

# HELP ME FIND MY HOME

Prep Time: 0 minutes

Teaching Time: varies, 90 minutes minimum

INSTRUCTIONS  
Grade 3



## Science Concept:

Soil temperature affects the growth of plants.

## Objectives:

The student will:

- classify plants by their location in the shade or sun;
- collect and record data in a table and graph; and
- create a poster illustrating plants.

## GLEs Addressed:

### Science

- [3] SB1.1 The student demonstrates an understanding of the structure and properties of matter by being able to classify matter according to physical properties (i.e., color, size, shape, weight, texture, flexibility).
- [3] SA1.1 The student develops an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, analyzing data, developing models, inferring and communicating.
- [3] SA3.1 The student develops an understanding of the processes of science by observing local conditions that determine which plants and/or animals survive.

### Math

- [3] S&P-1 The student demonstrates an ability to classify and organize data by designing an investigation and collecting, recording, organizing, displaying, or explaining the classification of data in real-world problems (e.g., literature, self, or family), using bar graphs, and Venn diagrams.

## Vocabulary:

*shade* – comparative darkness and coolness caused by shelter from direct sunlight

*Celsius* – the temperature scale, and the unit of measurement of temperature, which takes 0° C as the freezing point of water, and 100° C as the boiling point of water

*soil* – the upper layer of earth in which plants grow, a black or dark brown material typically consisting of a mixture of organic remains, clay, and rock particles

*temperature* – the degree or intensity of heat present in a substance or object, especially as expressed according to a comparative scale and shown by a thermometer or perceived by touch

*Fahrenheit* – the temperature scale, and the unit of measurement of temperature, which takes 32°F as the freezing point of water, and 212°F as the boiling point of water

## Materials:

- Thermometers (one per student)
- Stopwatches (one per group)
- Clipboards (one per student)
- OVERHEAD: “Some Like Shade, Some Like Sun”
- STUDENT INFORMATION SHEET: “Plant Identification Guide”
- STUDENT WORKSHEET: “Data Chart”

## Activity Procedure:

Please refer to the assessment task and scoring rubric located at the end of these instructions. Discuss the assessment descriptors with the class before teaching this lesson.

### Gear Up

#### *Process Skills: communicating*

1. Display OVERHEAD: "Some Like Shade, Some Like Sun," and teach the song to the class. Discuss the meaning of the song as a class.

### Explore

#### *Process Skills: questioning, observing, measuring, and classifying*

2. Divide students into small groups, and distribute the STUDENT INFORMATION SHEET: "Plant Identification Guide" and a stopwatch to each group. Make sure the person in each group who will operate the stopwatch knows how to use it. Distribute the STUDENT WORKSHEET: "Data Chart," a clipboard, and a thermometer to each student. Tell students they will record data on their student worksheets, and remind them to bring a pencil. Go outside to a predetermined area with the class and guide them through the following procedure:
  - STEP 1: Create a data chart on the worksheet to record plant species and soil temperature. Provide a place on the chart to note whether the plant was growing in the shade or sun.
  - STEP 2: Within the time allotted, find as many plants from the plant identification cards as time permits. If plants are found that are not on the identification cards, draw them on the back of the worksheet.
  - STEP 3: Sink a thermometer approximately five inches into the soil by each of the plants being measured. After one minute, note and record the temperature in the data chart.

### Generalize

#### *Process Skills: inferring, observing, describing, and analyzing data*

3. Return to the classroom, and ask students the following questions:
  - a. What are the physical attributes of the plants you found in the shade?
  - b. What are the physical attributes of the plants you found in the sun?
  - c. How are the plants found in the sun and in the shade the same? Different?
  - d. What did you observe about the soil temperatures you collected?
  - e. Based on the information you've gathered, what can you infer about the differences in soil temperature?

### Apply

#### *Process Skills: graphing and communicating*

4. Instruct students to organize the data collected during their exploration into a bar graph and share it with a peer. Students may put the bar graph on the bottom or back of their worksheet if there is enough space, or on a separate piece of paper.

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# RUBRIC

## Assessment Task

Ask students to produce a poster that illustrates at least two plants growing in the shade and two plants growing in the sunlight. Instruct them to label each plant with its common name and the soil temperature in which it was growing. Ask students to explain in writing why they put the plants in the categories they selected.

## Rubric

Objective	GLE	Below Proficient	Proficient	Above Proficient
The student classifies plants by their location in the shade or sun.	[3] SB1.1	The student classifies three or fewer plants into shady/sunny categories and can not explain why plants were placed in those categories.	The student classifies four plants into shady/sunny categories and can explain why each plant was placed in its category.	The student classifies five or more plants into shady/sunny categories and can explain why each plant was placed in its category.
The student collects and records data in a table and graph.	[3] SA1.1 [3] S&P-1	The student does not collect data.	The student collects soil temperatures and organizes data into a bar graph.	The student collects soil temperatures and organizes data accurately into a bar graph.
The student creates a poster illustrating plants.	[3] SA3.1	The student creates a poster that is incomplete.	The student creates a poster that illustrates two plants growing in the shade and two plants growing in the sun. The common name and soil temperature for each plant is provided.	The student creates a poster that illustrates in detail three or more plants growing in the sun and three or more plants growing in the shade. The common name and soil temperature for each plant is provided.



## Some Like Shade, Some Like Sun

By Jeanne Ringstad and Charlene Sims  
(Sung to the tune of *The Wheels on the Bus*)

Interior Alaska has many plants  
has many plants, has many plants,  
Interior Alaska has many plants that  
Grow in shade and sun.

Cloudberry and fireweed  
Moss and fern  
Blueberry  
Yarrow, willow and lupine  
Are just a few of them.

Now let's go into the trees  
And the sun  
Have some fun  
Observing and then measuring  
Soil temperatures.

**Alder Tree**



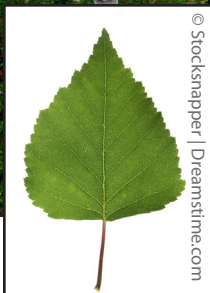
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**Blueberries**



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**Birch Trees**



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**Bunchberries**



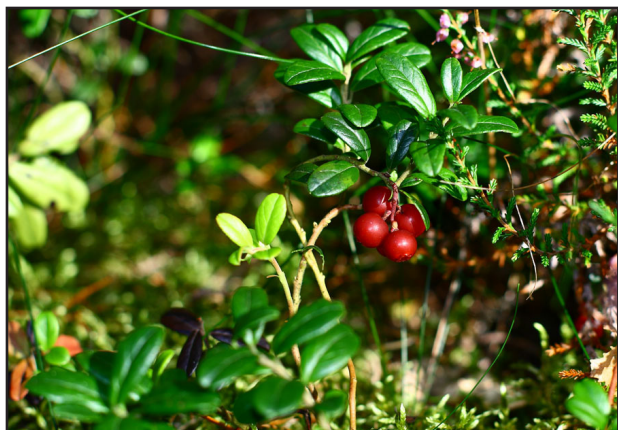
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Wild Geranium



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Yarrow



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NAME: \_\_\_\_\_

**DATA CHART**

**Directions:** In the space below, create a data chart to record each plant species you find, and the soil temperature recorded near each plant species located.