The background of the slide features a large, vibrant green leaf on the left side, which has a distinct hole in its center. The leaf's veins are clearly visible. To the right of the leaf, a bright sun is shining, creating a warm, golden glow that transitions into a body of water at the bottom of the frame. The water's surface is rippled, reflecting the light from the sun. The overall color palette is dominated by greens, yellows, and oranges, evoking a sense of nature and tranquility.

# Nature-Based Guides to Effective Teaching and Learning

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# Why Care?



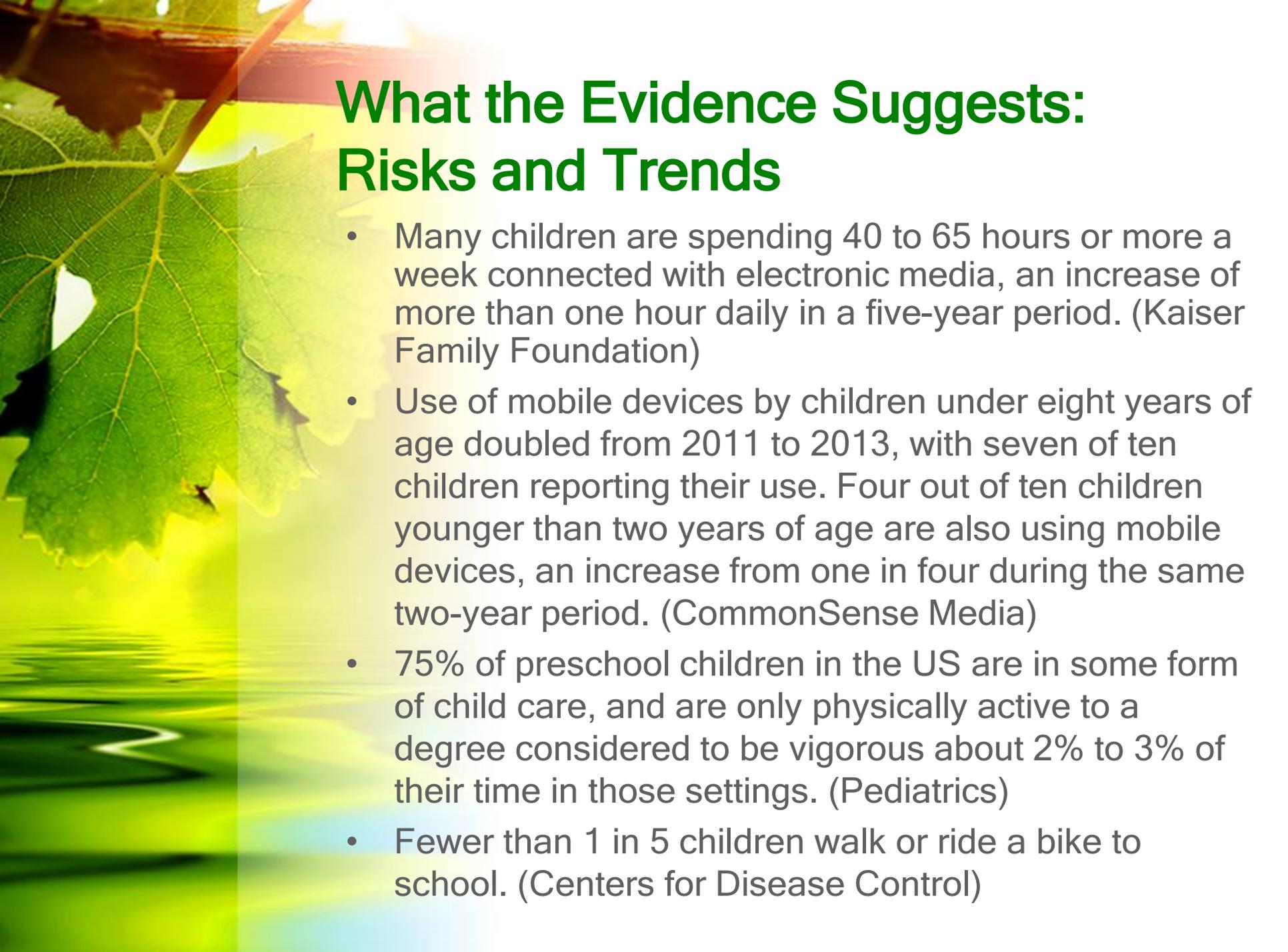


Healing the broken bond  
between our young and  
nature is in everyone's  
self-interest, not only  
because aesthetics or  
justice demand it, but also  
because our mental,  
physical and spiritual  
health depend upon it.

