Mission

Green Schoolyards America collaborates with school districts to transform asphalt-covered school grounds into park-like green spaces that improve children’s well-being, learning, and play while contributing to the ecological health and resilience of their cities.
Vision

We envision a future in which:

**CHILDREN**

…all children have daily access to nature right outside their classroom door, enabling dynamic hands-on learning across the curriculum, child-directed play, robust health, and a positive social environment.

**ENVIRONMENT**

…school grounds act as green infrastructure for their cities, helping to foster healthy urban watersheds, rich wildlife habitats, improved climate, and better air quality.

**COMMUNITY**

…school grounds are vibrant, welcoming centers for their communities, and the public lands managed by schools also function as public parks after hours. Access to this green space on school grounds is equitably distributed and within a short walk of every resident.
School grounds are an underused asset with enormous potential to help solve immediate and longterm problems.

They need systematic investment to become thriving centers for 21st Century education, public health, community engagement, and ecological resilience.
Greening school grounds supports urban resilience and can mitigate climate change.

Developing school grounds as child-friendly green infrastructure can support local ecological systems, build wildlife corridors, infiltrate stormwater, cool urban heat islands, improve air quality, and sequester carbon.

School Grounds are Important to Building Resilient Cities
If every school had a living schoolyard, every child would experience nature every day.

California Public Schools serve 6.1 million children DAILY on 130,000 acres.

This public land receives 250 times more “annual visitors” than Yosemite National Park!

Yosemite National Park
Serves 4.4 million visitors ANNUALLY on 759,620 acres.
National COVID-19 Outdoor Learning Initiative
Reopening Schools with Outdoor Learning
National COVID-19 Outdoor Learning Initiative

MISSION

• Support schools and districts around the country in their efforts to reopen safely and equitably

• Use outdoor spaces as strategic, cost-effective tools to maximize the number of students who can safely return to campus with physical distancing measures in place

• Improve outcomes for learning, mental and physical health, and happiness

Benefits of Outdoor Learning During COVID

- Fresh air outside greatly reduces the risk of virus transmission
- Increased meeting space for classes, so more students can return to school more often
- Outdoor seating areas can be placed near resources for hands-on learning
- Being outside improves access to nature, which has therapeutic mental health benefits:
  - reduces stress
  - restores ability to pay attention
Benefits of Outdoor Spaces

• Useful at any scale: from one teacher taking her class outside to read a book under a tree, to a grander vision of 100% of students returning to outdoor classrooms across an entire school district

• Suitable for a variety of school programs:
  - PE and recess
  - Lunch and other meals
  - Library, art, music, garden, and other special classes
  - Before/after school programs
Historic precedent

100 years ago, schools around the world went outside to reduce the spread of tuberculosis and Spanish flu.

Outdoor learning is a time-tested approach to keeping school open during a pandemic.
National COVID-19 Outdoor Learning Initiative

STRATEGY

• Reframe outdoor learning as “Plan A”— and online and indoor options as “Plan B”

• Help schools and districts create plans to move as many classes and school programs as possible into school grounds and parks

• Use low-cost materials to create outdoor classrooms

• Invest in permanent items if longterm use is possible

• Plan for local weather (heat, rain, snow, wind)
Equity is Central

- Return students to campus where they can access a safe, stable environment and connect with school resources most effectively

- Prioritize the most vulnerable students with the highest needs

- Include the school community in the decision-making processes

- Provide outdoor clothing along with infrastructure to ensure that all students are equally warm and dry as seasons change
Online Resources

Working Groups #1 - #10

• Producing materials to create a free online “how-to manual” for taking learning outside

• Collaborating to help generate a coordinated pandemic response

• Some resources are already on our website and others will be posted soon

Working Group #11

• Convenes schools and districts to discuss plans for outdoor learning and share ideas and strategies

• Open, national public meetings every other Tuesday

Indoor-Outdoor Strategy
scenarios to consider to add onsite capacity

Existing Outdoor Infrastructure
seating, shelter, gardens and other resources for hands-on learning

Staff Capacity
availability, training, external support

Equity
ability to meet everyone’s needs

Seasonal Climate
wind, heat, rain, snow

External Resources
nearby parks, funding for materials

Seating Placement
students face away from the sun, classrooms spaced apart for sound

Site Planning Considerations for Taking Learning Outside

Every school site and school district is different.

