



A Region in My Own Backyard: A Geographic Field Study

Students learn about the geographic theme of region while tracing the changes in a tree over a period of time.

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Grade Level	6-8
Duration	3-4 class periods

National Geography Standards

ELEMENT ONE: THE WORLD IN SPATIAL TERMS

3. How to analyze the spatial organization of people, places, and environments on earth's surface.

ELEMENT THREE: PHYSICAL SYSTEMS

8. The characteristics and spatial distribution of ecosystems on earth's surface.

Arizona Geography Strand

Grade 6

Strand 4 Geography Concept 2 Places and Regions

PO 2 Describe the factors that cause regions and places to change.

Grade 7

Strand 4 Geography Concept 2 Places and Regions

PO 2 Explain the concept of regions and why they change.

Grade 8

Strand 4 Geography Concept 2 Places and Regions

PO 1 Identify common characteristics of contemporary and historical regions on the basis of climate, landforms, ecosystems, and culture.

Other Arizona Standards

Writing Standards for 6-8 for Literacy in History/Social Studies, Science, and Technical Subjects

Text Types and Purposes

6-8.WHST.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Establish and maintain a formal style and objective tone.
- Provide a concluding statement or section that follows from and supports the information or explanation presented.

Overview

Geographers use a vegetation plot to examine an area, log the features found there, and analyze their roles in the ecosystem. The problem

encountered in an urban environment is that the dominant features of an inner city school are cement and asphalt. However, students can still examine how a physical landscape can change in a very small ecosystem by examining a campus vegetation plot over several seasons. This lesson can be repeated three times over the course of a

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school year to allow the students to see changes in the region.

Purpose

This lesson is designed to help students conduct a geographic field study of their school yard eco-region, and interpret geographic information through maps and math estimations. Students will also practice personal narrative writing.

Materials

- A blank map of the school for students to plot a tree
- String and pegs to section off a plot
- Tape measures
- Sighting sticks
- Clinometer - a device for measuring angles
- Type your Tree worksheet
- Measuring Tree Height worksheet
- Tree Base Worksheet
- Writing Prompt
- Clipboards
- Pencils

Objectives

The student will be able to:

- do a field study of a region of their campus.
- organize information in a usable manner.
- interpret data and make mathematical calculations.
- creatively write about their experiences.

Procedures

1. Have the students discuss the landscape of a familiar place: the student's home, neighborhood, local park, or local shopping mall. Focus on both the physical and human features that define these places. Review the geographic theme of PLACE - the unique characteristics that define a particular location and answers the question: What is it like there?

2. In a similar fashion, discuss the landscape of the school campus. Ask students to think about how the landscape of the campus has changed over time and about the indigenous (natural) landscape that existed in the region BEFORE urban development. Review the geographic theme of REGION - the similar or unifying characteristics

of an area that allows geographers to define it as a region. Have students identify their physical region of residence, such as: the Sonoran Desert, Mogollon Rim, Colorado Plateau, White Mountains, Riparian River, etc.

3. Explain to students that they will participate in a field study of a small region, called a vegetation plot, on their campus. This will require them to adopt a tree, examine it, and record changes over a period of time.

4. Distribute the "Type Your Tree" worksheet and discuss Questions 1-9. Focus on related vocabulary & concepts such as: deciduous vs. coniferous, tree bark, leaf sketches, primary sources of water, and natural vs. transplant.

5. Before leaving the classroom, divide students into groups of two. Explain that student pairs will "adopt" a tree on the campus, give it a name, and examine their tree, using Questions 1-9 on the "Type Your Tree" worksheet. NOTE: Question 10 cannot be accomplished until further instruction is given regarding methodology for measuring tree height.

6. Distribute the "Measuring Tree Height" worksheet. Have students read the instructions on the 5 different methods for estimating tree height. Introduce students to the measuring materials (the measuring tapes, sighting sticks, and clinometers) and demonstrate how to use them. NOTE: If sighting sticks and clinometers are unavailable, the teacher will only be able to utilize the first three methods of estimation.

7. Have the student pairs further examine their tree, using Questions 10-12 on the "Type Your Tree" worksheet.

8. Distribute the "Tree Base" worksheet and discuss the procedures and observation strategies involved. Have the student pairs plot a 6-foot square grid around the base of their tree and divide the grid into four quadrants, following the cardinal directions. Students will further examine their schoolyard eco-region and record their observations on the "Tree Base" worksheet.

9. Have the students draw a map of the campus, identifying the location of their tree.

10. Every eight weeks have students perform the field study procedures and worksheet observations again. Save these for the final assessment. Explain the narrative writing assignment (see Writing Prompt) in which students will write from the perspective of the tree and

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describe how the landscape has changed over time after each observation period. Note: Just have them do one portion of the journal work at a time.

Assessment

As a final assessment, have students write a narrative in which they write from the perspective of the tree and describe the cumulative changes observed over the course of the project.

Each of the worksheets and the schoolyard map will be evaluated on the basis of completeness and accuracy. Points should be assigned for each item at the discretion of the teacher.

The writing assignment will be assessed on the traits of ideas, voice, and word choice using the Six-Trait Rubric. Mastery will be considered 4 or higher.

Extensions

Once the field study is completed, students can research other regions of Arizona, the USA, or the world and compare/contrast these regions with their schoolyard region.

Sources

<http://www.wikihow.com/Measure-the-Height-of-a-Tree>