

Wildflower Treasure Mapping

Yearlong Unit
Culminating with
Wildflower
Treasure Maps



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Lyme School Grade 3
School Year 2017/2018

Wildflower Mapping

Unit Goal:

Through a yearlong, multi-disciplinary approach, students will develop skills for measuring distances, mapping areas, and identifying wildflowers. This unit is set in an established Forest Classroom in Lyme, New Hampshire, a short 4/10 of a mile walk from school. Students visit the site weekly, on Fridays, when they participate in lessons that connect to both forest ecology and mapping. This document has been organized by learning outcome, however the lessons can be reorganized woven together throughout the year to reinforce the overall goals of measuring and mapping.

Grade Level:

2nd and up



Essential Questions:

- How can we visually represent space?
- What are valid forms of measurement for large area spaces?
- How is a compass used?
- Where & When are New Hampshire wildflowers found?

Culminating Unit Project:

First, students will conduct a mini research report, to become an expert about their assigned wildflower. Then students will end the year with a hand drawn map of our forest classroom. The map will identify their "wildflower treasure", along with detailed directions, which include pacing distance, main (N,E,S,W) cardinal directions, and major landmarks. These research reports and maps can be used from year to year for classes to track whether the wildflower are continuing to grow in the same places. Our data sheets can help determine year to year whether the flowers are increasing, decreasing or staying the same in number.

Unit Mini-Lessons

Bird's Eye View & Map Drawing:

- Teacher sets up a small birds eye view model using various blocks and shapes
- Students work to draw the shapes they see, from a bird's eye view
- Discuss space, position, size, and orientation
- As a class draw a map of the classroom - This lesson involves measuring, scale, and map labels or key
- Students draw a map of their playground
- Apply knowledge of Bird's Eye View for hand drawn maps of classroom, bedrooms, and Forest Classroom area.

Pacing:

- Using a 100 foot distance students count their paces and get as estimate of how many paces equal 100 feet - This develops a baseline
- Students pace distances between various landmarks in Forest Classroom and keep data
- Advanced students calculate averages for distances between landmarks
- Using a measuring wheel students determine distance between landmarks
- Using a 20 foot rope students determine distance between landmarks
- Students have discussions about distances measured and determine best measurement tool

Orienteering:

- Using a field compass students learn how to find north - "Red in the Shed"
- Using a field compass, Students practice orienting north while at recess, in their forest classroom, and through the school
- Within a familiar location students use a compass and their pacing experience to navigate from landmark to landmark - *Homebase is 35 paces north, 57 paces west, and then 13 paces South.* They both calculate the path and try to follow a set of directions.

Wildflower Classification:

- Students learn about wildflower conservation & etiquette through discussion and various articles*
- Working in pairs students are assigned a wildflower and create a mini research report to share identifying characteristics of their flower.
- Identify part of a flower through discovery, drawing and labeling
- Plant life cycles and pollination are well established through various lessons

- Field based discovery and classification guides allow students opportunity to locate wildflowers in our forest classroom
- Wildflower Tally Chart asks students to locate various wildflowers and keep various data about those flower found

Wildflower Treasure Maps:

- Students pull it all together here when they create a series of directions to follow out in their forest classroom - Leading a classmate to their "Wildflower Treasure"

Common Core Standards & Next Generation Science Standards:

[CCSS.MATH.CONTENT.3.MD.B.4](#)

Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

[CCSS.MATH.CONTENT.3.MD.D.8](#)

Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

[CCSS.ELA-LITERACY.RI.3.2](#)

Determine the main idea of a text; recount the key details and explain how they support the main idea.

[CCSS.ELA-LITERACY.RI.3.5](#)

Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

[CCSS.ELA-LITERACY.RI.3.7](#)

Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

[CCSS.ELA-LITERACY.W.3.2](#)

Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

LS1.B: Growth and Development of Organisms

- Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)

ESS2.E: Biogeology

- Plants and animals can change their environment. (K-ESS2-2)

LS4.C: Adaptation

- For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.