



A National Center for Science Literacy and the Environment

Imagine a place that motivates children to experience the wonders of life...

Imagine an immersive learning center that uses nature to teach, discover and grow...

Imagine a national destination for global exploration, education and fun...

Imagine...Earthpark.

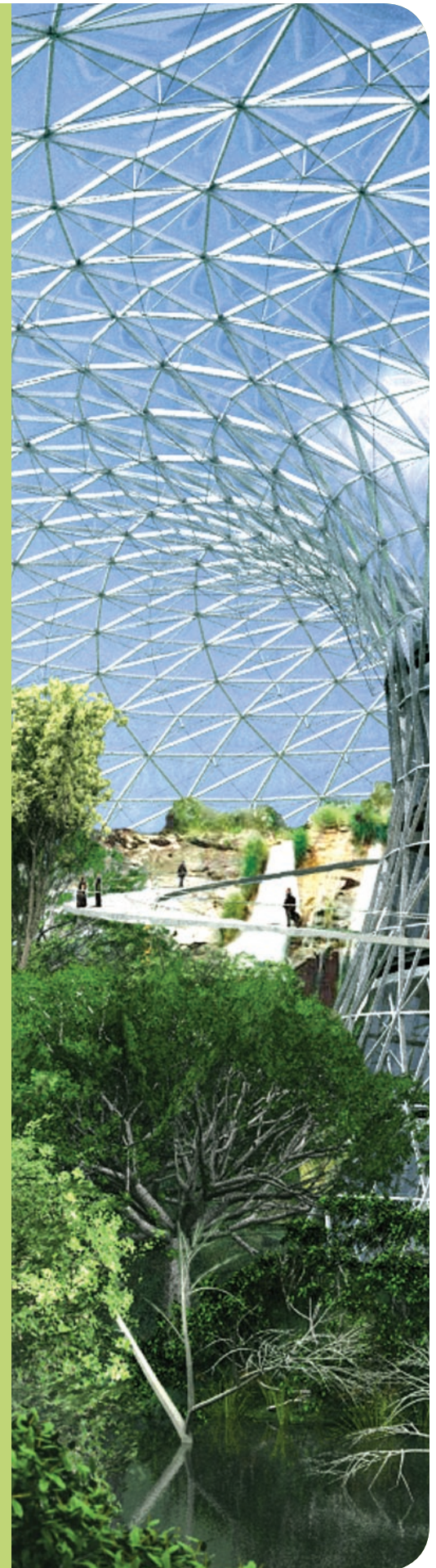


From the center of the North American continent emerges Earthpark. An iconic, immersive environmental learning center is positioned at the virtual nexus of nature and science, business and education, hope and endeavor. Earthpark will serve as an innovative catalyst for change in the discovery, development and deployment of new ecological efficiencies, new ways of being stewards of our world.

As part of a 240-acre master-planned green development overlooking Red Rock Lake near Pella, Iowa, Earthpark is poised to model a unique environmental learning experience. The leading edge, environmentally friendly campus will include a national center for science literacy, destination resort “live, work and play” amenities, and a diverse array of partnerships with public, private and nonprofit organizations, focused on the advancement of sustainable and restorative living practices.

Earthpark has assembled a world-class team with international reputations for excellence: Grimshaw Architects, designers of UK’s Eden project; KUD International, global developers of unique educational, cultural and mixed-use projects and attractions; Lyons/ Zarembo exhibit designs; Arup Group, Ltd., environmental designs; John Picard, environmental technology; Syska Hennesy, environmental engineers; and a distinguished board of directors.

Founder Ted Townsend’s vision “to create a world-renowned environmental educational resource where the most advanced and effective life science teaching methods are demonstrated and shared” is coming forth. Join this epic journey.





Earthpark Mission: “Inspiring generations to learn from the natural world.”

Imperatives for Action

1. Life on Earth is threatened by the growing human population, climate change and the cumulative impact individuals have on our global life support system.
2. Transformational learning experiences are required to alter human behavior and individual decision-making on the necessary global scale.
3. Our nation needs a nexus for the ecological literacy movement and a model for sustainable and restorative living.