It is important to assess the physical characteristics of each school ground to help determine outdoor seating capacity and feasibility.
Campus Assessment Tool for Outdoor Classroom Infrastructure

• 1st step in the site planning process to record program goals and assess outdoor infrastructure needs

• This is posted on our website, on the outdoor infrastructure page.

https://www.greenschoolyards.org/outdoor-infrastructure
POTENTIAL OUTDOOR CLASSROOM CONFIGURATIONS WITH 6’ SOCIAL DISTANCING
SCALE MODELS BELOW ASSUME EACH OUTDOOR CLASSROOM FITS PART OF A CLASS

Class Configuration

How much space does each outdoor classroom need, if everyone is 6’ apart outside?

Most schools want to seat ~15 students.

Seating: ~30’x30’ space

Shelter: ~40’ x 40’ canopy
Elementary School
Northern Virginia

School Characteristics

Students
- 828 students in grades K-5
- 33 K-5 classes
- 6 preschool classes
- 2 of the preschool classes and 2 of the K-5 classes serve students with autism

School Grounds
- Suburban location
- 12.8 acres on school grounds
- Campus has 2 buildings
- This school is adjacent to two busy streets and a quiet neighborhood.

Climate
- This region has four distinct seasons: colorful crisp fall weather, mild winter with light snowfall, warm wet spring, and hot, humid summers.
- Frequent year round precipitation: ~120 days per year
- Annual rainfall: 43” per year
- Annual snowfall: 22” per year
- Temperatures during the school year generally range from lows ~24°F in January to highs ~85°F in September and May.
Walk the school site.
Document potential outdoor classroom locations.

Photographs, top row to bottom row

1. Many spacious, flat areas with grass and trees surround the school buildings.
2. The school grounds include several existing outdoor classroom spaces, nestled in the woods or near trees.
3. There are expansive paved areas in the playground (bottom left) and in the existing bus parking lot (bottom right).
Potential Outdoor Seating Areas
Use Existing Seating and Tree Canopy for Outdoor Learning When the Weather is Clear and Mild

Elementary School
Northern Virginia
Scenario #1: Low Cost

Climate Considerations
- Local climate varies seasonally
- Classes will require protection from sun and rain, and appropriate clothing to keep everyone warm and dry

Climate Adaptation Strategies
- Use outdoor classrooms as “Plan A” when the weather is nice; go inside or online when it is raining or too cold
- Place seating in areas with existing tree canopies to provide shade

Use and Augment Existing Infrastructure
- Use five existing seating areas with picnic tables, benches, and stumps
- Use nine grassy areas with shade trees and add low cost seating (mats, stumps, benches, and/or existing desks/tables)
- Add storage sheds for class materials
- Preserve space for PE and recess
- Assume students will not stay seated all day; plan to use spaces adjacent to seating areas for hands-on learning

Scenario #1: Outdoor Capacity
- Max: 207 students in 14 seating areas
- Capacity: 25% of enrolled students
- 14 of the school’s 39 classes could use an outdoor learning space
Potential Outdoor Seating Areas
Outdoor Learning to Accommodate Most Classes in Almost All Weather

Elementary School
Northern Virginia
Scenario #2: Moderate Cost

Climate Adaptation Strategies
Build on Scenario #1:
- Install shelters to protect classes from sun and rain.
- Add outdoor heaters and/or provide rain and snow gear so students will be dry and warm when weather is wet and cold.

Use and Augment Existing Infrastructure
- Add seating to create new outdoor classroom areas.
- Close bus parking lot to traffic during school hours and use pavement for additional outdoor classroom space.
- Add plants in large containers to make classes on pavement and open areas more inviting.
- Add storage sheds for class materials (1 per grade or per 5-6 classes).
- Prepare designated preschool yards for small social bubbles.
- Preserve space for PE and recess.

Scenario #2: Outdoor Capacity
- Max: 447 students in 32 seating areas.
- Capacity: 57% of enrolled students.
- 32 of the school's 39 classes could use an outdoor learning space.

