

## Mountain Grove ArtStream I

Prior to beginning the Mountain Grove Project fifth grade students completed a unit on water, in which they discussed the water cycle, watersheds, rivers and things affecting rivers including point source and non point source pollution.

On April 20, Mountain Grove fifth graders explored the Bryant Creek at Rippee Conservation Area near Ava, Mo. Four classrooms, which included approximately 110 students, participated in the following activities;

Nature Journaling: an introduction to scientific drawing and using observation skills,

Scavenger Hunt: practice using observation skills,

Macro Invertebrate Survey: taking a stream sample to determine the water quality,

Riparian Corridor Survey: a basic review of watersheds, point source pollution and non point source pollution as well as using observation skills,

Using Field Guides: using guides and dichotomous keys to identify plants and animals of the area,

Trail Talk: a short hike with a naturalist pointing out local plants, and

Nice and Quiet: a time for reflection and journaling about the activities of the day. During this Stream Day, students were encouraged to draw in each of the above activities.

Previous to the Stream Day students were given a multiple choice pre test. The average score was 30%. Only 44% could identify the definition of a watershed and only 44% knew the source of a stream is called its' headwaters. There were 21% who could identify an example of a point source pollutant and 21% could identify a Best Management Practice. Only 19% knew the watershed their school was located in. Three weeks later students were given a post test with an average score of 45%, an increase of 15 percentage points. All questions showed significant improvement.

Upon returning to the classroom students chose their best or favorite drawing to use as a basis for a linoleum printing project. Students were given instructions on the linoleum printmaking process, including using positive and negative space as well as safety precautions while using linoleum cutters. Students transferred drawings to linoleum plates and then

used linoleum cutters to carve away what would be white space on the prints. On a second day, students finished carving and learned the printing process. There were lots of oohs and aaahs as the paper was pulled back to reveal the now, black and white print.

Teacher evaluations revealed that they would love to plan a similar project next year. Teacher comments included the following: “Hands on learning stays with students better than just opening a book or doing a worksheet.” “We were exposed to a variety of wildflowers and insects as well as the many different creatures in the water.” “What we learned is easily integrated in science, but also in reading and math.” “We benefited by learning how to respect nature and appreciate what it has to offer.”

The Mountain Grove Stream Day and ArtStream Project provided instruction linked to the following Missouri DESE Grade Level Expectations:

SC 3: CILO, 1 E 5e: Identify plants and animals using simple dichotomous keys.

SC 4: CEIOE, 1 D 6a: Describe beneficial and harmful activities of organisms, including humans (e.g. water pollution, restoration of natural environments, river bank stabilization etc.) and explain how these activities affect organisms within an ecosystem.

SC 5: PIES, 1 B 5a: Classify major bodies of surface water...as fresh or salt water, flowing or stationary, surface or groundwater.

SC 5: PIES, 3 A 6b: Describe the affect of human activities (e.g. landfills, use of fertilizers and herbicides, farming, septic systems) on the quality of water.

SC 7 SI, 1 B 5a: Make qualitative observations using the five senses.

CA Writing, 3 A 5: Write personal narrative text that chronicles a sequence of events and focuses on the development of a single event.