

The 5 E's: A Model for Designing Lessons for Inquiry Planner¹

Logistics Information:

- I. Sense of Touch Education Learning Cycle Example
- II. Iowa Core Curriculum
Science (Inquiry):
 - 1. Asks questions about objects, organisms, and events in the environment
 - 2. Uses tools to gather data and extend the senses
 - 3. Communicate investigations and explanationsScience (Life Science):
 - 1. Understand and apply knowledge of the characteristics of living things and how living things are both similar to and different from each other and from non-living things.
- III. Characteristics of Effective Instruction are embedded within the Iowa Core Curriculum
- IV. A synthesis of *Project Learning Tree*
- V. Developed April 17, 2010

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

Materials Required:

Get in Touch with Trees (*Project Learning Tree*, p. 20-22)
Adopt a Tree (*Project Learning Tree*, p. 97-101)
Looking at Leaves (*Project Learning Tree*, p. 273-276)

Time Period:

3-4 45-minute class periods

Name of the Unit: Sense of touch

- I. Plan of the Unit
 - a. Goals of the unit:
 - 1. Students will describe a variety of textures
 - 2. Students will demonstrate how they use their sense of touch to explore and respond to the environment.
 - 3. Students will identify textural characteristics of different trees (bark, leaves, etc)
 - b. How this unit related to the curriculum:

Previous Grade/Course	Current Grade/Course	Next Grade/Course
Pre-K (Life Science)	K-2 (Life Science) – Students have been introduced to and explored the sense of touch.	3-5 (Life Science) – Students will continue to explore the sense of touch.

- 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.

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>ENGAGE: Students will guess what is in the Mystery Box (<i>Project Learning Tree</i>, p. 21).</p> <p>EXPLORE: Students will go outside, select a tree, and develop questions to guide their observations.</p> <p>Students will imagine and describe what different parts of a tree might feel like.</p> <p>EXPLAIN: Students will note the identifying characteristics of their tree/leaves – rough, smooth, bumpy, rounded, pointy, etc.</p>	<p>Students will feel items in each Mystery Box and draw conclusions about the content.</p> <p>Examples – mud, spaghetti, oranges, pinecones, moss, rocks, popcorn, animal bones, etc.</p> <p>Students will share their questions and openly discuss their findings.</p> <p>Students will write down their description. If possible, do leaf and/or bark rubbings and take digital pictures.</p> <p>Students will describe the identifying characteristics of their tree/leaves to be included in their portfolio.</p>	<p>Prepare the Mystery Boxes.</p> <p>Guided discussion to keep student focus on the sense of touch – How did students decide what each item was? How did the different items feel? What textures can students identify?</p> <p>Be mindful of student allergies.</p> <p>Monitoring and guiding students as they explore.</p> <p>Teacher will ask students how touch is important to their daily lives.</p> <p>Teachers will guide students with identification.</p> <p>Teacher will assist in written work.</p>	<p>Reveal the content of each Mystery Box and discuss student guesses.</p> <p>Student discussion.</p> <p>Student writing sample.</p> <p>Completed writing sample.</p>

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<p>ELABORATE: Students will collect tree leaves and bark samples to create a class portfolio on the sense of touch.</p> <p>EVALUATE: Students will compare and contrast two trees using a Venn diagram.</p> <p>EXTENSION: Students will visit a local county conservation facility, state park, science museum, etc.</p> <p>Students will create their own Mystery Box.</p>	<p>Students will collect leaves/bark, identify and label the names of the trees from which they came, and make a portfolio with their samples.</p> <p>Students will provide the information for a Venn diagram in which they compare and contrast two trees.</p> <p>Depending on the park – activities will vary:</p> <ul style="list-style-type: none"> • Identify and look at the characteristics of various trees. • Identify trees by their leaves, and note the texture. • Examine different types of tree bark and note similarities and differences between trees. <p>Students will collect their Mystery Box item.</p>	<p>Provide reference materials and examples of portfolio entries.</p> <p>The teacher will complete the Venn diagram and lead student discussion.</p> <p>Teacher will work with the facility specialists to organize appropriate activities.</p> <p>Teacher will facilitate sharing of the boxes within the room and school.</p>	<p>Completed portfolio.</p> <p>Completed Venn diagram.</p> <p>Student participation during the trip.</p> <p>Write and illustrate a reflective story about their visit to the park/ museum.</p> <p>Completed Mystery Boxes.</p>