Image Source: Google Earth Pro
Potential Outdoor Seating Areas
All-Weather Outdoor Learning Spaces for Every Class

Elementary School
Northern Virginia

Scenario #3:
Infrastructure Investment to Include Forested Land

Investment in Future Outdoor Learning
- This school site includes beautiful forested areas that are currently underutilized by students.
- Add a fence to the edge of the school grounds, near the road.
- Selectively clear some of the dense understory in the forested areas to make clearings to accommodate classes.
- Add shelters to ensure that every classroom space is protected from the weather.
- Where possible, add outdoor heaters to make the outdoor classrooms more comfortable during the winter.

Scenario #3: Outdoor Capacity
- Max: 582 students in 39 seating areas
- Capacity: 70% of enrolled students
- 39 of the school's 39 classes could use an outdoor learning space
- If only 50% of students are on campus each day, every class could be held outside, year-round, if desired.
- If 100% of students return, 50% could be inside and 50% outside
Potential Outdoor Seating Areas

Map Key for Alternate Scenarios

Elementary School
Northern Virginia

Map Key

Color Coded Scenarios
- Scenario #1: Low Cost
- Scenario #2: Moderate Cost
- Scenario #3: Infrastructure Investment

Notes
- The number on each outdoor learning area corresponds with a planning chart that provides additional information about what may be needed in each location.
- The letters identify outdoor storage sheds that will hold classroom materials.
- Recommendation: Assign adjacent outdoor classroom spaces to classes in the same grade level, so that the teachers may share materials in a nearby storage shed and plan for children with similar needs.
- Preschool classes will need their own designated outdoor spaces that are designed differently than K-5 areas.
- Outdoor spaces that serve children with autism should be designed in close collaboration with their teachers.
- The asphalt playground and sports field have been left unobstructed to allow space for PE classes, sports games, and potential use by the local community.

Image Source: Google Earth Pro
**COVID-19 Planning: Outdoor Classroom Infrastructure Cost Calculator**

**Summary:** The cost calculator chart below is intended to be used with a companion document that describes outdoor classroom planning strategies, to help estimate infrastructure costs for a wide variety of outdoor infrastructure options.

**Directions:** 1) Please begin by reading the document entitled, "Outdoor Infrastructure Planning Strategies for Taking Learning Outside as Schools Reopen". Use this document to make a site plan for your outdoor learning needs, including the number and placement of desired outdoor classrooms. Make a note of which of these outdoor spaces have existing infrastructure, and what will be needed for new spaces. 2) Use the cost calculator below to select the types the options you are considering for each outdoor classroom. The infrastructure and supply options listed below are related to: seating, shade and rain shelters, health and hygiene, teaching materials and storage, and landscape improvements that will enhance the outdoor learning experience. There is also an option for mobile outdoor classroom gear, for classes that will meet in a local park or that will use variable locations on the school grounds.

**Assumptions:** 1) The following cost estimates are based on an assumption that most K-12 schools will divide their classes into smaller groups for onsite instruction. For the purpose of this estimate, we are estimating those "1/2 class" groups to include between 12-16 students. To calculate cost per 1/2 class, we have used 16 students in the chart below.

2) The "Unit Cost" listed for each item (in Column F) reflects the retail prices of items sourced from the corresponding link, listed on each line. As you refine your own cost estimate for your school, replace these initial estimates in the "Unit Cost" column with the actual cost of items you select. Unit costs below do NOT include sales tax, delivery, or installation unless noted. Lower prices might be available for bulk purchases from some manufacturers. The links are for reference only, and are not meant as endorsements of these products.

