

Riparian Buffer Station

At the riparian buffer station, students learned about the role of trees in protecting water quality. Starting with the soil, they investigated soil types and horizons. Identification of trees and characterization as native species or invasive led to an understanding of the components of a riparian buffer and how it works to hold stream banks in place, absorb nutrients from runoff water, and provide habitat and food for both aquatic and terrestrial species.

Macroinvertebrates Station

Who lives in the stream? The interaction between land and water is best expressed by exploring the numbers and types of macroinvertebrates living in a stream. Students waded in with nets and caught bugs that they dislodged from the rocks and bottom sediment in a riffle, or fast current area, of the stream. The macroinvertebrates were identified and sorted into groups with differing tolerance for polluted water. After tallying their counts, the class decided that both the North River and Riven Rock Park sites had high water quality, making them suitable for many types of organisms to thrive in this environment.

Water Chemistry Site

Water is a universal solvent, capable of dissolving and then carrying many different chemicals as it flows through a watershed. Some of these chemicals may be pollutants and can reduce the quality of water for human uses and for ecosystem functioning. Students at this site learned about how to use LaMotte water chemistry test kits to measure the water's pH and the amounts of nitrate, phosphate, dissolved oxygen and turbidity. They learned what "good" levels of each of these substances are, and what factors cause them to become impaired. They also determined the amount of water in the stream at each site by measuring width, depth, and flow rate of the stream. The connections between land use practices, water chemistry, and macroinvertebrate survival became clear as the students completed work at this site.