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Burn It Down to Build It Up

For three years, students and teachers at the Patrick Marsh Middle School near Madison, Wisconsin, have been restoring the spacious lawn surrounding their school to the land's original prairie of tall grasses and wildflowers. On a breezy day during Earth Week this spring, after scampering through the dry grass to pick up litter, some 200 students watch science teacher Mark Smith touch a lighter to the edges of the straw-like ground cover and set their prairie on fire.

A team of teachers with rakes and sprayers stands by as orange flames flicker and flare across the 1.5 acre patch. A gust of wind kicks up a big flame and a chorus of "oohs" from the children. In less than half an hour, the last flame sputters out, leaving a blackened expanse of warm earth.

"We didn't kill the prairie plants," 7th grader Holly Opyd is quick to say. "The roots last," she explains. In just a few weeks, the burned plot will turn green, and by late summer, Holly says, "it will be really colorful and bright." She and her classmates rattle off a dozen distinctive perennials they studied in their schoolyard prairie last fall: "Indian grass, purple prairie clover, yellow coneflower...."

The little prairie grew out of a summer workshop Smith and his fellow teachers attended, the Earth Partnership for Schools Program. Run by the University of Wisconsin Arboretum, the site of some of the oldest ecological restorations in the United States, and supported in part by HHMI, the workshop teaches the teachers how to restore a schoolyard to its natural habitat and then use it as a living lab.

Students love the hands-on experience of preparing the ground, collecting seeds from local nature reserves, planting them and studying what comes up. "There's something about learning about the out-of-doors that inspires kids," says Smith.

Because teams of teachers from the same school attend the summer workshops, lessons from the prairie are incorporated across the curriculum, from math to music. Students have learned about setting transects, which are lines on the ground along which sample points are established for collecting

vegetation data. They've written poetry about their favorite plant, studied the Native American history of their site and used the prairie as a tranquil place to read. The prairie even provided an economics lesson when it produced a bumper crop of a prized wildflower, purple prairie clover, whose seeds sell for \$75 per ounce. Students collected five buckets full of seeds and donated them to the state of Wisconsin to help support more prairie restoration.

Like seeds themselves, 530 teachers from 150 schools around Wisconsin are dispersing what they've learned to tens of thousands of students from kindergarten through high school. As a result of the training, the teachers now view themselves more as scientists, says Libby McCann, who manages the program. She is writing a dissertation on the Earth Partnership training as a tool for teacher professional development.

The students too have become teachers and scientists. Holly and a classmate this spring presented their prairie studies at a local conference on native landscaping. And in an after-school Discovery Club, the middle school students are mentoring second graders as they study prairie wildlife.