**Version:** 5/26/2020

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Unit Type</th>
<th>Estimated Price Range Per Unit</th>
<th># of Units Needed Per Class</th>
<th>Unit Cost</th>
<th>Total Cost Per Class of 12-16 Students</th>
<th>Number of Classes Per School</th>
<th>Total Cost Per School</th>
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</thead>
<tbody>
<tr>
<td><strong>SEATING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable Seating for Students and/or Teachers</td>
<td>per person</td>
<td>$0</td>
<td>17</td>
<td>-</td>
<td>$ -</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Use existing indoor desks/chairs - move outside (for students and teachers)</td>
<td>per student</td>
<td>$6 - $10</td>
<td>16</td>
<td>7</td>
<td>$107</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Outdoor seat cushion - stadium style</td>
<td>per student</td>
<td>$16 - $50</td>
<td>16</td>
<td>-</td>
<td>$256</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Outdoor seat cushion - w/backrest</td>
<td>per student</td>
<td>$15 - $40</td>
<td>16</td>
<td>-</td>
<td>$480</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Folding chair - camping style, for younger students</td>
<td>per person</td>
<td>$45 - $270</td>
<td>1</td>
<td>60</td>
<td>$50</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Folding chair - camping style with sunshade, for teachers and/or older students</td>
<td>per person</td>
<td>$45 - $270</td>
<td>1</td>
<td>-</td>
<td>$50</td>
<td>-</td>
<td>$ -</td>
</tr>
<tr>
<td>Rustic Seating - Natural materials, assembled w/community participation</td>
<td>per student</td>
<td>$0 - varies</td>
<td>16</td>
<td>-</td>
<td>$ -</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Log Rounds - rustic, from an arborist or park department</td>
<td>per 2 students</td>
<td>$800</td>
<td>8</td>
<td>$1,500</td>
<td>$12,000</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Large Tree Trunks (8&quot;) - professionally finished as seating, roughly $100/linear ft</td>
<td>per student</td>
<td>$20</td>
<td>16</td>
<td>$20</td>
<td>$320</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Commercially Produced Benches and Picnic Tables</td>
<td>per 2 students</td>
<td>$200 - $1,500</td>
<td>8</td>
<td>$650</td>
<td>$5,200</td>
<td>-</td>
<td>$ -</td>
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<tr>
<td>Picnic Table (6 or 8&quot;)</td>
<td>per 2 students</td>
<td>$250 - $1,500</td>
<td>8</td>
<td>$870</td>
<td>$5,960</td>
<td>-</td>
<td>$ -</td>
</tr>
<tr>
<td>Park-Style Bench (8&quot;)</td>
<td>per student</td>
<td>$250 - $450</td>
<td>16</td>
<td>-</td>
<td>$4,000</td>
<td>-</td>
<td>$ -</td>
</tr>
<tr>
<td>Bench to Table (8&quot;)</td>
<td>per student</td>
<td>$250 - $450</td>
<td>16</td>
<td>-</td>
<td>$4,000</td>
<td>-</td>
<td>$ -</td>
</tr>
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**Total Seating Cost for ____ Outdoor Classrooms**
Mobile Equipment

What do teachers and students need to bring with them outside?

STUDENTS

Tote bag or backpack to carry:

- Water bottle
- Seat cushion
- Clip board
- Pencils
- Sun hat
- Sunscreen
- Weather-appropriate clothing
- Notebooks/books
- Hand sanitizer
Mobile Equipment

TEACHERS

A wagon or cart to carry:

- Water bottle
- Folding chair
- White board
- Clip board with emergency contact information
- Writing materials
- Sun hat
- Sunscreen
- Weather-appropriate clothing
- First aid kit
- Hand sanitizer
Emergency Schoolyard Design Volunteers

This program matches schools and districts with design teams to help plan outdoor classroom layout!

Schools sign up here: https://bit.ly/Schools-sign-up

Augmented Reality Outdoor Classroom Simulation

- New, free tool simulates what outdoor classroom spaces will look like in your own schoolyard
- Based on our site plans for outdoor seating 6’ apart
- Developed by Sean Corriel
- Requires an iPhone running Safari
- Beta software

https://www.greenschoolyards.org/outdoor-infrastructure
Recorded
Outdoor Learning Health Webinar

How to use outdoor learning spaces to help control COVID-19 transmission as schools reopen

Speakers:

Dr. Caesar Djavaherian, M.D.
Co-founder and Medical Director at Carbon Health

Dr. Nooshin Razani, M.D. M.P.H.
Associate Professor of Epidemiology and Biostatistics and Pediatrics, and Founder and Director, Center for Nature and Health, UCSF

What Does Outdoor Learning Look Like in Action, During COVID?