Need for Catalytic Change

1. Critical shortages of professional scientists and engineers in the U.S. workforce are threatening U.S. global competitiveness.
2. Current educational methods cannot keep pace with rapid change; students are preparing for careers that do not yet exist, and will be asked to utilize technology that has yet to be invented to address tomorrow’s problems.
3. Systemic deficiencies exist in K–16 Science, Technology, Engineering and Mathematics (STEM) education, as illustrated by:
 - a) A critical shortage of accredited STEM educators;
 - b) A lack of student interest in math and sciences fueled by the absence of meaningful and engaging forums and methods for scientific inquiry;
 - c) A focus on testing scores in math and reading that has led some educators to shift focus away from science or eliminate it from the curriculum.
4. The general public and many in leadership roles have not recognized the critical nature of environmental problems or the urgent need for transformational change, resulting in an inadequate response locally and globally to environmental degradation.
5. Our children’s lack of connection with the natural world may be a factor contributing to unprecedented rates of childhood obesity, diabetes, depression and ADHD (as described by author Richard Louv in *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*).



“Earthpark will inspire the world’s students, engage their teachers, and prepare the next generation of scientists and engineers...”



Earthpark Goals

1. Become the premier national center for ecological literacy by demonstrating, integrating and promoting sustainable and restorative living principles across the entire Earthpark campus.
 - a. Reconnect children with nature; increase appreciation for nature and understanding of environmental issues and potential solutions among all Earthpark visitors.
 - b. Become one of our nation's premier green technology centers, a green training center for corporate America, and a model and resource for all society.
2. Become a Science, Technology, Engineering and Mathematics (STEM) career learning center for youth, parents and educators to increase awareness of and interest in STEM careers, including science and mathematics teaching.
3. Become our nation's premier professional development center for educational excellence in inquiry-based learning.

Earthpark Objectives

1. Partner with education groups and businesses to transparently demonstrate and build awareness of green building techniques, energy-efficient strategies, and alternative and renewable energy technologies, such as solar, wind, geothermal and biofuels.
2. Use the indoor rainforest biome, integrated aquarium, outdoor oak savannah forest and Iowa prairie to immerse visitors of all ages in the wonders and complexities of nature. Use these experiences to connect local ecology to the rest of the world, increase appreciation for nature, and initiate discussions on environmental issues and the role individuals can play in being part of the solution.
3. Increase interest in STEM careers for Pre K–16 students by developing partnerships with businesses and school districts.
4. Extend to all Iowa K–12 students the opportunity to participate in Earthpark's inquiry-based learning platform at least three times before graduation.
5. Become a unique resource for inquiry-based professional development, building on broadbased educational partnerships.





The Earthpark Story

Enhanced learning is the point of Earthpark. A national Education Design Team* laid the foundation for immersive, participatory teaching experiences, and professional educators from all levels continue to incorporate the latest research.

Virtual outreach is integral to Earthpark. Web-based learning programs, beginning during construction, will focus on “green building” methods such as design, site preparation and integrating alternative energy sources.

As Earthpark learning programs mature, educators will have access to a myriad of online teaching tools, lesson plans, activities and professional development opportunities. Online programs that mirror those on-site will be available to students, teachers and electronic visitors around the world, also serving those looking for greater depth after their in-person visit.

With its entire campus created as a natural, transparent, “green” classroom, Earthpark will host programs designed and offered cooperatively with local school districts, colleges and universities, businesses and other informal science institutions/attractions. Leading-edge technology will supplement and enhance learning; e.g., handheld computers, special glasses or earphones, data ports, “talking walls” and advanced virtual reality. Earthpark will partner with area education agencies to develop and provide experiential learning modules and other useful materials for educators, business leaders and interested visitors.

Earthpark will strive to achieve designation and associated financial support as a National Science Foundation “Science of Learning Center.” We will also create Earthpark Certification for students, educators, parents, businesses, CEOs and others who actively participate in our learning programs. Methods will be developed to measure both the immediate and long-term effectiveness of these efforts. Some of these programs will be available opening day; others will be incorporated as Earthpark grows and evolves.

*The Education Design Team was funded by the U.S. Department of Education and comprised of university deans and faculty, high school principals, K–12 teachers, leaders from educational agencies and education centers around the U.S.



