

Local Field Guides

Subject: Science & Language Arts	Grade: 3-6	Duration: 1 hour (can be extended across 2–3 sessions)
Lesson Overview	<p>In this lesson, students explore the biodiversity of their local environment through direct observation and research. Using sketches, photos, and apps, they will document local plant or animal species and compile their findings into a personalized field guide entry. The activity strengthens observational skills, scientific inquiry, and nonfiction literacy while building deeper connections to place, species, and community.</p>	

Curriculum Ties (in addition to satisfying multiple core competencies):

- **Science (Grades 3–5):**
 - Grade 3: Biodiversity in the local environment
 - Grade 4: All living things sense and respond to their environment
 - Grade 5: First Peoples concepts of interconnectedness in the environment
- **Language Arts (Grades 3–6):**
 - Language and text can be a source of creativity and joy
 - Exploring stories and other texts helps us understand ourselves and make connections to others and the world
- **Core Competencies:**
 - Communication, Critical Thinking, Personal and Social Awareness
- **Indigenous Knowledge Connections:**
 - Respect for local species and habitats, observation as a form of knowledge gathering, and storytelling through science.

Content Objectives

Students will be able to:

- Use detailed observations to describe and compare species in their local habitat
- Understand basic survival needs and behaviors of local plants or animals
- Research and organize factual information using nonfiction features (captions, diagrams, etc.)
- Reflect on the interconnectedness of species and their role in the ecosystem
- Communicate findings clearly through text and visuals in a guide format

Materials & Equipment Needed

<p>Consumables:</p> <ul style="list-style-type: none"> • Notepads, pencils • Optional: poster paper, colouring utensils, printed field guide templates 	<p>Non-Consumables:</p> <ul style="list-style-type: none"> • iPads, tablets, or computers for research • Cameras or camera phones (if available) • Optional: Apps like Seek by iNaturalist or Merlin Bird ID for field identification • Access to books, brochures, or online databases (e.g., Go Botany, iNaturalist, NatureWatch, local conservation sites)
--	---

Lesson & Activity

Lesson Stages	Learning Activities
---------------	---------------------

<p>Introduction</p>	<p>Outdoor Exploration & Observation</p> <ul style="list-style-type: none"> • Begin with a walk in a local park, schoolyard, or green space. • Ask students to observe carefully and take field notes or sketches of any plants or animals they notice. • If possible, use Seek or Merlin Bird ID to help identify species. • Encourage students to note: <ul style="list-style-type: none"> • Colour, shape, size <ul style="list-style-type: none"> ○ Behaviours or patterns ○ Where the species was located (on ground, in a tree, near water) ○ Surroundings: weather, time of day, habitat type • Remind students that even if they can't identify the species, the act of observing and recording details is key to scientific work. • Do some research about some of the unique species local to your area. You might also connect with a local nature centre or animal rehabilitation centre to bring them in to speak about local species
<p>Activity</p>	<p>Species Identification, Selection & Research</p> <p>Back in the classroom, have students work individually or in small teams to review their notes, sketches, and photos from the outdoor exploration. Their first task is to identify as many of the observed species as possible, using:</p> <ul style="list-style-type: none"> • Printed field guides or brochures • Online tools like Go Botany for plants, iNaturalist, or Merlin Bird ID for birds • Class discussions or support from the teacher <p>Tip: Use guiding questions to help students focus on important observational clues if exact identification is tricky. For example:</p> <ul style="list-style-type: none"> • <i>Color</i> – Were the bird's legs black or yellow? • <i>Shape</i> – Was the leaf heart-shaped or narrow?



- *Texture* – Was the bark smooth or grooved?
- *Location* – Was the plant in shade or sun? Was the bird in the canopy or on the ground?

Make it clear that the goal is not necessarily to get the exact species name right, but to learn how to observe closely and document meaningful traits.

Once they have identified several possible species, ask students to choose one local species they found especially interesting to explore further.

