

## **Build a Habitat**

Students will learn about the food chain that supports an important bird of prey, the Bald Eagle. They will then conduct research about an animal of their own choosing and demonstrate their learning by creating a model habitat.

### **Overview**

<b>Curriculum Subject</b>	Science	<b>Grade Level</b>	Grade 4
<b>Topic</b>	Habitats and Communities	<b>Timeframe</b>	2 hours

<b>Science: Habitat and Communities</b>	<b>Overall Expectations</b>	3. Demonstrate an understanding of habitats and communities and the relationships among the plants and animals that live in them.
	<b>Specific Expectations</b>	3.1 Demonstrate an understanding of habitats as areas that provide plants and animals with the necessities of life. 3.2 Demonstrate an understanding of food chains as systems in which energy from the sun is transferred to producers (plants) and then to consumers (animals). 3.3 Identify factors that affect the ability of plants and animals to survive in a specific habitat. 3.4 Demonstrate an understanding of a community as a group of interacting species sharing a common habitat 3.5 Classify organisms, including humans, according to their role in a food chain.

<b>Learning Goals</b>	<ul style="list-style-type: none"> <li>• We are learning about how plants and animals are connected to each other in habitats and communities.</li> </ul>
<b>Success Criteria</b>	<ul style="list-style-type: none"> <li>• I can create a food chain that includes producers and consumers.</li> <li>• I can create a habitat that meets the needs of an animal.</li> </ul>
<b>Assessment and Evaluation</b>	<ul style="list-style-type: none"> <li>• Use these check-ins as students complete the steps of their Build a Habitat assignment:               <ul style="list-style-type: none"> <li>• Completion of food chain for an animal</li> <li>• Completion of Habitat Planning sheet and habitat</li> <li>• Participation and communication during sharing activity</li> </ul> </li> </ul>
<b>Prior Learning</b>	This lesson can be completed as an introduction to the Habitats and Communities unit, or as a follow-up lesson to an introduction of basic concepts such as <b>habitat</b> , <b>community</b> , <b>food chain</b> , <b>producer</b> , and <b>consumer</b> .
<b>Materials and Preparation Needed</b>	<ul style="list-style-type: none"> <li>• Please note, this lesson plan makes use of the following free presentation and collaboration application: Adobe Acrobat Reader.</li> <li>• Prior to beginning this lesson, students should have access to the following files to read and refer to: "Food Chains in Cootes Paradise", "Activity – Build a Habitat".</li> </ul>

# Procedure

---

## Minds On:

- As a class (via videoconference app), ask students to think of a local animal such as a Grey Squirrel or a White-Tailed Deer. Where would you normally find an animal like that? Why do these animals live in certain places and not in others? If we were to move that deer to the Antarctic, or to a dry desert, or deep in the ocean, do you think it could survive there? Why not?
- What things do animals need to survive? This is review of science units from previous grades. Answers can include food, water, shelter, space, air, or other essentials. The scientific word for an area where animals can find what they need to survive is **habitat**.
- Most habitats are shared by many different species of plants and animals. The plants and animals that share a habitat are called a **community**. For example, the deer that was discussed earlier lives in a forest habitat. What other plants and animals share this habitat with the deer? Which ones do the deer depend on for survival?

## Action:

- Begin by looking at the example of the Bald Eagle and how it depends on a healthy habitat to survive. Share the “Food Chains in Cootes Paradise” presentation with students (via screen share or other means), and read the presentation as a group through to slide 11.
  - Note: Students can learn more about the return of the Bald Eagles to Cootes Paradise Nature Sanctuary at <https://www.rbq.ca/baldeagles>
- Ask students: what did you eat for breakfast this morning? You likely ate a plant or something that relies on plants to survive. In the same way, all life depends on plants and plants in turn depend on the sun for their energy. Have the class reflect:
  - What animals do the Bald Eagle eat?
  - What animals or plants do you think those animals eat?
  - What, if anything, eats the Bald Eagle? When it dies, what kind of animals might help decompose its body?
- Ask students: how does the energy from the sun end up in the Bald Eagle? Plants, which receive the sun’s energy directly, are called **producers**. Animals which consume plants are called **consumers**. Create a diagram showing the animals and plants in this community or use slide 10 from the presentation. Connect the species by drawing arrows leading from a species that is eaten to the species that eats it. The result is called a **food chain**. (Note: an example of a completed food chain is available on slide 12 of the presentation).

## Consolidation and Connection:

- Share the Build a Habitat activity guide with students. They will follow the instructions in this activity guide to complete these steps of their consolidation activity:
  - Research a local animal species
  - Build a Food Chain for this animal showing how it fits into its local community
  - Complete a Habitat Building planning sheet
  - Construct a Habitat for their chosen animal highlighting the animal, its preferred shelter, and its food source(s)
  - Share their habitat with the class
  - Notes about the Build a Habitat activity: Be specific with students about your expectations for student work with materials, acceptable sharing format, and timeline for completion. Consider pairing students up for brainstorming about this activity prior to having them begin their work. If students can share video of their habitats that includes audio, they can share commentary and provide additional insight about their work.

- Once students have completed their habitats, provide opportunities for students to share their work with each other (via Google Classroom, Google Drive, FlipGrid, or other sharing platform).

**Extensions/Progression:**

- Students can apply their understanding of the species in their food chains to label them as carnivores, omnivores, and herbivores (Specific Expectation 3.6)
- The decline and recovery of Cootes Paradise Nature Sanctuary is an excellent fit for an action research project targeting Overall Expectation 1, which looks at how human interactions with the environment have impacts on habitats and communities.
  - 1.1 As apex predators, Bald Eagles require large amounts of space for hunting and raising their young. Habitat fragmentation and the proximity of suitable habitat to human settlements play a large role in the conservation of this species. Students can research the actions that RBG has taken to create a safe habitat for the eagles, learn about the issues that this species faces in southern Ontario, and propose their own solutions.

Teacher's Feedback and Notes