Richard Louv

*Last Child in the Woods: Saving  
Our Children from Nature-  
Deficit Disorder*





# What the Evidence Suggests: Risks and Trends

- Many children are spending 40 to 65 hours or more a week connected with electronic media, an increase of more than one hour daily in a five-year period. (Kaiser Family Foundation)
- Use of mobile devices by children under eight years of age doubled from 2011 to 2013, with seven of ten children reporting their use. Four out of ten children younger than two years of age are also using mobile devices, an increase from one in four during the same two-year period. (CommonSense Media)
- 75% of preschool children in the US are in some form of child care, and are only physically active to a degree considered to be vigorous about 2% to 3% of their time in those settings. (Pediatrics)
- Fewer than 1 in 5 children walk or ride a bike to school. (Centers for Disease Control)



## Risks and Trends, cont.

- There is an upward trend in high blood pressure in children ages eight to 18. (Journal of American Medical Association)
- Myopia or nearsightedness has become increasingly common in young children. (Ophthalmology)
- Worldwide there is a high prevalence of vitamin D deficiency in infants, children and teens, and is associated with chronic diseases. Reduced sun exposure is a risk factor for vitamin D deficiency. (Reviews in Endocrine and Metabolic Disorders)
- Youth spend significantly less time in moderate-to-vigorous physical activity as they move from childhood to the teen years. Only 17% of 15 year olds were found to get an hour a day of MVPA. (Journal of the American Medical Association)



## Risks and Trends, cont.

- In countries throughout the world, children's major free-time activity is watching television and little time is spent in free play exploring nature. (Singer *et al.*)
- Children have less time for unstructured, creative play and learning in the outdoors than ever before in human history. (Various researchers)
- This may be the first generation not to live as long as their parents. (US Surgeon Generals)



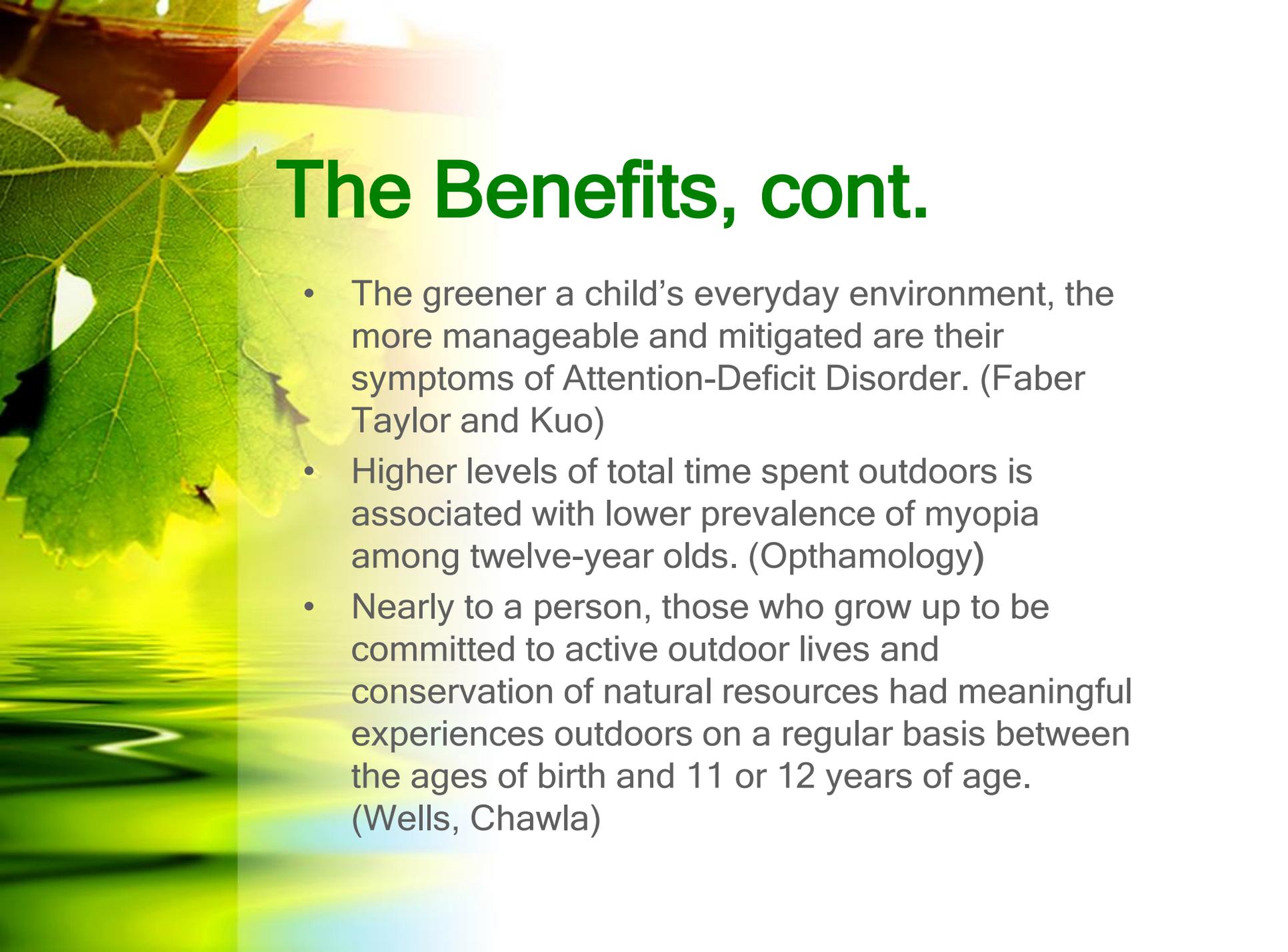
# What the Evidence Suggests: The Benefits

