Connections Post-Trip Activity: Analyzing Data

During the Connections field trip to Armand Bayou Nature Center, students took a variety of measurements and made observations that they recorded on their data sheets. Use their data to make math, writing and other skills "come to life" as they complete the following activity. Explain that scientists analyze their data in similar ways. ABNC will use the data the students collected to help monitor the health of the pond.

1. Before the activity, make copies of data sheets. You may wish to have one per student or one per small group.
2. Distribute data sheets to students, and have them break into groups, if desired.
3. Talk about some of the observed *qualitative* data, such as soil sample matching and texture.
    a. What did students discover about the nature center's soils? (Prairie soil was probably more clay-like, and forest soil probably had more variation.)
    b. Were there differences in groups' observations? Why do students think so? (Groups may have sampled in different locations within the same ecosystems.)
4. Explain that graphs are a great way to display and compare information, like the measurements students took at the nature center. Review bar graphs, if needed. (You might explain that a line graph is more appropriate to show how data changes over time. Students only took measurements on one day, so a bar graph is a better representation of the data collected. Field scientists would return to the same location to repeat measurements on different days.)
5. Have students make graphs to display their data. Students may create their graphs using computers, graph paper, or ABNC's graph sheet. (See the next page.) Ideas for graphs:
    a. Light and Moisture in the prairie vs. forest
    b. Wind speed in each ecosystem
    c. Air temperature in each ecosystem
    d. Types of pond or prairie organisms
6. Compare and contrast the measurements and observations. Possible questions:
    a. Which ecosystems had higher temperatures, wind speeds, etc? Why do you think so?
    b. What kinds of errors or influences might have affected your measurements and observations? (Slightly different ways of sampling/measuring, time of measurement or sampling, slightly different locations for sampling/measuring)
    c. What does your data tell you about the nature center's diversity or health of these ecosystems? (This question ties in especially well if students completed the pond organism data sheet. It can lead into a lesson on diversity.)

Name _____ Date _____

Connections Observations Bar Graph

What will your graph be about? _____ (This is the title of the graph.)

Which ecosystem(s) did the data come from? _____

How many bars will your graph need? _____

What will you put on the x-axis? (Some examples are kind of animal and ecosystem.)

_____

What will you put on the y-axis? (Examples are numbers of animals, temperature, and wind speed.)

_____

Which bar is the highest? _____

Which bar is the shortest? _____

Make a bar graph of the data you collected. Make sure you **label the x and y axes** and give your graph a **title**.