

# The 5 E's: A Model for Designing Lessons for Inquiry Planner<sup>1</sup>

## Logistics Information

- a. Environmental Education Learning Cycle Example
- b. A synthesis of *Project Learning Tree* (Activity 64)
- c. Developed June 12, 2009

**Background Information** (What do observers need to know about our learners, classroom and school?):

## Materials:

Tree leaves from ground  
Pencils  
Identification guide (optional)

## Time:

30 minutes

**Name of the Unit:** Looking at Leaves (PLT: Pgs. 273-276)

- I. Plan of the Unit
  - a. Goals of the unit: Students will identify characteristics of leaf shapes, sizes, and the various nature of leaves.
  - b. How this unit related to the curriculum:

Previous Grade/Course	Current Grade/Course	Next Grade/Course
Kindergarten: Properties of Leaves (size, shape, color, texture, weight, etc.)	1 <sup>st</sup> Grade: FOSS Wood and Paper Kit	2 <sup>nd</sup> Grade: Stages of Life

- c. Lesson Plan: Phases in a 5E Learning Cycle (in no particular order) are Engage, Explore, Explain, Elaborate, and Evaluate. There may be multiple experiences in each phase.

<sup>1</sup> Adapted from *Teacher to Teacher: Reshaping Instruction Through Lesson Study* (NCREL, 2002)

<b>Phases of the lesson: learning activities and key questions (and time allocation)</b>	<b>Student activities/ anticipated student reactions or responses</b>	<b>Teacher’s response to student reactions/ Things to remember</b>	<b>Evidence of Student Understanding</b>
<p>ENGAGE: Take students outside to collect 3-5 samples of leaves on the ground.</p> <p>In groups of two, have students observe and discuss how leaves are similar and different.</p> <p>EXPLORE: Students will sort the leaves according to size and shape determining: What the leaves have in common? Do the leaves have teeth? What do the leaves feel like? Have any of the leaves been eaten by insects, how do you know?</p> <p>EXPLAIN: Students will discuss their findings/responses to questions listed in the explore section while listening intently to others reporting their information.</p>	<p>Students will be able to collect 3-5 examples of leaves as requested.</p> <p>Students will have difficulty finding samples needed, some students may pull leaves, parameters required for proper handling of plants.</p> <p>Students may collect seeds, pine cones in place of leaves.</p> <p>Students will be able to sort leaves by their properties.</p> <p>Students will have difficulty listening to others responses due to engagement in process, playing with leaf samples or damaging the samples.</p>	<p>Teacher may have to guide collection of suitable leaf samples.</p> <p>Teacher will need to manage student behavior during the collection process.</p> <p>Teacher may have to help groups classify leaves, seeds, flowers, fruits, nuts, etc.</p> <p>Teacher may need to assist with questions to develop student understanding and discussion.</p> <p>Teacher will help to manage student conversations.</p> <p>Some students may need reminders about listening while others are talking.</p>	<p>Students will find leaves and identify similarities and differences.</p> <p>Some students will be able to go beyond original expectations, collecting further leaf samples and will identify similarities and differences.</p> <p>Students can classify leaves.</p> <p>Students will present requested information to their peers in an appropriate manner.</p> <p>Classmates will display proper listening skills.</p>

Phases of the lesson: learning activities and key questions (and time allocation)	Student activities/ anticipated student reactions or responses	Teacher's response to student reactions/ Things to remember	Evidence of Student Understanding
<p>ELABORATE: Students will compare pine needles discussing similarities and differences between pine needles and leaves previously gathered.</p> <p>EVALUATE: Students will complete drawings of leaves and will label three properties of their leaf (e.g. texture, size, color, shape) through collaborative group discussions.</p> <p>EXTENSION: Students will complete leaf crayon rubbings (PLT pg. 274), spatter prints, pressed leaves, leaf print T-shirts, Cherokee leaf printing, leaf batik (PLT pg. 274-275).</p> <p>Literacy Connection: <u>Leaf Man</u> (Lois Ehlert)</p> <p>Science Connections: <u>Outside and Inside Trees</u> (Sandra Markle), <u>Have You See Trees</u> (Joanne Oppenheim)</p>	<p>Students may not realize pine needles are classified as leaves.</p> <p>Students may experience difficulty in identifying three properties of leaves.</p> <p>Students may become overly excited over drawing of leaves and fail to complete evaluation.</p>	<p>Teacher may need to explain characteristics of leaves.</p> <p>Teacher may need to remind students to keep illustrations realistic based on observations completing drawings based on observations.</p> <p>Teacher may need to guide the labeling of the drawings.</p>	<p>Students will understand that pine needles are leaves.</p> <p>Student collaborative drawings will be properly completed with correct labels.</p>