

## **Introduction to EarthWorks and the Outdoor Classroom Program**

EarthWorks was founded in 1989 as a grassroots non-profit organization working to create a healthy and sustainable urban environment through community-based tree plantings and environmental education programs. The organization's primary goal was promoting ecological awareness and justice. Soon after, EarthWorks began reclaiming neglected urban space by organizing neighborhood groups around public urban orchards. EarthWorks has planted over sixty urban orchards in the Greater Boston area, focusing on low-income neighborhoods. The sites are in Boston (Dorchester, Jamaica Plain, and Roxbury). Although EarthWorks closed in 2010, this curriculum is a lasting and unique resource.

The Outdoor Classroom Program was one of EarthWorks' primary programs. The program worked with teachers and students to combine orchard tree care with learning about the environment. Bill Palmer-Taylor, Rebecca Arnoldi, Alana Dudley, and Amy Sprague founded the program in 1996 in an effort to increase the use of schoolyard orchards by students through hands-on activities. Through outdoor, exploratory orchard study, students gain a deep understanding of ecological processes, build a connection to the natural world, and develop an enthusiasm for science. The curriculum aligns with Massachusetts science learning standards while connecting children with nature in their schoolyard orchards and gardens.

### **How to Use this Curriculum**

If you teach or volunteer at a school that has fruit trees or bushes in the schoolyard or nearby, this curriculum is a wonderful tool. The curriculum is also useful for environmental educators who partner with schools and wish to take advantage of local fruit trees. Many of the explorations work well in the classroom as well as after school. Maintenance activities, such as mulching, are especially good for after school. Most lessons are suggested for elementary students. They can extend and enrich existing science curriculum by giving students real-world experience with natural phenomena.

The EarthWorks curriculum is flexible: if you only have time to do a few lessons in fall and a few in spring, when students are itching to get outdoors, you can choose lessons that relate to your physical site, interests, and background knowledge. You could also continue to do lessons throughout the year, even when orchard trees and other plants are dormant. Please look at the suggested "Tracks" to find mini-units around certain topics. Lessons could be done weekly or more often if you have time. Many teachers have found creative ways to integrate the lessons into their science, literacy, and math curricula. In addition, every lesson begins with a *Reactivate Prior Knowledge* section to either connect to a previous lesson within the track, or to just see what familiarity students have (if any) with the content to be addressed.

Although not listed in the individual lessons, the EarthWorks curriculum was created with the Massachusetts science frameworks in mind. Inquiry skills are developed as

## EarthWorks Orchard Curriculum

students ask questions, make predictions, and record observations. The following content frameworks are also addressed in the curriculum:

Grade Level	Strand	Subtopic
PreK-2	Earth and Space Science	The sun as a source of light and heat
	Life Science	Characteristics of living things
	Life Science	Heredity
	Life Science	Living things and their environment
3-5	Earth and Space Science	Soil
	Life Science	Characteristics of plants and animals
	Life Science	Structures and functions
	Life Science	Adaptations of living things
	Life Science	Energy and living things
6-8	Life Science	Living things and their environment
		Energy and living things

### Supplemental Materials

In addition to the lessons and worksheets that are the primary components of this curriculum, we have also included a variety of supplemental materials. These can all be found after Track 5. Supplemental materials include: background information for educators (by topic), relevant news articles, a glossary (organized by subject), and a list of suggested additional resources.

### Thanks

This curriculum was written and compiled by EarthWorks Teacher Naturalists Ninya Loepky and Ruby Geballe in 2010, based on material that had been written in previous years. Ninya and Ruby wrote the bulk of this version, and Ruby contributed her Spanish skills to translating the worksheets and vocabulary. Erica Quigley provided editorial help. We would like to thank all of the EarthWorks staff and volunteers over the years who developed versions of the curriculum, as well as all the classroom teachers and students who tried it out. To paraphrase Rachel Carson, our hope is that caring adults will use these lesson plans to lead children outdoors and share their sense of wonder about the natural world.

