



Let's ID That Tree!

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ACTIVITY DESCRIPTION:

Take a moment and name as many tree species as you can. Were you able to name five, ten, or even twenty species? If you want to identify all the trees native to Ontario, you will need to name over one hundred and forty tree species. To our best guess, Ontario is a province with approximately 85 billion individual trees. That is almost 6,000 trees for every person living in Ontario! Allowing children to explore the outdoors while learning about the diversity of trees in their own neighbourhood is a natural step towards promoting plant education and helping to create forest stewards.

Given the number of tree species growing in Ontario, tree identification can be overwhelming if not approached in a systematic way. Included in this lesson plan are four activities to help your young students master tree identification. In this lesson, students will explore tree anatomy and classification and use the free Pl@ntNet app to support tree identification. Students will then have the chance to assess native and non-native trees in their local community, and plant some native trees.

MATERIALS NEEDED:

- Digital devices with internet access and built-in cameras

TIME NEEDED:

- Activity 1: 1 class period
- Activity 2: 1 class period (plus assessment activity)
- Activity 3: 3 class periods (plus assessment activity)
- Activity 4: 1 class period

CURRICULUM CONNECTIONS:

*Grade 3: Understanding Life Systems:
Growth and Change in Plants*

- 1.1 assess ways in which plants are important to humans and other living things, taking different points of view into consideration, and suggest ways in which humans can protect plants
- 2.2 observe and compare the parts of a variety of plants
- 3.6 describe ways in which plants and animals depend on each other

*Grade 4: Understanding Life Systems:
Habitats and Communities*

- 1.1 analyse the positive and negative impacts of human interactions with natural habitats and communities, taking different perspectives into account, and evaluate ways of minimizing the negative impacts
- 3.1 demonstrate an understanding of habitats as areas that provide plants and animals with the necessities of life



TEACHING PROCESS AND CLASS ACTIVITIES:

ACTIVITY 1: TREE ANATOMY

- Trees are typically identified using a variety of distinguishing characteristics such as leaf shape, bark type, and fruits and flowers. For more information and examples, download Forest Ontario's Tree Keys, from the BEAN website.
- Using images or specimens (teacher or student collected), show students the examples of different leaf and tree identification features. Have the students sort the leaves into different piles as each feature is described.
- Print copies of "Tree Anatomy Bingo" and showing one image at a time, have students fill in their Bingo Card.

ACTIVITY 2: TREE IDENTIFICATION USING THE PL@NTNET APP

- Download the Pl@ntNet app from your device's app store. The app is free and compatible with apple and android devices. The Pl@ntNet app allows users to either take a photo of a plant or select a photo from the app's database.

The app then generates a list of possible tree species based on the image, additional information you provide, and your geographic location.

- Demonstrate how to use the app with your students.
- Together, generate a list of trees that students predict they will find in their school's neighbourhood.
- Have the students go outside and use the Pl@ntNet app to photograph and identify trees in their school's neighbourhood.
- **For discussion:** How many species did you identify? Was this higher or lower than expected? Were there any trees you expected to find but did not? Why?
- **Assessment activity:** Students select one of the trees they identified using the app and observe it carefully. Students then write a resumé for that specific tree advertising all the good that the tree has done for the local habitat.



ACTIVITY 3: DO I BELONG HERE? NATIVE VS NON-NATIVE SPECIES

- Once students have practiced using the Pl@ntNet app, the next step is to explore its value as a scientific tool.
- Many of the trees in manicured parks and gardens are not native to the region. They have, instead, been imported by humans, because of their ornamental appearance, tolerance to a wide variety of harsh conditions, or aggressive growth. In worse case scenarios, some of these non-native trees can become invasive. These species tend to be highly aggressive and competitive, and often eliminate or replace native species within an ecosystem, reducing biodiversity and, often, system stability.
- Select two local habitats: the first area should display little human impact on tree biodiversity, and the second area should be a location where the trees have been selected and planted by humans. In each area, students will observe and identify as many trees as possible using the app.
- Once back in school, student will generate a master list of all the trees seen in the two habitats. Students then research each tree to see if it is a native or non-native species.

- **For discussion:** Which habitat had greater tree diversity? Why? Which habitat had a greater number of native species? Non-native species? Was this surprising?
- **Assessment activity:** Working alone or in groups, students select a non-native tree species and create a “most wanted poster” that includes identification characteristics and habitat impacts.

