

Explore Sudbury's Biodiversity - Indoors

Suggested Subject/Course:

Grade 6 Science & Technology

Topic:

Understanding Life Systems – Biodiversity

Relating Ontario Curriculum Objective:

Describe ways in which biodiversity within and among communities is important for maintaining the resilience of these communities (e.g., having a variety of species of wheat allows for some part of the crop to survive adverse conditions)

Introduction to Lesson:

Have students look at one of the four posters that depict one of the 'Habitats of Greater Sudbury' and ask them if this looks like a typical forest/rock barren/shoreline/wetland that one would find in and around Greater Sudbury. Explain that they will be studying the biodiversity within this habitat. Explain definitions such as biodiversity, species, variability, population, habitat, extinction, survive & diversity. This lesson can be repeated three times to use each of the four posters and help students gain a better understanding of local biodiversity and how biodiversity differs between habitats.

Definitions

<i>Biodiversity</i>	The variety of life in a particular habitat, or in the world as a whole
<i>Species</i>	Group of similar organisms that can breed and produce fertile offspring
<i>Variability</i>	Differences between species which allows for greater success
<i>Population</i>	Group of individuals of the same species that live in the same area
<i>Habitat</i>	The type of environment in which an organism or group normally lives or occurs
<i>Extinction</i>	Disappearance of a species from all parts of its geographical range
<i>Survive</i>	To support oneself, live
<i>Diversity</i>	Difference, variety; a condition of having many different types of forms

Materials/Equipment

- i. Prepared Guides*
**Note: See "Guide Preparation"*
- ii. Projector or Smart Board to display your chosen poster
- iii. Hard Copy of whichever Sudbury habitat poster you will be studying

Guide Preparation

- i. Print a copy of the guide corresponding to the chosen habitat poster (Recommendation: print four guide cards per page, see instructions on page 5). Each guide contains between 34 and 39 'cards'. These cards depict various species of local trees, plants, insects, amphibians & reptiles, birds, mammals and aquatic animals with a picture, brief description and habitat specification.
- ii. Cut out all the cards of one guide.
- iii. *Highly Suggested:* Laminate each card of the guide so they are better protected and can be used on multiple occasions.
- iv. Repeat as needed.

Lesson Objectives

- i. Students will identify species using guides.
- ii. Students will understand the correlation between having a wide diversity of plant & tree species and a wide diversity of bird, mammal, insect and reptile species.
- iii. Students will understand why biodiversity is important for maintaining the resilience of an ecosystem.

Summary of tasks/actions

DAY ONE

- i. Introduce activity to students, display the chosen habitat poster (affixed to the board/wall, projected or both)
- ii. Hand out one card from the chosen guide to each student (depending on class size, there may be enough cards for each student to have 2).
- iii. Charge each student with studying their assigned species using the interactive poster which can be found at;

<https://www.greatersudbury.ca/live/environment-and-sustainability1/biodiversity/habitats/>

<https://www.grandsudbury.ca/vivre/environnement-et-durabilite/biodiversite/leshabitats/>

They should each:

- a. Identify which group (Trees, Plants, Insects, Birds, Reptiles/Amphibians, Mammals) that their species belongs to.
- b. Discover an additional fact about their species.
- c. Find their species on the poster.

DAY TWO

- i. Divide the class into groups based on the group to which their species belongs (trees, plants, insects, amphibians/reptiles, birds, mammals)
 - ii. Give the groups time to discuss their findings amongst themselves (ex: where their species is on the poster, what they learned about their species).
 - iii. Have the students in each group present their species to the rest of the class; they should;
 - a. Point out where their species is on the poster.
 - b. Present the information contained on their card.
 - c. Share the additional fact they discovered about their species through their own research with the class.
- While students are identifying the species, the teacher should draw a table on the blackboard. The table should have 6 columns and room for up to 10 rows or items. Below is an example using the groups included on the *Forest* poster.

Trees	Plants	Insects	Amphibians & Reptiles	Birds	Mammals

- iv. Once each group of students has identified their set of species, each will have a turn to write down the different species to fill in the table.
- v. If not all cards were handed out, complete the table using these as well so total biodiversity is well represented.
- vi. Once the table is completed, ask each group of students to discuss whether they think this habitat is rich or poor in biodiversity.
- vii. Ask students why they think having a habitat rich in biodiversity and variability is important for maintaining the resilience of these communities.

Example: Having plenty of plant species means that if one plant species does not come up well one year, or if becomes endangered or extinct due to an invasive species (such as the emerald ash borer), there are still many other species that native insects, birds and mammals can rely on to survive.

Alternate Suggested Lesson Plan

DAY ONE

- i. Divide the students into four groups.
- ii. Provide each group with one of the four habitat posters and the corresponding guide.
- iii. Task each group with identifying all the species on their poster using the guide.
- iv. Task each group with researching the ecological relationships (ex: predator/prey, herbivory, seed dispersal) which exist within their assigned ecosystem. Advise them to use interactive habitat posters available at: <https://www.greatersudbury.ca/live/environment-and-sustainability/1/biodiversity/habitats/>
<https://www.grandsudbury.ca/vivre/environnement-et-durabilite/biodiversite/leshabitats/>

DAY TWO

- i. Have each group present their ecosystem to the class, either by using a physical copy of the poster or a projected electronic copy.
- ii. In presenting their ecosystems the students should include the following information:
 - a. Describe the ecosystem – what are some of its dominant traits (ex: dry/wet, lots of cover/very little cover, rich/poor biodiversity).
 - b. Name and briefly describe a few species which can be found in the ecosystem.
 - c. Describe some of the ecological relationships at play in that particular ecosystem (Ex: In the forest, the Northern Goshawk preys on the squirrels and snowshoe hare; Lichens like the British Soldiers take nitrogen from the air and add it to the soil where it is required for plant growth).

Printing four guide cards per page (recommended)

