

Build a Bird

Birds & Their Habitats



Purpose:

- This activity is designed to foster an understanding of bird adaptations required to live in various habitats.

Objective:

- Students will design a bird – using the various bird parts provided in the binders – that is adapted to fill a specific role within its habitat.
- Students will construct an explanation for how a bird’s environment shapes its traits.

Materials:

- Habitat panoramas
- Black binders with cut-out bird parts
- “About My Bird” Student Worksheet (one copy/student)
- Field Guides and Bird Books
- List of Birds commonly found in habitats

Time Required: 30 + minutes depending on how many different panoramas the students use.

Appropriate Grade Level: 2nd - 6th

NGSS and Common Core Standards:

2-LS4-1:

Make observations of plants and animals to compare the diversity of life in different habitats.

3-LS4-3:

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3-LS3-2:

Use evidence to support the explanation that traits can be influenced by the environment.

4-LS1-1:

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

MS-LS1-5:

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Activity:

<p>Introduction</p>	<ul style="list-style-type: none"> • Many diverse habitats can be found in the Rogue Valley. Different birds inhabit the various habitats and each is adapted to fill a specific role within their habitat. • Panoramas of six habitats found in the Rogue Valley are available in this lesson: grassland, oak savanna, marsh, stream, mixed conifer, and alpine. Within each habitat, a variety of potential foods and places to live are shown. The resources are identified on the back of each panorama.
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<p>Body</p>	<ul style="list-style-type: none"> • Give each student group one of the habitat panoramas and a binder of bird part cut-outs. Explain to students that the goal is the create a bird that suits its habitat. <p><u>For example:</u> If you are given a marsh wetland habitat, your bird might have long legs to help them wade in the water.</p> <ul style="list-style-type: none"> • With the goal of creating a bird that is adapted to its environment, students will select the proper beak (with head and body), wing, tail, and feet from the sheets of body parts, and assemble the bird on the habitat sheet. <p><u>Extension:</u> Have student groups switch habitat panoramas once the groups have created their habitat-adapted bird. Since there are 7 habitat panoramas, there can be up to 7 rotations.</p> <ul style="list-style-type: none"> • Ask students to describe how the bird they made is adapted to live in the habitat: what it eats (type of beak), length of legs, manner of flight, etc. Using the bird books and field guides, students should investigate the birds commonly found in this habitat and decide which bird is most similar to the one they created. Students can then research this bird. • Give students the “About My Bird” worksheet and have them fill it out (according to the last bird they created).
<p>Closure</p>	<ul style="list-style-type: none"> • Throughout the lesson, discuss with each student group how their birds’ adaptations and structures help them to survive well in the particular habitat. Additionally, ask prompting questions and assess whether or not students are understanding the concept of adaption. • At the end of the lesson, ask some of the following questions and have students discuss in their groups or in pairs: • Discuss with your group some of the specific adaptations (wing type, feet type, beak type) you gave to your bird and <i>why</i>. • What would happen if you gave your bird different wings, feet, tail, or beak? Would it still be able to fill its role in the habitat? Likelihood of survival? • Discuss with your group how a bird’s environment shapes it’s traits. • How do a bird’s structures and functions support its survival, growth, reproduction, diet and behavior?



Assessment	<ul style="list-style-type: none"> Collect the “About My Bird” worksheets and evaluate students’ answers. Additionally, the questioning and discussion in the Closure act as a formative assessment.
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Modifications:

Lower Elementary – Middle:

The “About Mt Bird” worksheet is designed for younger, elementary students. In order to take this lesson one step further for older students (ranging from 4th grade to 8th grade), have the students produce a research project on a bird. Students will choose one of the habitat-adapted birds they created and search through the provided field guides or the internet to find a bird in our region that resembles the one they “built” in the lesson. First, students will report on the specific bird’s adaptations and what specific role it fills in its habitat. Then students will go on to discuss bird adaptations in general:

4th-5th grade students will construct an argument that birds have external structures (such as beaks, wings, feet, and tails) that function to support survival, growth, behavior, and reproduction. Students must connect this argument to habitat and explain that birds adapted to fill a specific role within its habitat.

6th-8th grade students will construct a scientific explanation for how environmental and genetic factors influence the growth and adaptations of birds.

The goal in performing these projects is for students to understand concepts such as habitat diversity, resource variability, and physical and/or behavioral adaptations of birds. Additionally, students should be able to apply this knowledge to all organisms and environments, not just birds.

Glossary:

Habitat: the natural home or environment of an animal, plant, or other organism.

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

Interdependence: the relationship between organisms and their environment; a mutual dependence between two things.

Organism: an individual animal, plant, or single-celled life form.

