



# LEAF LEARNING

## IDENTIFYING TREES USING FIELD JOURNALS

### Science and Technology/The Arts - Grade 3

Source: Adapted from learning activities created by the Peel EcoSchools Writing Team, made possible by support from The Region of Peel and Toronto and Region Conservation.

#### DESCRIPTION

In this learning activity, students will examine different parts of trees and learn how to identify deciduous and coniferous trees using a variety of resources, including personal field journals. This activity can be taught over the course of a week, or extended with the addition of a more in-depth exploration of nearby trees and plants.

#### CONNECTIONS TO ONTARIO ECOSCHOOLS

- **School Ground Greening:** Actively engage students in the care of the natural environment and encourage outdoor teaching and learning.
- **Curriculum:** Create lessons that allow students to learn in, about, and for environment.

#### CURRICULUM LINKS - SCIENCE AND TECHNOLOGY/THE ARTS, GRADE 3

OE = Overall Expectation

**Science and Technology** *Understanding Life Systems: Growth and Change in Plants (2007)*

OE 2: investigate similarities and differences in the characteristics of various plants, and ways in which the characteristics of plants related to the environment in which they grow;

OE 3: demonstrate an understanding that plants grow and change and have distinct characteristics

Specific Expectations: 2.2, 2.6, 2.7, 3.2, 3.3

**The Arts** *Visual Arts (2009)*

D1. Creating and Presenting: apply the creative process to produce a variety of two- and three-dimensional art works, using elements, principals, and techniques of visual arts to communicate feelings, ideas and understandings

#### PLANNING NOTES

##### Background Information

All trees grow from **seeds** and are composed of different parts, including the trunk, branch, **leaves**, and roots that soak up **nutrients** from the soil. Trees that remain green all year and do not lose their leaves are called **evergreen** and include most **coniferous species**, like white pine, spruce and cedar. They are characterized by their needle-like leaves and **seed cones**. Trees that shed their **foliage** in the fall are called **deciduous** and they have broad flat leaves, like oak, maple, ash and elm trees.

##### Key Terms

The following terms can all be found in bold in the paragraph above. They include: seeds, leaves, nutrients, evergreen, coniferous, species, seed cone, foliage and deciduous.

##### Materials

- Field journal/scrap book\*
- Labeled tree diagrams
- Crayons
- Optional: camera, tree identification book

\*Make the class set of field journals out of Good On One Side (GOOS paper). Gather GOOS paper and cut in half and staple together to create a book. Students can add covers made out of empty cereal boxes and decorate them.

## Suggested Books and Websites

### Books

- *The Kids Canadian Tree Book* – Pamela Hickman and Heather Collins
- *Tell Me, Tree: All about Trees for Kids* - Gail Gibbons

### Learning Skills & Work Habits

Independent work, collaboration, scientific observation, inquiry, critical thinking

### Websites

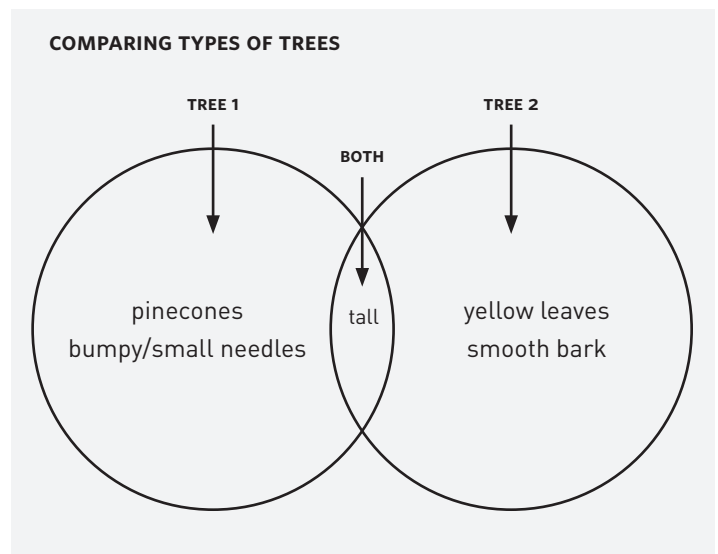
- Evergreen's *Native Plant Database*
- *Ontario Trees and Shrubs*
- *Discover Life*
- *Trees are Terrific*

