Grade 6 Teacher's Guide



Investigation 01: What Is a Habitat?

Companion to Explore the Habitats and Wildlife of Nova Scotia

Book pages: 12–17
Suggested duration: Two 45–60-minute classes
Curriculum connection: Nova Scotia Science 6 — Diversity of Life
Central question: What makes a place a suitable habitat, and how are different habitats connected?

1. Lesson overview

In this introductory investigation, students explore the concept of a habitat and identify the resources that plants and animals need to survive. They compare two Nova Scotia habitats, investigate the needs of a local animal, and create a labelled habitat illustration.

The lesson introduces an important ecological principle: habitats are not isolated places. Water, nutrients, energy, and organisms move between habitats, creating connections that are essential to biodiversity.

This investigation establishes foundational concepts that students will revisit throughout the remaining 11 habitat lessons.

2. Learning outcomes and success criteria

By the end of this lesson, students should be able to:

- Define a habitat and identify the basic needs of living organisms.
- Compare the living and non-living features of two different habitats.
- Make a reasonable prediction based on prior knowledge.
- Identify how a particular Nova Scotia animal obtains food, water, shelter, and space.
- Create a scientifically accurate, labelled habitat illustration.
- Explain at least one connection between two habitats using evidence.

Student-friendly success criteria

I can...

✓ Explain what a habitat is.

✓ Identify what an animal needs to survive.

✓ Compare different Nova Scotia habitats.

✓ Draw and label the important features of a habitat.

✓ Explain how two habitats are connected.

3. Materials and preparation

Materials: Copies of Explore the Habitats and Wildlife of Nova Scotia, Student Workbook Investigation 01, pencils, coloured pencils, and images of Nova Scotia habitats. A projector or whiteboard is helpful but not essential.

Teacher preparation: Review book pages 12–17, particularly the descriptions of Nova Scotia habitats and the discussion of habitat connections. Select two contrasting habitat images, such as a forest and a sandy beach, to use during the opening discussion.

4. Teaching sequence

10
minutes

Part A — Engage: What makes a habitat?

Display images of two contrasting Nova Scotia habitats.

Ask students: “Could a moose survive on a sandy beach? Could a sandpiper live permanently in a dense forest? Why or why not?”

Encourage students to consider food availability, water, shelter, space, and environmental conditions.

Introduce the definition:

Habitat: The natural place where an organism lives and finds the resources and conditions it needs to survive.

Explain that an animal's habitat is not simply its location; it must also support its biological needs.

15
minutes

Part B — Think and Predict (Worksheet Question 1)

Question 1A: Prior knowledge

Have students describe what makes a suitable habitat and name one Nova Scotia example.

Question 1B: Prediction

Students choose two contrasting habitats and predict differences in their organisms and environmental conditions.

Encourage predictions supported by reasons, rather than simple guesses.

Example: “I predict that a forest will have more shade and larger trees than a sandy beach because the forest has a tree canopy, while beaches are exposed to wind and salt spray.”

Teacher guidance: Do not immediately identify predictions as right or wrong. Record several predictions for later discussion.

Students should return to Question 1C after reading or discussing the habitats.

15
minutes

Part C — Explore: Reading and comparison

Read or assign pages 12–17 of the book.

As a class, compare two habitats using the following categories:

Feature	Forest	Sandy beach
Plants	Trees, ferns, mosses	Beach grass, dune plants
Animals	Squirrels, moose, salamanders	Shorebirds, insects
Physical conditions	Often shaded and sheltered	Exposed to wind and salt spray
Shelter	Trees, logs, vegetation	Vegetation, sand, sheltered areas

Discuss how both habitats support life despite their different conditions.

Students then complete Question 1C, revisiting their original predictions.

15
minutes

Part D — Investigate an animal's needs (Worksheet Question 2)

Students select a local Nova Scotia animal and identify its habitat requirements.

Encourage them to choose an animal for which they can find reliable information in the book or through teacher-provided resources.