Case studies on our website
San Mateo County Office of Education (SMCOE)

SMCOE is collaborating with 12 school districts to put plans in place for outdoor learning.

- Portola Valley School District has opened for K-2, using outdoor classrooms in their daily routine. Others will be opening soon.

- SMCOE is supporting school districts by helping to assess their sites, provide guidance on outdoor infrastructure, and connect to community partners.

- Some SMC private schools have reopened using outdoor classrooms. SMCOE is partnering with them to document best practices.

Portland Public Schools
Portland, Maine

- 17 schools
- 6,750 students in PK-12

COVID Reopening Plan
- 5,000+ students chose a hybrid learning model
- 156 new outdoor classrooms
- 204 outdoor easels
- 33 shelters
- Warm clothing
- 50% of teachers now report using outdoor learning on a regular basis

Linden Waldorf School
Nashville, Tennessee

• ~200 K-8 students
• 9 new outdoor classrooms
• Custom designed
• City building permits
• Initial concept to installation in 5 weeks!
• Classes opened in September
• 100% of students outside 95% of each day

Golestan Education
El Cerrito, California

- Independent school
- 100 children PK-3
- Reopened preschool and summer camps June 22nd, opened school Sept. 5th with a waiver
- 2 classes 100% outside
- 4 classes open walled and frequently outside

Scaling Outdoor Learning as a Pandemic Response

Many districts across the country have plans in place or in progress.

Most are not yet discussing them publicly because tensions are high.

The bigger an institution is, the longer it takes.

Key barriers:
- Mindset shift to outdoors
- Permission
- Funding
- Communication with teachers’ unions
Large Scale Equity Problems

Existing building codes and planning processes are not set up to meet the needs of this health emergency.

• VARIATION: By state and location
• STANDARDS: Multiple standards and building codes for public, charter, and private schools
• COST: Can be 5 - 10 times more expensive to build shelters at a public school
• TIME: Generally takes months rather than weeks to move from concept to useable space
• RISK: Public schools are left with more risk and poor outcomes as a result
• SCARCITY: Competition for tents
Strategies to Set Districts Up for Success

- Mindset shift: Support outdoor learning as Plan A
- Help the teachers get comfortable outdoors first
- Assess and use existing resources before investing in new infrastructure
- Encourage creative thinking and pilot / prototype development for localized solutions
- Standardize “classroom kits” for district-wide implementation, to simplify ordering (several options)
Strategies to Set Districts Up for Success

- Think beyond outdoor classrooms, to include meals, physical education, specialty classes, and before/after care programs
- Build partnerships with local organizations and nonformal education institutions (e.g. museums)
- Coordinate infrastructure with local agencies (e.g. parks departments, city governments)
- Share information and lessons learned
- Prioritize children’s happiness as a design goal
What do districts need to move forward?

- **Leadership** from the top — at the state and local levels
- **Policies** at the state and local levels that support outdoor learning, remove roadblocks, and provide permission and administrative support
- **Coordination** and rapid mobilization, like we have seen for restaurants
- **Automatic approvals** for a selection of carports, tents and other lightweight shelters that are fast and inexpensive to install
What do districts need to move forward?

Funding to:

• Build and maintain outdoor infrastructure

• Support additional staff to allow smaller classes, usually required for COVID

• Buy weather-appropriate clothing to ensure equity
What Do Districts Need to Move Forward?

• Professional development training to increase teacher comfort with outdoor instruction

• Outdoor Wi-Fi access for schools that would like it

• Collaboration at all levels of scale, from school boards and district administration to unions, school communities, and students
The field is at a tipping point.

We are seeing a significant shift in mindset across the country.

The time to act is now.

School grounds are a major asset that can be mobilized.

Outdoor infrastructure is centrally important both for immediate COVID-19 response and for longterm use.

Invest now to solve the crisis, and reap benefits in the years to come.
National COVID-19 Outdoor Learning Initiative
Move toward a greener, healthier future outside

https://www.greenschoolyards.org/covid-learn-outside