- Children are happier, healthier and smarter when they connect with nature.
  - **Happier:** Nature play increases self esteem, improves psychological health, reduces anxiety and stress, and enhances confidence. Children learn self-discipline and are more cooperative.
  - **Healthier:** Nature play improves physical conditioning, reduces obesity and mitigates other health risk factors.
  - **Smarter:** Nature play stimulates creativity, improves problem solving, and enhances executive functioning skills. Children do better in school.



## The Benefits, cont.

- Daily exposure to natural settings is associated with children's ability to focus and enhances cognitive abilities. (Wells)
- Children are less stressed, more self-disciplined, and have better social relationships with access to—and even a view of—nature in their daily lives. (Kuo, Kuo and Sullivan)
- Outdoor classrooms and nature-based education is associated with significant student gains in academic achievement. (American Institutes for Research)



# The Benefits, cont.

- The greener a child's everyday environment, the more manageable and mitigated are their symptoms of Attention-Deficit Disorder. (Faber Taylor and Kuo)
- Higher levels of total time spent outdoors is associated with lower prevalence of myopia among twelve-year olds. (Ophthalmology)
- Nearly to a person, those who grow up to be committed to active outdoor lives and conservation of natural resources had meaningful experiences outdoors on a regular basis between the ages of birth and 11 or 12 years of age. (Wells, Chawla)

# Awe



Photo by Dr. Joe Baust

# Learning



Photo by Dr. Milton McClaren.

# Socialization



Photo Nathaniel Brooks for New York Times, Waldorf School, Saratoga Springs, New York

# Resilience



Photo by Brett Hochmuth, Eagle Eye Photography

# Empathy



Photo by Cheryl Charles.

# Sense of Place



Photo by Judith Anderson.

# Cooperation



Kindergarten, Germany. Wall Street Journal.

# Problem Solving



Photo Courtesy of Peconic Land Trust.

# Self Esteem



Photo by Judith Anderson.

# Exhilaration



Photo Courtesy of Children in Nature Collaborative, Bay Area

# Creativity



Photo Courtesy of Cincinnati Nature Center.

# Confidence



Photo by The Nature Conservancy.

