

BIODIVERSITY IN YOUR NEIGHBOURHOOD

ROYAL CITY SCIENCE
#RCOAC21  
EMAIL YOUR PHOTOS TO:
oac.assistant@uoguelph.ca

What is Biodiversity?

Biodiversity is a term used to describe the variety or species richness of an area or region. This area can be as small as the organisms found on a single decaying log, to your backyard, to the whole world. Simply put, it is the rich diversity of life!

When you hear the term “*wildlife*”, what comes to mind? Birds and squirrels, maybe butterflies and bees? YES! But while animals and insects are key features, they make up only half of the whole picture. Today we will also be looking at the diversity, or different types, of plant life as well. Trees, vines, flowers and grasses also make up an integral part of any ecosystem and will be a big part of the observable wildlife you discover today!

For this activity you will be going out on an explorative adventure around your neighborhood, a park, recreational trail or even just your own back yard in order to catalogue the diversity of species you find. Think of it as nature's version of “eye spy”!

Materials

- Pencil or pen
- Something hard to write on (clipboard, notebook, binder, etc.)
- A printed copy of the worksheet OR a smart device that allows you to keep track of your findings virtually on the worksheet
- A device to capture pictures of your adventure OR extra paper and a pencil to sketch organisms that you find

Instructions

1. Choose an area you want to explore in yours or a surrounding neighbourhood.
2. Print worksheet and grab a pen or pencil.
3. Head out on your adventure! Remember to dress according to the weather. Estimated time = 30 minutes - 1 hour
4. Keep track of the different species you see/find on your worksheet. Also keep a tally of the number of each species (e.g. squirrel x 5, crow x 2, maple tree x 5, etc.)
5. Take pictures or draw sketches of the organisms you find!
6. Upload/scan your photos/drawings and email them to oac.assistant@uoguelph.ca
7. Join us in the afternoon for a debrief to discuss what you found and to ask any questions about identifying organisms that you found.



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Why is Biodiversity important to us?

Though it may not be immediately obvious, regional biodiversity has a direct effect on the environment, ecosystems, and wellbeing of everyone in the area, including humans! Some of the examples of the services provided to us by forests, wetlands, plants and animals include:

- The control of erosion (soil loss)
- Flood prevention
- Drought management
- Water filtration
- Pollination services
- Seed dispersal
- The storage of carbon emissions
- Explorable green spaces

Biodiversity is essential in keeping ecosystems functioning properly, and a high level of species richness offers a safety net of sorts to help buffer the ecosystem against environmental fluctuations.

How is Biodiversity Measured?

While scientists use a few different techniques to measure the biodiversity of an area, we are going to be using the most common measurement approach; **Species Richness**, and then combine that with **Abundance** to get number called the **Biodiversity Index**.

Species Richness refers to the number of species in an area. For example, there might be 100 different species in a nearby woodland or 500 species living in a section of coral reef.

However, while there might be 50 geese resting on the banks of a river, this number is their abundance, they still only represent one species in a count of the overall richness.

To find the Biodiversity Index of an area, you first take the total number of species you saw (richness) and then divide that number by the total number of individuals of each species (abundance) to get a final number that represents the overall biodiversity.

Biodiversity Index = total # of different species ÷ total # of living things

Share your Findings!

Take pictures during your adventure and of the species you find. Email your pictures to oac.assistant@uoguelph.ca so that we can make a collage of the biodiversity in your neighbourhood!

Additional Resources

- [Conservation Ontario](#)
- [Ontario Tree Atlas](#)
- [Backyard Bird Guide, Southern Ontario](#)

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Worksheet

How many different species can you spot in your yard, neighbourhood or nearby parks?

Animals

Insects

Trees

Plants and Flowers

Biodiversity Index:
$$\frac{\text{Total \# of different species}}{\text{Total \# of living things}} = \frac{\quad}{\quad} = \square$$

