Illinois State Museum – MuseumLink Prairie
Prairie Activity: Plant Adaptations

Objective: Students will be able to identify and describe prairie plant parts that show adaptation to habitat and environmental conditions.

Grade levels: Elementary and junior high
Time Required: 50 minutes

Museumlink Web sites:
Prairie Ecosystems, Plants, Adaptations:
http://www.museum.state.il.us/muslink/prairie/htmls/eco_adapt.html
Field Guide: http://www.museum.state.il.us/muslink/prairie/htmls/eco_fieldguide.html
Students will read the Adaptations section of the Prairie Web module, and read about plant adaptations in their science text or other science materials in the curriculum. Using real plants and field guide examples, the teacher will guide the students through descriptions of plant parts and how the parts are adapted to the soil, water, and temperature conditions in which they grow.

Motivation: Class discussion of adaptations, using real plants if possible

Sample Discussion Questions:

What is the size, shape, surface texture, and location of the leaves? (soft, fleshy, dry, hard, thin, thick, narrow, round, at the base, along the stems) How does this relate to water retention and survival in drought or fire?

What type of flowers does the plant display? (many small blooms, clusters, large blossoms) Does the stalk bloom from the bottom up or from the top down? Do the flowers attract insects? How?

What kind of stems does the plant have? (height, thickness, surface texture). How does this help the plant survive and reproduce?

How are the seeds stored and dispersed in the plant? (if possible to see at this time of year) How does this promote diversity?

Materials:
prairie plants (either in the field or in pots
field guide (online or print)
worksheet
pencil

Procedure:
Students will go to a prairie, or use plants in class or in a school or home garden.
Individual students or pairs of students work on each worksheet.
In turn, look at each plant, identify it, write its name, draw a sketch from life that shows its adaptive parts, and write a short description of its adaptive parts.

Example:
Illinois Bundle Flower
Lives in dry-mesic soil
Leaves are small and they close up, which lets them retain water.
Seeds are hard and pointed (can catch hold of passing creatures) and curved (can move farther in air)

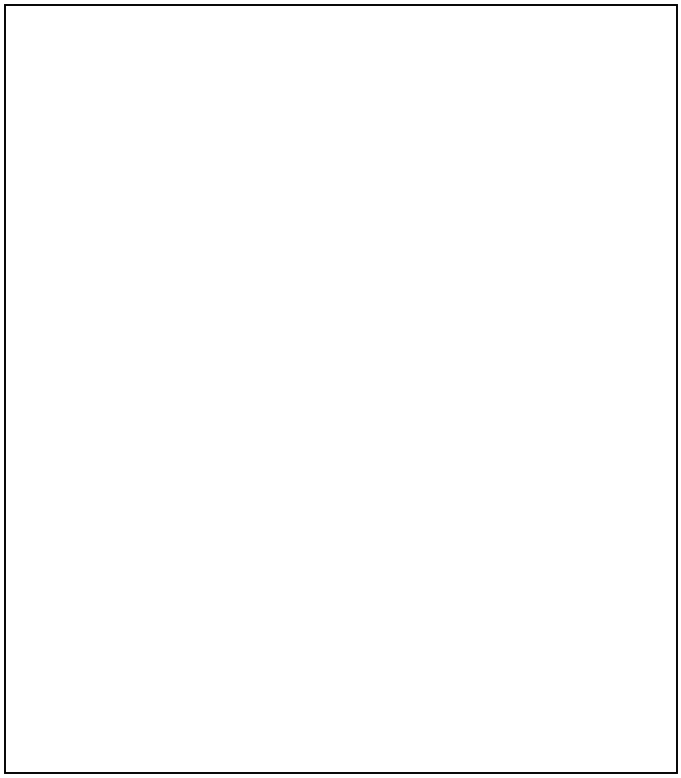
Assessment:
Students present their findings to the class (at least one per student) orally or visually). Whole class discussion or small group discussion can help those whose results are incomplete. Each students should be able to find one adaptation on each plant. More practice in whole class or with peer can improve

Illinois Goals and Standards addressed:
Goal 12: Standard B: Know and apply concepts that describe how living things interact with one another and with their environment. Early elementary through junior high.

Plant Adaptation Worksheet

Name_____

Draw a line drawing of your plant here.
Include all the major parts of the plant.
Label the parts of the plant that you think are especially adapted for prairie habitat.



For each part labeled, write a short description below that tells how this adaptation helps the plant survive.

Stem
Root
Leaves
Flowers
Other