

Graphing Species Diversity

Overview: While learning about the diversity of native plants across dune habitats, students will practice calculating percentages and graphing data.

Objectives:

1. Students will recall that plants are adapted to live in different habitats, and that some habitats have higher plant diversity than others
2. Students will practice calculating percentages
3. Students will be able to communicate results by graphing data

Time: 45 minutes – 1 hour

Materials:

Common Dune Plants list

Calculator

Graph Paper

Writing utensils

Protractor (if making a pie graph)

Optional: Dune Magnet Board (available at HERC) or a white board and markers

Procedure:

1. Review which native plants can be found in each dune habitat by using the Dune Magnet Board, or by drawing a dune profile on the board and drawing or listing the plants that can be found in each habitat. Use the Common Dune Plants list or a Beach and Dune Field Guide to find common plants for each habitat.
2. Create a simple table to record the number of plants that occur in each habitat, and the total number of plants.
3. Have the students create a bar graph with this data, with one bar representing each habitat. Color and label the bars. Or create a pie graph by
 - For each habitat, divide the number of plants by the total number of plants in all habitats, this will give you a decimal value for each habitat, all of them added together should equal one.
 - Multiply the decimal values by 360 to get an angle
 - Draw a circle with a dot in the exact center and a radius
 - Use a protractor to measure the first angle from the radius, measure each following angle from the previous line drawn
 - Label and color each “slice” of the pie chart
4. Discuss any trends you see. Use this to introduce species diversity (the amount of different species that occur in a habitat). Which habitat has the most plant diversity? Which habitat has the least diversity? What might be some reasons for these trends?