## TEACHING/LEARNING STRATEGIES

### Minds On

1. **Whole Class:** Distribute field journals to all students and explain that they will be using them to record scientific observations and report on the natural environment. Review a few guidelines for field journals, including dating all observations and giving each entry a title. As a class, go outside to the school yard or nearby park with the field journals.
2. **Individual Exploration:** Ask each student to independently select a tree to draw in their field journal – make sure they include the date and location of their tree (i.e. behind park bench). Encourage them to be as accurate as possible and include any unique characteristics their tree has.
3. **Pair Share:** When the students return to the classroom, ask them to share their drawing with a partner. Together the students will compare their drawings and ask each other the following questions:
  - Does your tree have needles or leaves?
  - Does it have seeds, flowers, or cones?
  - What makes your tree unique?
  - What kind of tree did you draw?
  - How did you know?

Students can use a T-chart or Venn diagram to compare the characteristics of their trees. They can record their answers and comparisons in their field journal.



4. **Whole Class:** Present observations and comparisons to the whole class, encourage students to group similar trees together and begin a class inquiry wall or KWL (Know Wonder Learn) chart to share their findings. Explain that they will learn how to identify different types of trees species using specific attributes, such as leaves and/or needles.

#### KWL CHART EXAMPLE

KWL: ALL ABOUT TREES		
What we know about trees	What we wonder about trees	What we learned about trees
Some trees are really tall, but others are small and bushy	Why do some trees change colour?	Trees that lose their leaves in the winter are called deciduous
Leaves change colour	How do trees grow?	
Makes paper	Why are some leaves different shapes?	
Lots of different types		
Some trees have pinecones		

#### Action!

**5. Whole Class:** Read an informational text aloud (see Suggested Books section) and begin a class discussion about the difference between deciduous and coniferous trees. Compare labeled diagrams of the two, so students can visualize the differences. Then use an indoor plant or tree branch to model scientific note-taking and observation.

#### DIFFERENTIATED INSTRUCTION

The learning activity can be adapted to meet a variety of learning styles and specific needs. For example, instead of drawing different trees students can photograph them and/or collect leaves to press in

#### ASSESSMENT OPPORTUNITIES

Anecdotal evidence can be collected throughout the learning activity to identify gaps in knowledge or misconceptions to ensure that they are addressed. Student understanding can be monitored and assessed by comparing their first drawings and observations with

**6. Individual Exploration:** Go back outside with field journals and ask students to observe a different tree using the techniques and information they learned in class. Encourage them to include more details and label parts of the tree. Using crayon, they can add a leaf/bark rubbing.

**7. Group Work:** Back in class, work in small groups to sort tree drawings into different categories. The categories can be developed as a whole class or decided on by each group. Ensure that a variety of resources are available for students to consult, including photographs, informational texts, and recommended websites.

#### Consolidation

**8. Whole Class:** Share completed drawings with the class and invite students to explain how they sorted their trees. Highlight the differences between deciduous and coniferous trees and generate a list of examples. Combine each group's sorting into a whole class display. Add the tree diagrams to the class inquiry wall and/or use the students' new knowledge to complete the class KWL chart.

their field journals. They can always add bark and leaf rubbings and compare them. Students can also share their understanding of different tree species and characteristics orally.

their later ones. Students can work together to develop appropriate criteria for their observation notes and field journal entries. They can also create a class/group/pair display of different types of trees with relevant labels, sorting categories, and information cards.

## EXTENSION ACTIVITIES

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**Adopt a Tree:** As a class, adopt a tree in the school yard and observe it year round, focusing on what changes each season. Incorporate tree observations into the classroom routine and encourage students to share their questions and observations regularly. Add a maintenance schedule that includes watering in the hotter months and mulching before the winter to support the tree's health.

**Beyond Trees:** Trees are only one aspect of the school's green space. Begin a class investigation into other outdoor plants using the same field journals to record observations. Classify and sort different types of plants and add relevant observations to the information already gathered about trees.

**Conservation Campaign:** In order to ensure that school and community green space is protected, students can create a conservation campaign that explains why it is important to protect trees. This might include adding eco tips to the morning announcements, implementing GOOS paper bins, and creating informational outdoor signage.