Then, guide them in conducting focused research. You may provide structured worksheets or digital templates to help organize their information. Suggested research questions:

- What does the species look like? (size, shape, color, features)
- What does it eat? (diet and food chain role)
- Where does it live? (habitat type, location within the habitat)
- When is it active? (season, time of day, behaviors)
- Are there any interesting facts, cultural meanings, or local/Indigenous stories about this species?

Optional Extension: Encourage students to interview a family member, Elder, or community member to learn more about the species and its relationship to people or place.


Field Guide Design

Next, introduce the concept of a field guide. Show students examples (print or digital) and analyze together:

- What kind of information do they include?
- How is it organized?
- What features help the reader? (captions, drawings, maps, symbols, etc.)


Examples:

Backyard Field Guide to The California Ground Squirrel.




General Information:
The California Ground Squirrel is also called the Beechey ground squirrel. It is mostly found in the Western United States and the Baja California Peninsula. The squirrel is covered in gray, light brown and white fur and it has a bushy tail.


Habitat:
The California Ground Squirrel lives in burrows. Sometimes more than one squirrel will live in a burrow, but each squirrel has their own entrance. Most squirrels do not go farther than 25 meters from their burrows.



Food:
The California Ground Squirrel stores food in their cheeks to eat later. They mostly eat seeds, grains, fruit, and nuts.




Interesting Fact:
Female Ground Squirrels will chew on the skins shed by rattlesnakes and then lick their babies and themselves to disguise their scent to try and keep rattlesnakes away.




Hooded Oriole
Icterus cucullatus

Hooded orioles are noisy and their bright plumage makes the males easy to spot. They use the fibers from fan palms to make nests in banana palms.




male



female

The Hooded Oriole is found in the city of San Diego from March to September. It is most commonly noticed in March when it arrives from its wintering in Mexico.



As a class, co-create a "Field Guide Criteria List", such as:

- Common name and scientific name

	<ul style="list-style-type: none"> • Drawing or photo • Description of appearance • Habitat • Diet and behavior • One fun fact or cultural story • Labels, captions, and any relevant diagrams or icons <p>Then, students begin creating their own field guide entry based on the species they researched. Choose from one of the following formats:</p> <ul style="list-style-type: none"> • Digital: Use tools like Wixie, Book Creator, Google Slides, or Canva. • Analog: Use poster paper or a printable template with space for drawings and facts. <p>Encourage students to:</p> <ul style="list-style-type: none"> • Include original illustrations or photos they took during the walk • Use neat and legible formatting • Add color and clear labels to aid understanding • Be creative and accurate — field guides are scientific but engaging! <p>Optional: Compile the student-created entries into a class field guide book to print or share online with families, younger students, or community partners.</p>
<p>Closure</p>	<ul style="list-style-type: none"> • Have students present their field guide entries to classmates or in a class exhibition. • Optionally, compile all pages into a class book or digital guide to share with other grades or families. • Reflect as a group: <ul style="list-style-type: none"> ○ What did we learn about our local environment? ○ How do our species interact with one another and their surroundings?

	<ul style="list-style-type: none"> ○ Why is it important to observe and document the living things around us?
<p>Step Ups & Step Downs</p>	<p>Step Down:</p> <ul style="list-style-type: none"> • Focus on one species as a class and complete the field guide entry together • Use sentence starters and pre-drawn templates for support <p>Step Up:</p> <ul style="list-style-type: none"> • Have students include QR codes linking to audio recordings, species calls, or research • Invite an Indigenous Elder, conservationist, or biologist to co-lead part of the activity • Expand to compare multiple habitats (e.g., wetland vs. forest)

Additional Resources

- <https://creativeeducator.tech4learning.com/2020/lessons/fantastic-field-guides>
- [Wixie | Creativity Tool for Students – Painting, Digital Books, Mind Maps](#)
- [Simple Key for Plant Identification: Go Botany](#)
- <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/biodiversity>
- <https://bcecosystems.ca/>
- <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/biodiversity/bc-biodiversity>
- <https://merlin.allaboutbirds.org/>
- <https://www.inaturalist.org/>