The Student Experience

By demonstrating and promoting inquiry-based learning, Earthpark will complement classroom learning and help meet National Science Standards. We will adapt the innovative 5E Learning Cycle to “Engage, Explore, Explain, Elaborate and Evaluate” so students become critical thinkers and problem solvers. Some experiences will be teacher-directed, others may be led by an Earthpark instructor or trained facilitator. Examples may include:

- Classes and workshops on a wide range of topics from predators or composting, to nature photography or green technology.
- Self-guided learning tours to explore concepts such as biodiversity, photosynthesis, or the water cycle.
- Virtual reality will transport students to ecosystems and environmental “hot spots” around the globe, providing amazing, memorable learning experiences.
- Fieldtrips customized to age level and content areas, and taught through inquiry-based instructional methods.
- Internships for high school and college students
- Science day camps for pre-K through middle school, and science adventure camps for high school students combining survival skills, leadership and team building.
- Career camps to consider professional opportunities in Science, Technology, Engineering and Mathematics (STEM) education, environmental and energy sciences.
- Events that inspire students to embrace community conservation and promote interest in the sciences. These could include the FIRST robotics competition or Sally Ride Science Festivals.





The Educator Experience

Earthpark will offer on-site and online classes and workshops to prepare new teachers for the classroom, update and refresh experienced teachers, and help current teachers recruit and mentor students considering Science, Technology, Engineering and Mathematics (STEM) careers. Examples may include:

How Do We Learn?

Teachers will explore current research on how we learn and will then be able to develop strategies to reach each student's personal best.

Inquiry Learning in Natural Settings

With the entire campus as their classroom, teachers will experience a new range of multidisciplinary classes and workshops. They will recognize the endless possibilities for experiential learning in their school yard, a vacant lot, garden, nearby stream or farm. Teachers will build the confidence to engage children's natural curiosity through experiencing the process of science, while developing critical-thinking and problem-solving skills.

Project-Based Learning

Teachers will learn to engage students in projects focused on ecology in their local communities. Project-based learning helps students see connections, synthesize information and become problem solvers. Community-wide projects build a sense of place, pride and teamwork as students identify, analyze and work cooperatively with others to solve a community problem.

Enhancing Curriculum with Current Events

Seminars, movies, documentaries and multiple speaker series will focus on topics ranging from climate change to children's health.



The Visitor Experience

Earthpark will deliver a unique experience for visitors of all ages, providing access to the indoor rainforest biomes and integrated aquarium features, as well as Iowa's surrounding natural ecology, from oak savannah forest to tall-grass prairie. Visitor experiences will be diverse and layered to satisfy many interests and levels of exploration. Examples may include:

- Friendly and knowledgeable facilitators located at exhibit stations throughout Earthpark who will interact with visitors, provide personal attention and encourage visitors to ask questions and develop a deeper understanding of the experience.
- Onstage and backstage tours highlighting the plants and animals in the indoor and outdoor biomes, the building systems or aspects of green-building design across the campus. Custom tours/programs on green building will be available to corporate groups.
- Scavenger hunts, natural obstacle courses and kids "Adventure Zones" to engage and entertain families with young children throughout Earthpark.
- The latest in virtual reality technology, transporting visitors to ecosystems and environmental "hotspots" across the globe.
- Meet-and-greets with Earthpark staff scientists, caretakers and visiting faculty and scientists, to add depth to visits and inspire young future scientists.
- Classes and programs for adult learners, from specialty garden clubs or bird watching to classes on nature photography or tropical fruits.
- *Celebrate Iowa!* tours that link visitors with local and regional events, from Pella's Tulip Time festival in May to the Iowa State Fair in August, among others.

Unforgettable,
Life-Changing
Experiences





Future Earthpark

Like its living systems, Earthpark will grow, evolve and adapt to changing environments—local to global. The key attraction elements, leading-edge technologies, creative learning programs and global outreach efforts must continue to build on the needs, interests, resources and priorities of the times. While the range of potential inquiry is unlimited, Future Earthpark may incorporate learning elements such as:

- Center for Development of the Whole Child
- Center for Inspirational Leadership
- Center for Health and Nutrition
- Center for Dialogue on Environmental Ethics

Future Earthpark will continue to inspire the world's students, engage their teachers and prepare the next generation of scientists and engineers to learn from the natural world.

A force for learning
tomorrow's world today.



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