ACTIVITY 4: PLANT SOME TREES

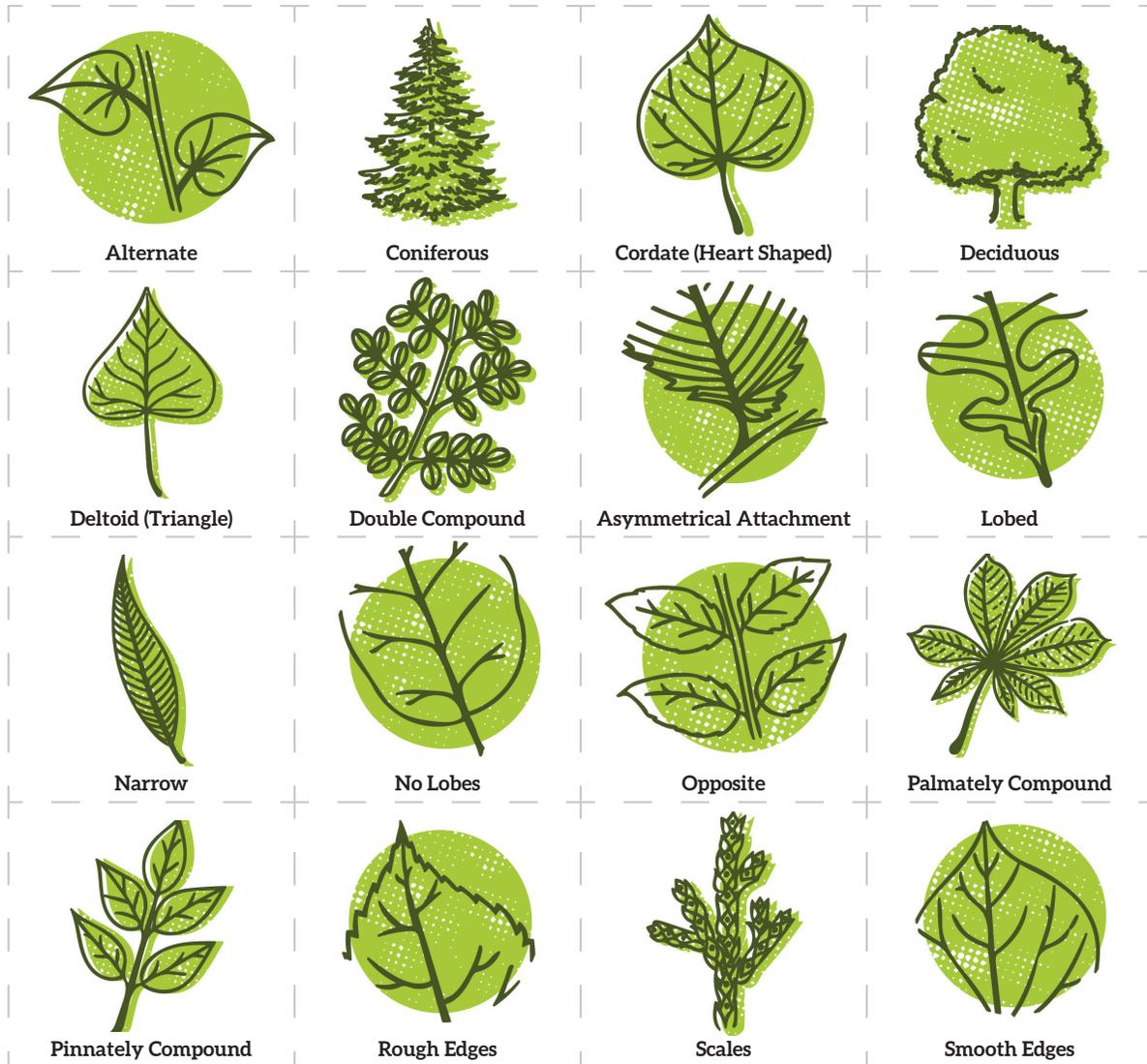
- Is there an area in your neighbourhood that could use some trees? Visit the Ministry of Natural Resources and Forests Tree Atlas to get a comprehensive list of all the native tree species for each region of Ontario. <https://www.ontario.ca/environment-and-energy/tree-atlas>
- **For discussion:** What should the criteria be when deciding on what species to plant? What are the consequences if you chose the wrong species?

For more resources and activities about Ontario's biodiversity, please visit the Biodiversity Education and Awareness website at <https://biodiversityeducation.ca/>.



Tree Anatomy Bingo Instructions and Images

Each participant needs two pages: the “tree anatomy bingo instructions and images” page and the “tree anatomy bingo” page. Cut out the images on this page and randomly glue them into the squares on the “tree anatomy bingo” page.



Tree ID images provided by Forests Ontario



Tree Anatomy Bingo

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Tree ID images provided by Forests Ontario