# Focus

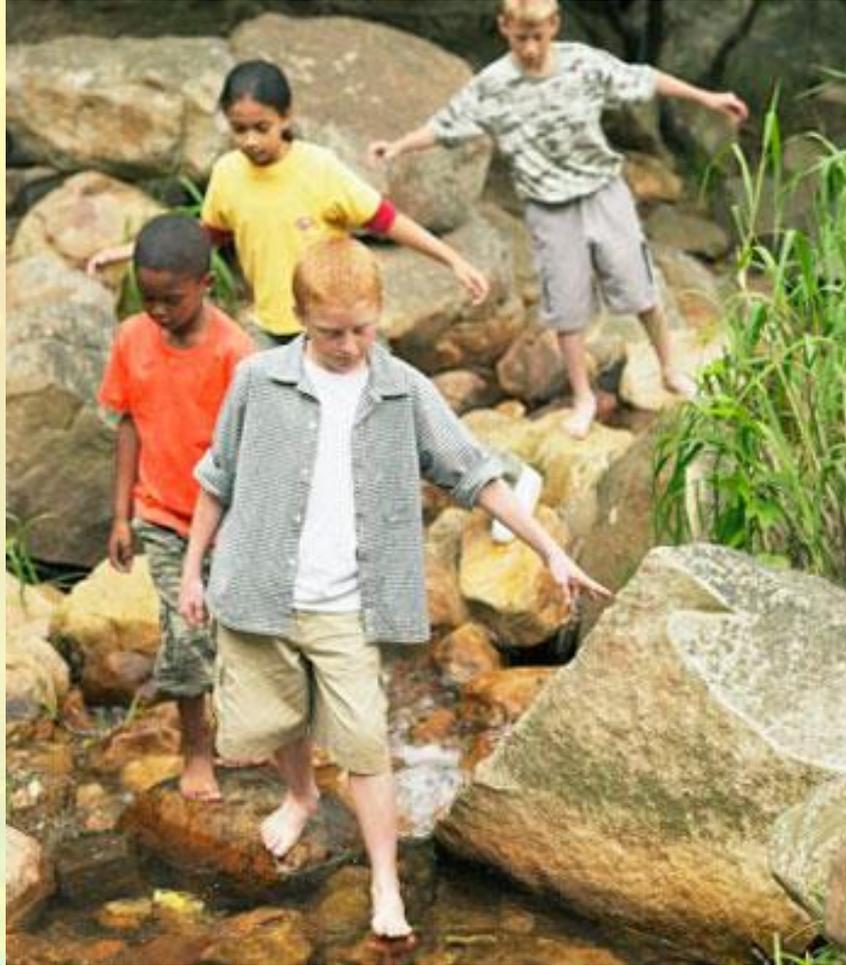


Photo Courtesy of Children in Nature Collaborative, Bay Area

# Understanding



Photo Courtesy of Children in Nature Collaborative, Bay Area.

# Courage



Photo Courtesy of Brother Yusuf Burgess.

