

Stream Ecology On-Site Summary

Grade 5

Perennial streams are characterized by constantly flowing waters, whose characteristics typically include: high dissolved oxygen levels, cooler than still waters, uniform temperature from the top to the bottom of the stream, are generally shallow, the water remains clear, and overhanging vegetation provides shade. The edges or sides of streams are known as riparian zones. The plant cover along riparian zones helps to shade the water and moderate its temperature, the roots hold soil in place to prevent erosion and falling leaves and sticks add nutrients to the water.

Within the moving water there are rocks, macrophytes and debris, which provide some of the most important habits for the stream organisms. Decomposers, like bacteria and fungus, break down plant remains, which allows nutrients to become more available for continued plant growth. Growing algae and moss are food for grazers such as snails, which will also eat fungi and bacteria. There are also shredders, which are organisms that eat larger plant remains. Examples of shredders are caddisflies and mayfly nymphs.

The study of the interactions between organisms such as the ones described above and their environment, also described above, is known as ecology. While at the Elm Fork Education Center (EFEC) the students will conduct a scientific field investigation demonstrating the relationship between trees and the ecology of stream communities and pond communities. They will begin this study by using artificial habitats, in this case leaf packs. It takes 3 to 4 weeks for a leaf pack to colonize so the students will retrieve a pack that was left to colonize by a previous group. The students will analyze the results of a leaf pack experiment (by sorting and identifying specific organisms) demonstrating and using an experimental variable to draw conclusions about freshwater macroinvertebrate habitat quality and food preferences. Students will use knowledge gained Pre-visit Activity and insect mats to learn the distinguishing characteristics and adaptive features of major groups of freshwater macroinvertebrates.

TEKS CONNECTIONS:

Science TEKS - Fifth Grade:

4.8 (A) - Students will identify characteristics that allow members within a species to survive and reproduce.

