

A SCAVENGER HUNT FOR CITIZEN SCIENTISTS!



CANADIAN GEOGRAPHIC EDUCATION'S

ONLINE
Classroom

Subjects:

Species identification, data collection, citizen science, conservation

Time:

1-2 hours

Grades:

Grades 7-12 (or grades 3-6 accompanied by a parent or guardian)

What to know before getting started:

With this activity, you will learn to use two free apps to help you complete a scavenger hunt. You will find and correctly name five bird species using the [Merlin Bird ID](#) app to start your scavenger hunt. Then, you will find and name five plant or insect species that birds might eat using the [Seek App by iNaturalist](#) to complete the challenge!

Birds and other wildlife need food, shelter and space to live, just like we do. Around the world, natural habitats are lost to urban and industrial expansion, and food webs are being altered by species loss, pollution, and climate change. To understand which populations of birds are doing well under these changing conditions, and which ones need our help, conservation biologists rely on data collected by citizen scientists. A citizen scientist is anyone who makes observations in nature and shares what they see with scientists to help us understand how to conserve our wildlife populations. In this activity, you will learn how to identify some of the birds in your neighbourhood and become a citizen scientist.

Activity time!

Read this first...

There are more than 10,000 species of birds worldwide. They can be found on every continent, and in most terrestrial and aquatic ecosystems on Earth. To successfully survive under conditions ranging from cold polar climates to dry, hot deserts, to lush rainforests, birds have evolved different shapes, sizes, colours, songs, nesting strategies, and diets. These adaptations help birds navigate different parts of their environment better, and eat different foods. For example, ducks have webbed feet to help them swim, and hawks have sharp beaks for tearing apart meat. These differences can be used to help us tell species apart and identify what they are, which is the first step towards becoming a citizen scientist.

...then follow these instructions

It's time to get outside and discover what birds live in your area, and what resources they depend on to survive. In your own backyard, a local park, or a nearby trail are all great places to search for birds. Before you leave the house, open both applications and get all set up. Note: these apps use data when in the field, but you can also use them "offline" by taking pictures and identifying the species once you have reconnected to the internet.

Remember to stay safe while exploring the outdoors. Consider these important safety precautions:

- Don't touch or eat plants while doing this exercise
- Be aware of your surroundings and only go where it is safe
- Stay with a parent/guardian while exploring
- Don't go onto other peoples properties unless you have permission
- Be respectful of nature by not touching living things and leaving no trace by staying on trails and leaving nature where you found it
- Find a location that provides you with space to distance from other people outside

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Materials you will need:

- A smartphone or tablet with these free apps downloaded:
 - ▷ Merlin Bird ID (can be found on [Google Play](#) or [App Store](#))
 - ▷ Seek by iNaturalist (can be found on [Google Play](#) or [App Store](#))
- Pen or pencil

Developed by:

Come Walk With Us

1. BIRD IDENTIFICATION

Once you've found a good spot to observe birds, look around and listen. Do you hear any birds singing or calling? Once you find a bird, stop and take a good look at it. Open the Merlin ID app on your device. Enter your answers to the three questions a) How big is it? b) What are its main colours? and c) Where is it? Use the photos provided by the app to identify the name of your bird. To complete the first part of the scavenger hunt, find and identify the following five birds:

1. A bird with some **red** feathers.

- a) How big is it? _____
- b) What colour(s) is it? _____
- c) Where was it? _____
- d) What species is it? _____

2. A bird with some **yellow** on it.

- a) How big is it? _____
- b) What colour(s) is it? _____
- c) Where was it? _____
- d) What species is it? _____

3. A bird with some **blue** on it.

- a) How big is it? _____
- b) What colour(s) is it? _____
- c) Where was it? _____
- d) What species is it? _____

4. A bird with some **brown** feathers.

- a) How big is it? _____
- b) What colour(s) is it? _____
- c) Where was it? _____
- d) What species is it? _____

5. A bird with both **black** and **white** feathers.

- a) How big is it? _____
- b) What colour(s) is it? _____
- c) Where was it? _____
- d) What species is it? _____

Bonus! A bird with some **green** on it.

- a) How big is it? _____
- b) What colour(s) is it? _____
- c) Where was it? _____
- d) What species is it? _____

Hint: If you don't see a photo of the bird you're looking at right away, keep watching the bird for a few more minutes. Maybe it is a little larger or smaller than you originally thought, or maybe it is spending more time in a different location than where you originally observed it. Try adjusting your answers and see if this helps.

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Stop and think: How often do you see these birds? What bird do you see most often in your area? What colour do you see the least on the birds you observe?

2. BIRD FOOD AND CITIZEN SCIENCE

All the birds you just observed survive on the food they find in the area. Many birds eat insects, including caterpillars, butterflies, dragonflies, ants and spiders whereas other birds eat berries or seeds. Some species eat small mammals, amphibians, reptiles or fish. Hummingbirds drink the nectar of flowers. Look around and see what kinds of foods are available in your area. Open the Seek app and use the camera on your device to take a photo of and identify five species that birds might eat. When you take the photo your observation is submitted, making you a citizen scientist! To complete the second part of the scavenger hunt, find and identify the following items:

1. Flying insect

a) What species is it? _____

2. Caterpillar

a) What species is it? _____

3. Spider

a) What species is it? _____

4. Seed or seed producing plant (i.e., pine cone)

a) What species is it? _____

5. Flower

a) What species is it? _____

Bonus: A small mammal

a) What species is it? _____

Stop and think: How might human activities in your area impact the food sources of birds that you saw? What are some ways that gardening might influence insect, seed, and nectar availability? What are some ways that agriculture might affect insect and small mammal populations? How would understanding food availability help us conserve birds?

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Share your learning adventure with us!

What did you learn by completing this activity? Do you have any questions? Did you take any photos you would like to share with others? Tag @CanGeoEdu and @TheGreatTrail on Facebook, Twitter or Instagram and let us know using the hashtag #OnlineClassroom! You can also email photos and findings to communications@tctrail.ca.

Interested in learning more about birds on The Great Trail of Canada? Follow Come Walk With Us on [Facebook](#), [Twitter](#) and [Instagram](#)!

Other ways to complete this activity:

- If your device can't connect to the internet outside, you can take pictures and open them in the apps once you can connect to the internet.
- If you can't take your device outside, consider completing the bird identification challenge using a 2-page printed guide of common birds in your area, available for download from the Birds Canada website: birdscanada.org/apps/checklist/index.jsp
- Alternatively, you can also use printed field guides or online resources to help you identify birds and other species in your neighborhood.

Interesting extras:

- The [Come Walk With Us](#) website
- [The Great Trail](#) website
- Document your experience of conducting fieldwork on or around The Great Trail and create a story to be featured on The Great Trail stories page. Send your story to communications@tctrail.ca.
- Do you want to stay up to date on what's happening with The Great Trail? Sign up for Trail Talk, the newsletter which highlights Great Trail heroes and their stories.
- Share your photos of The Great Trail on social media using the handle @TheGreatTrail.
- Download The Great Trail app and take it with you wherever you go!
- [Government of Canada citizen science portal](#)
- [Fieldwork guide and lesson plans](#)