# Wonder

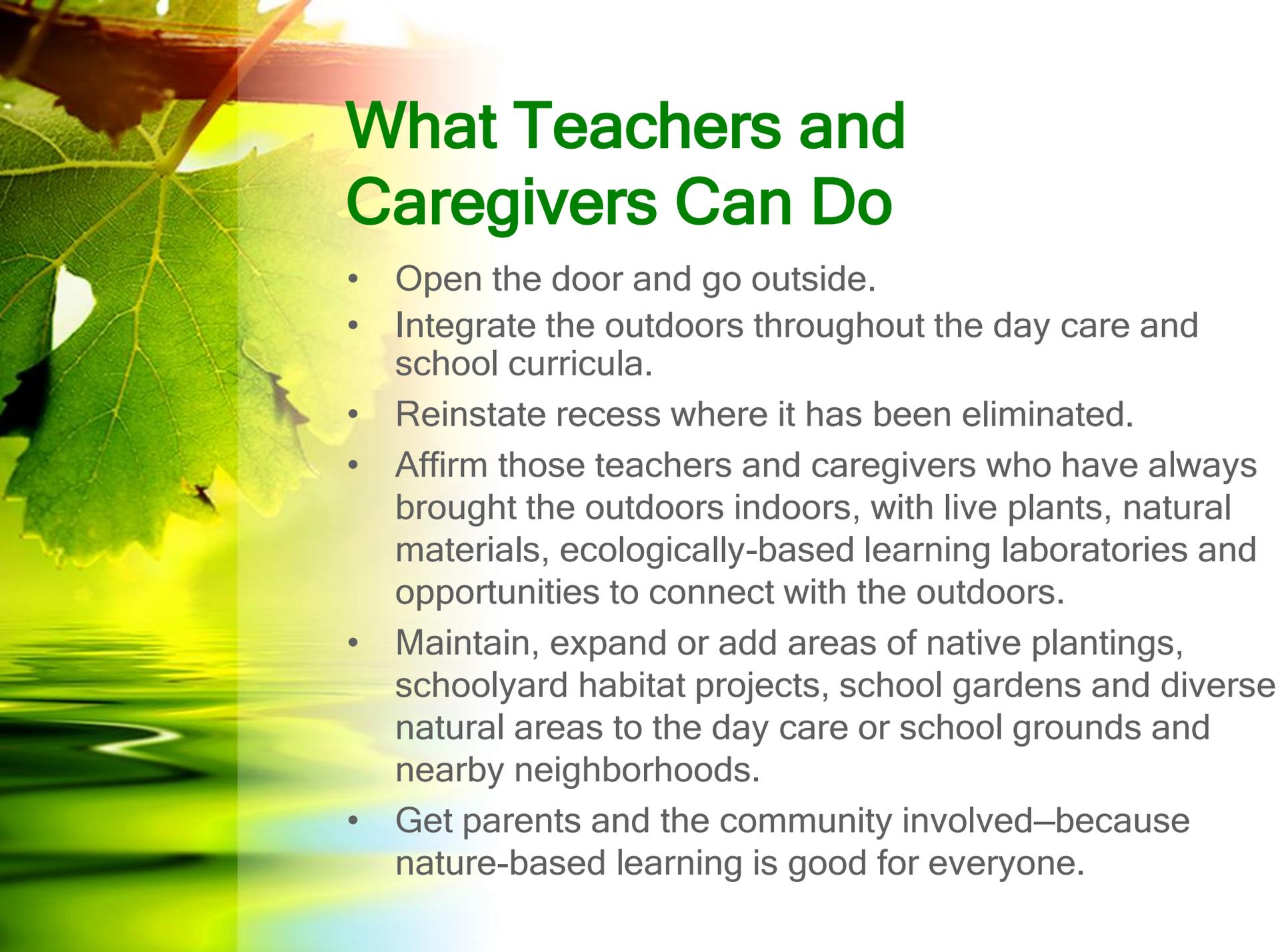


Photo by Cheryl Charles.



# Nature-Based Guides to Effective Teaching and Learning

- Diversity
- Niche
- Cooperation
- Self Regulation
- Optimization
- Connectedness
- Community



# What Teachers and Caregivers Can Do

- Open the door and go outside.
- Integrate the outdoors throughout the day care and school curricula.
- Reinstate recess where it has been eliminated.
- Affirm those teachers and caregivers who have always brought the outdoors indoors, with live plants, natural materials, ecologically-based learning laboratories and opportunities to connect with the outdoors.
- Maintain, expand or add areas of native plantings, schoolyard habitat projects, school gardens and diverse natural areas to the day care or school grounds and nearby neighborhoods.
- Get parents and the community involved—because nature-based learning is good for everyone.



# What Each of Us Can Do

- Take a child outside.
- Encourage nature-based, children-friendly spaces and places throughout our communities.
- Make re-connecting children and nature a priority.
- Educate parents, grandparents and other caregivers about the cognitive, physiological, and emotional benefits to children who play in the out-of-doors on a regular basis.



# What Communities Can Do

- Engage the physicians to encourage them to prescribe nature-play, because it is good for children.
- Educate architects, builders, community planners, the clergy and civic leaders about the need for areas of native habitats in planned developments and existing neighborhoods, so children have places to play that foster their imagination.
- Assemble a group of creative and constructive attorneys to help reduce liability fears and constraints.
- Build new partnerships, and support existing efforts, bold, balanced and conserving ways to achieve a sustainable future.
- Engage the whole community in a children and nature initiative, now and for the future.



# For Additional Information

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