Worked example: Red squirrel

Requirement	Example
Food	Seeds, cones, buds and fungi
Water	Water obtained from food and available water sources
Shelter	Tree cavities, nests and dense branches
Space	An area with sufficient food, shelter and places to move

Teaching point: Space means more than having room to move. Animals need access to resources, and some defend territories while others share areas or migrate.

Ask students to consider whether the animal's needs might change with the seasons.

20

minutes

Part E — Create a habitat illustration (Worksheet Question 3)

Students draw a Nova Scotia habitat and label the required features.

Recommended approach: Encourage students to draw the habitat of the animal they selected in Question 2. This creates a clear connection between the investigation and illustration.

A successful diagram should include at least three organisms, food and water sources, shelter, a non-living feature, and labels showing ecological relationships.

Ask students to explain how the labelled features support the organisms shown.

Assessment focus: Scientific accuracy and explanation are more important than artistic ability.

15

minutes

Part F — Explain with evidence (Worksheet Question 4)

Introduce the idea that habitats are connected by the movement of organisms, water, nutrients and energy.

Provide a concrete example:

A river connects a forest to an estuary by carrying water and nutrients downstream. Migratory birds may use several habitats during their lives.

Students should identify two habitats, describe the connection, and give evidence from the book or class discussion.

Encourage students to use this sentence structure:

“The _____ and _____ habitats are connected because _____. Evidence of this connection is _____.”

End with a brief discussion about why protecting one habitat can help protect another.

5. Assessment and marking guidance

I recommend assessing this first investigation primarily as a formative activity, since students are developing foundational vocabulary and scientific explanation skills.

Worksheet section	What to look for
1. Think and Predict	Reasonable prior knowledge, justified predictions and reflection
2. Investigate	Appropriate food, water, shelter and space requirements for a local animal
3. Sketch and Label	Scientifically accurate organisms and habitat features; clear labels and relationships
4. Explain with Evidence	A plausible connection between two habitats supported by evidence

Optional 10-point marking scheme

Criterion	Points
Prior knowledge, prediction and reflection	2
Animal habitat requirements	2
Habitat diagram and labels	3
Explanation of habitat connections	3
Total	10

6. Sample responses and answer guidance

Question 1A: A habitat is a place where an organism finds the resources and conditions it needs to survive. A Nova Scotia forest is a habitat for red squirrels, woodpeckers, insects and many other organisms.

Question 1B: Students may predict differences in vegetation, animal communities, sunlight, wind, moisture, temperature, or shelter. Accept scientifically reasonable predictions with supporting explanations.

Question 1C: There is no single correct answer. Students should revisit their prediction and explain what they learned. A prediction that turns out to be incorrect is still useful when the student reflects on the evidence.

Question 2: Responses will vary with the animal chosen. Look for realistic examples of food, water, shelter and space rather than general statements such as “it needs somewhere to live.”

Question 3: Accept any recognizable Nova Scotia habitat containing the required features. A forest, meadow, wetland, lake, estuary or beach can all be appropriate.

Question 4: A forest and river may be connected when rainwater flows through forest soil into streams, carrying dissolved nutrients and organic material. A salt marsh and coastal water habitat may be connected when fish move between them with the tides.

7. Differentiation and extension activities

For students needing additional support: Provide a habitat photograph to annotate instead of requiring an entirely original drawing. Offer a vocabulary bank containing habitat, shelter, resource, organism, living, non-living, and connection. Students may explain their answers orally before writing.

For students ready for an additional challenge: Ask them to consider what might happen if an important habitat feature disappeared. For example, how would removing trees from a forest affect food availability, shelter, water movement and the animals that depend on them?

Optional outdoor extension: Visit the schoolyard and identify a small habitat, such as a garden, patch of grass, shrub or tree. Students can record living and non-living features without disturbing organisms.

8. Teacher reflection

After completing the investigation, consider whether students can distinguish a habitat from simply a geographic location, whether they understand all four habitat requirements, and whether they can explain a habitat connection using a specific example.

These observations can guide the next lesson, Investigation 02: Forest Layers, where students will examine how different parts of one habitat provide resources for different organisms.