



Taking the Classroom Outside

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Background

Introduction

If you had the choice to spend the day outside or go to school and sit inside all day, which would you choose? Spending time outdoors might be more fun, but school is important as well. Fortunately, you may no longer have to make such a choice! Many schools across the country have begun to teach classes outside, using local resources to teach students about their environment.

The Importance of Outdoor Learning

Students spend a large amount of time during school sitting behind a desk in a classroom. According to Richard Louv, author of *Last Child in the Woods*, this can lead to “Nature Deficit Disorder” (NDD), or a lack of connection with the environment. NDD can also lead to other problems such as obesity or low academic performance.¹ Being outdoors reduces student stress and fosters a deeper connection with the environment that is missing in the classroom. Students clearly enjoy and benefit from the time they spend outdoors, so why not take the classroom outside?

Outdoor classrooms provide students with a place to learn that is both hands-on and fun. Students can apply the knowledge they learn in the classroom to the outside world through the examples they find within their local environment. In a study done by a consortium of 16 State Education Departments across the U.S., schools with “hands-on environmental curriculums” saw 100 percent improvement in student behavior, attendance, and attitudes, as well as 77 percent of the schools saw improvement on standardized tests.²

There are many ways that classrooms can be taken outside, and many lessons that can be taught outside as well. This includes standards based concepts such as physical, life, and earth science, art, reading, and mathematics.³ For example, scientific methods can be used to explore the natural world and conduct experiments, nutrition can be taught through caring for a garden, the outdoors can be used as inspiration for writing and art, environmental problems can be addressed through civic engagement, and students can take their books outside to read.

While using the environment as a classroom is important, leaving time for unstructured play outside is important as well. In addition to recess, gym, and lunchtime, opportunities should be used during the day to take students outside and let them be active. Recent studies have shown that spending time outdoors during recess can improve students’ behavior, fitness, and even

academic achievement.⁴ Being outside also teaches environmental stewardship to students and the responsibility we have as citizens to take care of our earth.

Ways to Take the Classroom Outside

Taking a classroom outside does not necessarily mean putting benches in an open area outdoors, although this is one good way to create one. Listed below are some of the many options for students to study outdoors.

- **Build a Greenhouse**

Building a greenhouse in a schoolyard allows children to have hands on learning experience. It provides them with the unique opportunity to observe nature year round, and brings what they have learned in the classroom to life. Students learn responsibility by

caring for the plants, and also have the opportunity to be inspired by nature. It is also a great place to teach students in subjects such as botany, ecology, and nutrition.



Source: The Earth Day Network, Bloom High School

- **Plant a Garden**

Gardens are a great way to teach students by getting them outside of the classroom and introducing them to local plants, animals, and ecosystems. Here are descriptions of two types of gardens one can plant at school:

Edible Gardens: With grocery stores being the main source of our food, people often do not understand the connections between where food is grown and how it arrives onto their plates. By growing a garden full of vegetables, herbs, and other plants, students will learn about agriculture and the steps it takes to grow food. Students will also learn about healthy food choices and understand what it means to eat something natural as opposed to processed. This will inspire them to make healthier choices, and to appreciate and support local farming. Food from the garden can also be used in cafeteria meals, giving students the full “farm to fork” experience and reducing emissions caused by transportation of food across the country.



Source: The Earth Day Network, Earth Day 2007

Wildlife Gardens: Wildlife gardens provide students with the opportunity to connect to and discover their local eco-systems. By planting local species it provides a home for animals, birds, and insects in your area, which can be observed and studied by students. Students will learn how everything in the ecosystem connects, for instance, that honeybees are needed to pollinate the plants in the edible garden, and birds can help spread plant seeds to new areas. Wildlife gardens are also a great spot to place birdhouses so that they can observe

the types of birds that use them, their migration patterns, how they interact with each other, etc.

- **Create Sustainable Landscaping**

Landscaping that is done in a sustainable manner not only helps improve the aesthetics of a school, but it also improves the local plant population and provides a habitat for birds and insects.

Xeriscaping/Native Plants: Xeriscaping is strategic form of landscaping that is designed to efficiently water plants through the use of rainwater. By using this method in your schoolyard, students learn how to reduce their water usage and reduce rainwater runoff. Reducing runoff helps to limit pollutants being carried into local

waterways, and students can learn about this first hand when studying xeriscaping.

Local plants are often used in xeriscaping because they are adapted to the local climate and landscape, making them less of a hassle to maintain. Using native plants also helps provide a habitat for local birds, insects, and animals, and prevents invasive species. This helps to rebuild local ecosystems and prevent them from disappearing. By participating in xeriscaping, students will learn the variety of species in their area and take a vested interest in protecting them.

