



The STEM Literacy class is based on both technology and environmental education standards. The agriculture curriculum includes U.S. and state gardening, animal science, soil and water science, horticulture, agricultural history, and careers in agriculture. Students go to Baker Near Wilderness Settlement for outdoor education two times a year. Students engage in invasive species removal, trail clean-up, and wetlands maintenance work.

RMS-CES students are empowered with engaging and authentic opportunities, and the school is proud to showcase learning experiences, buildings and grounds, and environmental STEM curriculum.

City of Lakes Waldorf School, Minneapolis, Minn.

Several hours of outdoor time daily ensures direct experience with environment

City of Lakes Waldorf School (CLWS) is celebrating its 26th year of providing a high quality Waldorf education to over 250 students annually, strengthening its position as a school, community, and environmental leader. Its work has positively affected student learning, and served as a reflection of students' growing sense of responsibility for, and connection to, all life on our planet.

CLWS has taken many actions to reduce environmental impact and costs. A Minneapolis Climate Change Grant funded by the *American Recovery and Reinvestment Act* in 2011 allowed reduction of the collective carbon footprint. It has developed an environmental purchasing policy, purchasing 75 percent of products from environmentally preferable sources. It receives energy efficiency building and equipment assessments from the Minnesota Retiree Environmental Technical Assistance Program. The school now has timers placed on HVAC equipment, replaced steam traps, and retrofitted lights. CLWS installed a 5,000-square-foot rain garden that replaced paved surfaces with mixed native plants, increasing diversity while improving soil and air quality. By disconnecting downspouts and rerouting rainwater into the rain garden, landscaping and water conservation efforts have been vastly improved. CLWS received a Mississippi Watershed Management grant to transform a concrete slab into an outdoor classroom for play and learning, with water features central in its design and use. Water taps, faucets, fountains, screens and aerators are cleaned regularly to avoid contamination. CLWS promotes Alternative Ways to School Week, resulting in 1,200 car trips not taken over three weeks; and initiated a networking group of elementary school "green" representatives. Additionally, the school offers green resource kits to families — containing energy saving meters, heat sensors, and weatherizing tools. CLWS received a Hennepin County Waste Abatement grant to enhance the onsite



composting program; ensure all school events are waste-free; develop an environmentally preferable purchasing policy; and continue partnerships with nonprofits via clothing and food donations.

The school's mission emphasizes developing whole, balanced human beings who value and understand their interdependence with all life. CLWS' philosophy is that a child's relationship to nature is cultivated through direct experience in the natural world. The school's curriculum provides students with ample opportunities to be nourished by the natural world, even within an urban setting. CLWS was awarded a 2013 Minnesota Independent School Forum STEM grant to enhance the science program. Equipment purchases and teacher training have been funded, allowing newer teachers to learn from veterans about the school's phenomenological approach to science.

CLWS hired an architectural firm to redesign the quarter-acre outdoor space in 2013. Plans are being considered in concert with an internal building redesign which will involve a future capital campaign. The outdoor redesign will integrate more natural play spaces and equipment, a gardening program, environmental education, outdoor cooking and community use. CWLS expects that this project, located on a busy corner, will inspire and promote development of new green spaces throughout the Twin Cities. CLWS works with a biodynamic gardener to develop its gardening program, including a greenhouse and raised-bed vegetable gardens using permaculture principles. From the waste reduction efforts, third grade students began a vermiculture program. Fifth grade students study botany and the school's rain garden plants and the early childhood outdoor classroom offers hands-on environmental learning. The students have many opportunities through the middle-school grades to experience overnight nature and wilderness trips.

CLWS also has undertaken efforts to improve student and staff health and wellness. A curriculum cornerstone is outdoor time; students experience up to two hours of outdoor time daily. The school partners with the Wedge Co-op to provide nutritious, organic foods via a catered hot lunch program for students and staff. In its third year, this program has expanded to include catering for school and parent education meetings. Although contaminant control testing and procedures can always be improved, the building/property committee meets regularly to address needs as they arise.

