

Title: Create a Leaflet

Objective: Collect data and prepare a Field Guide page, a Leaflet, for a specific tree on the schoolyard

Time: 20-30 minutes

Materials Needed: Journal, pencil, crayons, rulers, tape

Interdisciplinary Lesson

Theme: Plants

Topic: Leaf Patterns, Tree identification

Suggested Grade Level: K-5

Indoors or Outdoors: Outdoors

Directions:

1. Students circle up in grassy area next to a tree on the schoolyard.
2. Explain that all students will work individually or in small groups to prepare a field guide page for a tree of choice from the schoolyard. Share examples of field guides with students (including those listed in the Additional Resources section).
3. Students will document information about their tree, including leaf pattern, in their journals. Basic tools may be used to collect and document data including rulers, tape (for taping leaves to their pages), and crayons (for leaf rubbings).
4. The field guide page should include the following components (This list may be modified by student ability/grade level):
 - Identify as either a Deciduous or Coniferous tree
 - Name of leaf pattern (learned during *Matching Leaves* and *Tree-mendous Schoolyard Survey* lessons)
 - Either a rubbing of a leaf or a leaf taped onto their journal page
 - List of three words that describe the leaf. This may include texture, shape, color, etc.
 - Two measurements. This may include the length of a leaf, width of a branch/trunk, counts of berries or seeds, etc.
 - Two statements, or words, describing their tree. This may include notes about the trunk, branches, overall shape, etc.
 - Identify the tree. Include the name on the top of the page. (This may require the use of a field guide)

Discussion Questions:

1. What are some of the characteristics of your tree's leaves? Are the top and underside of the leaf the same or different?
2. What were you surprised to learn about your tree as you collected data?
3. What else would you like to learn about your tree and its leaves?

Science and Engineering Practices:

1. Asking questions (science); 2. Developing and using models; 4. Analyzing and interpreting data; 8. Obtaining, evaluating, and communicating information.

Crosscutting Concepts:

1. Patterns; 3. Scale, proportion, and quantity; 6. Structure and function.

Disciplinary Core Ideas:

Life Sciences: LS 1: From molecules to organisms: Structures and processes; LS 3: Heredity: Inheritance and variation of traits.

Background Information:

- Deciduous trees possess leaves that fall off each year. Four typical patterns of deciduous leaves we find in Minnesota include: Toothed, Palmately Lobed, Pinnately Lobed, and Compound leaves.
 - Toothed, palmately lobed, and pinnately lobed leaves are considered “simple leaves” with one leaf blade per leaf stalk.
 - Compound leaves possess leaflets on a single leaf stalk, with the number and arrangement dependent on the species.
- Coniferous trees possess leaves, called needles, which typically remain green year round. They replace needles periodically, but do not shed all leaves every fall as deciduous trees do. (exception to the rule: Tamarack). Typical patterns of native coniferous leaves (needles) include: single needles, bundles in 2’s, bundles in 5’s, and scale-like needles.
- Leaf Rubbing- Lay a leaf between journal pages with underside facing up. Press an unwrapped crayon over the leaf, rub with the side of the crayon, not the tip. The rubbing will highlight the veins and the outline of the leaf.

Extension:

- Ask your students to use the data collected for their “Leaflet” to write a poem. Possibly a Diamante, Cinquain, or Haiku.

Additional Resources:

- *Trees of Minnesota Field Guide* by Stan Tekiela
- *A Beginner’s Guide to Minnesota Trees* by David M. Rathke. Online at: <https://www.dnr.state.mn.us/trees/native-trees.html>

Correlates with:

Greeting - Matching Leaves (p. 25)

Activity - Tree-mendous Schoolyard Survey (p. 71)