species that are no longer close to extinction due to the work of conservationists. An example of an endangered species that is repopulating could include:
- In 1950, there were only 113 Gray wolves left, but now there are an estimated 12,000 to 17,000 Gray wolves.

Encourage the students to consider how someone could help re-populate a species. Students should come to understand that some people, referred to as conservationists, work to protect endangered species. These people support animals by informing the public about endangered species and through speaking out against harmful things such as hunting, poaching and climate change.

Take-away concepts:
- There are many endangered species as a result of human activity.
- Humans should take action in protecting these species to prevent them from extinction.

An additional option to read and review pages 4-9 in Habitat Clashes (Wildlife in the City Series) to go over concepts of endangered species, extinction, and conservation.
**Activity**

Explain to the students that one of the easiest ways to help save wildlife is to protect the environment these species live in. Ask students to brainstorm ways to help protect the environment. Provide a Protecting the Environment Brainstorm Worksheet for students to write down their ideas. Some ideas they may have include:

- Reduce, reuse, recycle
- Save energy
- Plant flowers
- Leave wild animals be

Using these suggestions as jumping-off points, ask students to create a poster about conservation. Each poster should do the following:

- Explain what endangered species are
- Give an example of an endangered species
- Explain causes for the species’ endangerment
- Offer suggestions for preventing extinction.

Students can use the Habitat Clashes book from the Wildlife in the City series to help them research different animals that have become endangered, causes for species endangerment, and suggestions for prevention of extinction. Pages to find this information include p. 10-11, 12-13, 14-15, 18-19, 20-21, and 24-25.

**Extensions**

- Ask the students to write a letter to their federal, provincial/state, or local legislation explaining their position against dangerous trapping of animals.
- Allow students to explore the World Wildlife Foundation website for more information on ways to protect endangered species.

**Wrap-Up**

Pass out the Poster Checklist for students to refer to as they complete their posters. Students can give themselves a rating out of 5 on how confident they are in including all the components; 1 being not confident at all and 5 being extremely confident.

**Assessment**

Assess Poster Checklist and use Poster Rubric for student understanding on how humans have a role in the extinction of animals and solutions for preventing further harm. Assess student understanding during the lesson using observational notes. Review definitions to clarify misunderstandings as needed.
Protecting the Environment Brainstorm

**Instructions:** Write down as many ideas as you can about how you can help protect the environment.
## Student's name: ______________________________________ Date: ____________________

### Poster Rubric

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content</strong></td>
<td>Student has included one of the following: an explanation of what endangered species are, an example of an endangered species, causes for endangerment, and suggestions for preventing extinction.</td>
<td>Student has included two of the following: an explanation of what endangered species are, an example of an endangered species, causes for endangerment, and suggestions for preventing extinction.</td>
<td>Student has included two of the following: an explanation of what endangered species are, an example of an endangered species, causes for endangerment, and suggestions for preventing extinction.</td>
<td>Student has included all of the following: an explanation of what endangered species are, an example of an endangered species, causes for endangerment, and suggestions for preventing extinction.</td>
</tr>
<tr>
<td><strong>Evidence</strong></td>
<td>Student has used limited evidence from their brainstorm and or the Wildlife in the City series to create their poster.</td>
<td>Student has used some evidence from their brainstorm and or the Wildlife in the City series to create their poster.</td>
<td>Student has used evidence from both their brainstorm and the Wildlife in the City Series to create their poster.</td>
<td>Student has used multiple pieces of evidence from both their brainstorm and the Wildlife in the City Series to create their poster.</td>
</tr>
<tr>
<td><strong>Layout</strong></td>
<td>Student's poster includes one of the following: title, pictures, subtitles, captions.</td>
<td>Student's poster includes a title and includes some of the following: pictures, subtitles, captions.</td>
<td>Student's poster is neatly organized and presented well with a title, subtitles, pictures, and captions.</td>
<td>Student's poster is neatly organized and presented exceptionally well with a title, subtitles, pictures, and captions.</td>
</tr>
<tr>
<td><strong>Spelling, punctuation and grammar</strong></td>
<td>Student has made 5 or more spelling, punctuation or grammatical errors.</td>
<td>Student has made 3-4 spelling, punctuation or grammatical errors.</td>
<td>Student has made 1-2 spelling, punctuation or grammatical errors.</td>
<td>Student has made no spelling, punctuation or grammatical errors.</td>
</tr>
</tbody>
</table>
Poster Checklist

Name: _____________________________________________ Date: ____________________

I have included:

• A definition for ‘endangered species’
• An example of an endangered species
• Possible reasons why the species is endangered
• Solutions to prevent extinction

My poster has:

• A title
• Subtitles
• Pictures
• Captions

I have included:

• Spelling
• Grammar
• Punctuation

How confident are you that you completed all of the checklist? Rate yourself out of 5.
1 = not confident
5 = very confident

___________