

## **Beginning Plot Mapping and Observation in the Field**

**Overview:** Students will make individual mental and plot maps of a designated outdoor area and then come together and discuss the differences. Then students will make a group map, record cardinal directions and record observations of the area.

### **National Geography Standards: World in Spatial Terms**

**2.3 Mental maps are used to answer geographic questions about locations can characteristics of places of regions**

**3.1 The meaning and use of fundamental spatial concepts. \*cardinal directions**

### **Oregon Geography Content Standards:**

**1.12 Give examples of local natural resources (and describe how people utilize them, extension)**

**2.10 Use and apply cardinal directions; locate and identify local physical features on maps.**

### **Oregon Science Content Standard:**

**1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.\*Structure and Function**

**2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.**

### **Connections to Common Core:**

**W1.7 & W2.7 Participate in shared research and writing projects**

**Objectives:** Students should be able to draw a mental and plot map, show understanding of cardinal directions, report observations of trees,

plants, and animals in a plot, begin to identify human impact in the forest and draw conclusions in a shared research report.

**Grade Levels:** 1, 2 **Time:** 1 hour 45 min (in field)  
30-45 min for report writing in class

**Materials:**

**Teacher Prep: 3 areas (10x 10' min.) taped off at forest site**

**Adult leaders for each plot**

Construction Area Tape/survey tape, hammer, and stakes

Clipboards, enough for each student

Pencils, crayons

3 sets of signs: North, South, East, West

Masking tape

Plot map paper, attachment A

Observation question sheet, attachment B

Extra paper

Chart Paper

Easel or place to hang chart paper for discussion

Markers

Forest journals or writing paper

Rubric for writing, attachment C

**Background:** Students will have seen, created and discussed why people use mental and plot maps in previous classroom activities. They will also have done some observation activities before the trip to the forest. See attachment D.

**Procedures:**

1. Have 3 areas marked off in forest area (outdoor school, nature trail, or park). Divide students into 3 groups and allow them to go to assigned area and play/walk around for 5-7 minutes. Have students return to central area away from plots and draw a mental map of their assigned area.

2. Before handing students plot map worksheet, discuss why map makers make maps of forests, and how does it help in forestry management. Hand students plot map worksheet on clipboard and have students return to assigned area to make plot map and mark N, S, E, W with given signs. Give them North direction before dismissal.

**Adult Volunteers will have tape, group's mental maps, a blank paper and observation questions in folder for later in lesson. Adult volunteers will facilitate students in answering clarifying questions, offering encouragement, and reading observation questions if necessary.**

3. Upon completing plot map, have students from each group gather, partner up and compare their plot maps to their mental maps. Discuss differences and talk about observations and perception. Have students share some of their thoughts with group.
4. Have student partners compare their plot maps to each other and discuss similarities and differences. Gather together and construct a new map in group with agreed upon attributes. Then have students observe their plot and answer observation questions on worksheet.
5. When finished with observations have groups come back together at central area. Compare and contrast the three areas and draw conclusions about what is happening in each area (healthy trees, evenly spaced, any sign of disease, size around, height, human intervention, etc.) Teacher records information on chart paper. Teacher may have to prompt discussion points.
6. Students will complete a short report on their findings from all areas using information compiled during discussion of observations. Teacher will provide scaffolding for student's writing, depending on grade level. Shared report can be completed on site or done in the classroom the next day.

**Assessment:** Students will write a research report of observations from activity. Students will use information collected from field discussion on observation and conclusions (Chart paper notes). First grade students will complete report with at least 3 facts written in complete sentences. Second grade students will complete report with a topic sentence, with at least 3 facts, and a concluding sentence. Students report will be graded with attached rubric, attachment C.

### **Extensions and/or Adaptations:**

#### **Extensions:**

- Forest management lessons
- Wood products lessons
- Identification of trees and plants in plot
- Plant study
- Continuing visits to same plots to observe change in seasons

#### **Adaptations/Accommodations:**

- Have students count trees not plot them
- Provide wheelchair access to one plot
- Students could measure plot area themselves and tape off
- Students could complete a scaled plot map
- Students could also identify species within plot
- Students could plot a larger area, noting landforms, trees, water, etc.

#### **Variations:**

- Plot flower garden or vegetable garden
- Plot playground areas

**Sources:** [Second Grade Writing Rubric- Informational Writing - WordPress.com](https://centralwawritingproject.files.wordpress.com/.../second-grade-writing-rubric.do...)

<https://centralwawritingproject.files.wordpress.com/.../second-grade-writing-rubric.do...>

Last visited 8/11/16

**Plot Map of** \_\_\_\_\_  
**Name** \_\_\_\_\_

---



1<sup>st</sup> grade Informative Writing Rubric

	1-not at all	2-somewhat	3-most of the time	4-yes
Topic named				
3 or more facts given				
Sentences complete				
Used capitals correctly				
Used periods correctly				

1<sup>st</sup> grade Informative Writing Rubric

	1-not at all	2-somewhat	3-most of the time	4-yes
Topic named				
3 or more facts given				
Sentences complete				
Used capitals correctly				
Used periods correctly				

1<sup>st</sup> grade Informative Writing Rubric

	1-not at all	2-somewhat	3-most of the time	4-yes
Topic named				
3 or more facts given				
Sentences complete				
Used capitals correctly				
Used periods correctly				

## Second Grade Writing Rubric- Informational Writing

	Focus	Content	Organization	Conventions
4	Maintains a focus on a single object, person, place, or event	Clear ideas are well supported with 3 details that inform the reader	Writing clearly has an introduction, at least 3 details, and a conclusion is clearly defined.	All sentences are complete with very few (0-3) or no mistakes in spelling, punctuation, or grammar.
3	Maintains a focus on a single object, person, place or event. One or two details may not relate to the object, person, place, or event.	Clear ideas are well supported with 2 details that inform the reader.	Writing has an introduction with supporting details used to support the body. A conclusion is present.	Most sentences are complete with some (4-7) mistakes in spelling, punctuation, or grammar.
2	Many events and details do not relate to the object, person, place, or event.	Clear ideas are well supported with 1 detail that informs the reader.	Introduction, body, and conclusion appear disorganized with few supporting details.	Some sentences are complete with repeated mistakes in spelling, punctuation, or grammar.
1	Writing has little or no focus on a single object, person, place, or event.	Almost no details which make it difficult for the reader to understand the information.	Uses no variety of sentences and word choices to inform the reader.	Many incomplete sentences with many mistakes in spelling, punctuation, or grammar making it difficult to read.