Bio-Remediation: Bioremediation is a process that uses microorganisms, fungi, green plants or their enzymes to return the natural environment altered by contaminants to its original condition. Certain plants naturally reduce toxins in the soil, and thus by planting them in the schoolyard students can improve the conditions of the soil and make it a safer place to play and hang out. This method is less expensive and often safer than other options, especially considering it does not require removal of large amounts of sediment. It is also a natural process in nature, so students will learn different functions of plants and how they contribute to the ecosystem. An example of this is sunflowers, which eliminate lead toxins in the soil.

Rain Barrels: During an average rainstorm, thousands of gallons of water fall onto a school's rooftop, ending up as runoff that carries contaminants and pollution into local water ways.⁵ By placing rain barrels around your school, you can save water from becoming runoff and have a constant source for watering gardens, trees, and plants. This helps to recycle and conserve water, which in turn lowers costs and helps preserve one of earth's most precious resources! Rain barrels can also be used in math and science lessons; for example, measuring the amount of water collected and testing its quality.



Source: The Earth Day Network, Earth Day 2007



Source: The Earth Day Network, Bloom High School

Rain Gardens: Like rain barrels, rain gardens also help to catch rainwater and reduce runoff. They consist of depressions in the ground that catch and absorb the rainwater and purify it before it heads to local waterways. This is important because “government studies have shown that up to 70 percent of the pollution in our streams, rivers and lakes is carried there by stormwater.”⁶ By using nature’s natural purification system, students learn about earth’s systems and how pollution is naturally removed. They also help clean up local water ways through simple landscaping in their school yard.

Composting: Composting is nature’s natural way of recycling organic materials such as food remains, paper, leaves and plants. Surprisingly, almost a third of garbage thrown out each week can be turned into compost.⁷ By creating a compost pile at school, students can reduce their waste and prevent more garbage from being added to a landfill. This will relate to earth science studies, as they learn about recycling and decomposition. Composting also creates fertilized, nutrient rich soil that can be used for gardens and landscaping.

- **Green Your Playground**

It is important for students to spend time outside and be active to reduce stress, improve health, and increase performance in the classroom. When students are outside, a large majority of their recess time is spent climbing on playground equipment. In order to make sure students are safe while on the equipment, it is important to examine the materials it was built from and how it was built.

Environmentally Friendly Playground Equipment: The paint should be lead free and the construction materials should be rust free. It is also an option to buy playground equipment out of recycled materials, reducing waste and your carbon footprint. Students can learn from the playground equipment by observing how it is different from others, and why its safety and environmentally friendly components are important.

Nature Paths: Nature paths are an environmentally friendly alternative to cement and asphalt walkways. Paths create a stress free and peaceful atmosphere for students to wander and enjoy the benefits of nature. They give students a place for exploration and discovery, while introducing them to local environments. They can be used as classrooms for students to make observations, collect information, and produce conclusions. Being in nature is also a great inspiration for students interested in writing and art.



Plant Trees: Planting trees is a basic way to get started greening school grounds and playgrounds. Trees naturally absorb carbon dioxide, release oxygen, and store water in their roots. They also provide shade during hot summer months and block the wind in winter months. Trees attract local wildlife, provide a place for students to explore, and give playgrounds a more relaxing, serene atmosphere. Students can use the trees to personally observe what they have learned about them in the classroom. They can also use them as a way to make connections among different species in the ecosystem.

Earth Day Network Resources

- [Action Plan](#)
- [Lesson Plan](#)

Additional Resources

- [DC School Yard Greening](#)
- [Lowe's Outdoor Classroom Grant Program](#)
- [Gardening with Kids](#)
- [Greenhouses](#)
- [Nature Activities for Kids and Families](#)

¹ Earth Day Network. *Greening the Curriculum* Retrieved March 4, 2009 from <http://ww2.earthday.net/~earthday/node/42>

² DC Schoolyard Greening. *Why Use Your Schoolyard?* Retrieved March 4, 2009 from <http://www.dcschoolyardgreening.org/gettingstarted/overview.html>

³ Education World (2008) *U.S. National Education Standards* Retrieved March 4, 2009 from <http://www.educationworld.com/standards/national/toc/index.shtml#lang>

⁴ Tara Parker Pope (2009) *Give Recess its Due*. New York Times. Retrieved March 4, 2009 from http://www.childrenandnature.org/news/detail/new_york_times_give_recess_its_due

⁵ DC Schoolyard Greening. *Rain Barrels*. Retrieved March 2, 2009 from http://www.dcschoolyardgreening.org/gettingstarted/rainbarrels_about.htm

⁶ DC Schoolyard Greening. *Rain Gardens*. Retrieved March 4, 2009 from http://www.dcschoolyardgreening.org/gettingstarted/raingardens_about.htm

⁷ DC Schoolyard Greening. *Composting*. Retrieved March 4, 2009 from http://www.dcschoolyardgreening.org/gettingstarted/composting_about.htm