

# BACKYARD BIODIVERSITY



CANADIAN GEOGRAPHIC EDUCATION'S

ONLINE Classroom

## Subjects:

Biodiversity, Conservation, Data collection, Species identification

## Time:

1.5 hours

## Grades:

3-9

## What to know before getting started:

Biodiversity refers to all living things in a community or ecosystem, including birds, plants, fish and humans. In every ecosystem, plants and animals rely on each other to survive. For example, plants and animals rely on each other by acting as food sources and plants releasing oxygen into the atmosphere for animals to breathe. Conservation is related to biodiversity because it refers to preventing the loss and destruction of natural resources, such as wood.

**Try this activity to learn more about biodiversity and conservation from “Big Lonely Doug” through augmented reality and investigate nature in your neighbourhood!**

## Materials you will need:

- A printed copy of the Big Lonely Doug augmented reality (AR) target image (available [here](#))
- A smartphone or tablet with these apps downloaded:
  - AVARA (app can be found on [Google Play](#) or [App Store](#) - English only)
  - Seek by iNaturalist (can be found on [Google Play](#) or [App Store](#) - English only)
- Notebook
- Pen or pencil

## Activity time!

### Read this first...

In 2011, Dennis Cronin stood under a 66-metre-tall, four-foot-wide Douglas fir and tied a green ribbon around its trunk with two words: “leave tree.” With this act, Cronin saved this tree, now known as “Big Lonely Doug,” from being cut down by the logging industry. Within a year, all of the trees surrounding Big Lonely Doug were cut down. In coastal British Columbia, only one percent of these old Douglas fir trees remain, including Big Lonely Doug. A tree the size of Doug could frame about five houses or could be sold for tens of thousands of dollars. Keep in mind, it can take more than 500 years for a tree to reach this size.

### ...then follow these instructions

Use the **Big Lonely Doug AR target image** to look at a model of the tree up close. Open the **AVARA app**, place the target image on a flat surface, and aim your device at the target image. The app will say “Big Lonely Doug - Coaster” when it’s ready to go. Tap the AVARA icon in the middle of the screen and you should see a mini version of Big Lonely Doug!

**Stop and think:** Why are forests important? Why do people cut down trees? Why is Big Lonely Doug special? Why do you think Cronin wanted to save Big Lonely Doug from being cut down?

Now, it’s time to get out and explore biodiversity in your own neighbourhood! Remember to stay safe when 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 your parent/guardian while exploring.
- Don’t go onto people’s properties without their 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.

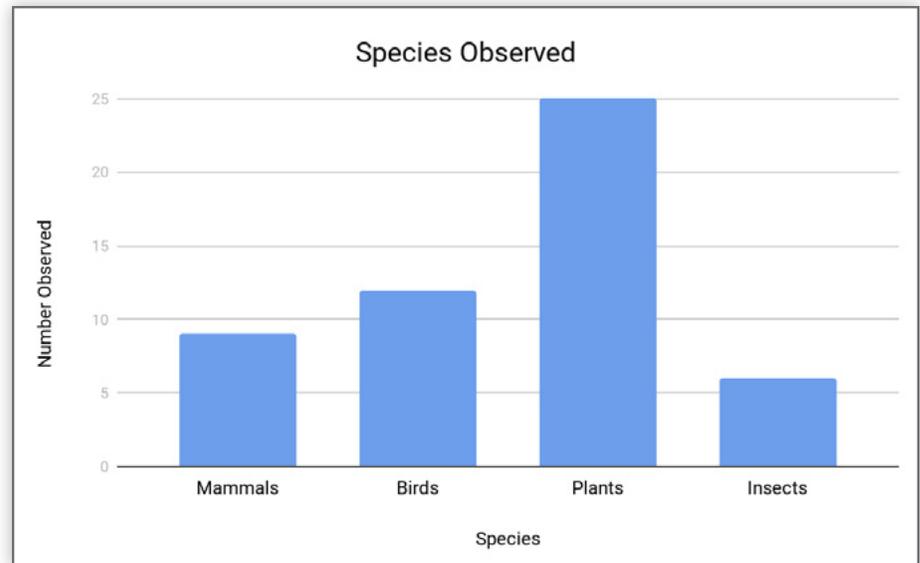
Find a spot or a trail with lots of plants and animals to observe. Open the **Seek app** on your device to take pictures of and identify different species along the way. In your notebook, draw a table to record the names of the species you identify and count how many of each species you find. Look high, look low, look near and look far. You might see things like plants, amphibians, fungi, fish, reptiles, birds, shellfish, insects, and mammals.

**Stop and think:** How can we measure biodiversity? How is the biodiversity of an ecosystem changed by things like human land use, population growth and natural disasters?





Use your observations to draw a bar graph in your notebook of the different species in your neighbourhood. Remember to use the photos you took and your table as a reference. If you know how to make a graph on the computer, why not give it a go? You can keep the different species in their own separate categories, or you can group the species together, for example, by type, colour, food preference, size, or habitat. Look at this example for ideas:



**Stop and think:** What types of plants and animals can be found in your neighbourhood? How many different species did you observe? Did you see any indication of trees or other plants being cut down? Why do you think they were cut down? What can humans do to protect biodiversity in your neighbourhood? Do you think it's important to protect the area where you walked? Why?

### 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 on Facebook, Twitter or Instagram and let us know using the hashtag #OnlineClassroom!

### Other ways to complete this activity:

- If you cannot take your device outside, find a picture that represents a specific ecosystem. Count the number of different species you see and try and identify them using an identification book or online guide.
- If your device can't connect to the internet outside, you can simply take pictures and then open them in the Seek app when you can connect to the internet.



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- If you want to get a head start, you can explore the species in your neighbourhood through the Seek app before taking a walk.
- Research if there are any conservation projects in your neighbourhood.

## Interesting extras:

- Big Lonely Doug [Card](#)
- [The last great tree: a majestic relic of Canada's vanishing rainforest](#) by Harley Rustad (English only)
- [Les arbres majestueux de Cathedral Grove](#) (French text - but useful for video)
- CBC Kids News: [Should old growth trees be protected?](#) (English only - but useful for images)
- [International Day of Forests](#) (Bilingual)