



Outdoor Learning for a Safe ReOpening

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EmpowerEd, a representative group of educators across both DCPS and DC charter schools, developed this resource in consultation with health and policy experts to support the district's thinking about school reopening.

Authors Note: No plan to deal with this incredibly complex puzzle is perfect, but we believe we owe it to DC's families to step forward with concrete solutions. This is a living document and we appreciate your feedback.

Outdoor Space and Classrooms: The Research

EmpowerEd, a representative group of educators across both DCPS and DC Charter Schools, developed this resource to support early education program decision-making

The teacher fellows at EmpowerEd propose creative use of outdoor space to mitigate Covid-19 Risk in PreK and early elementary grades

A century ago, outdoor education is how schools were able to return successfully amid a pandemicⁱ. According to The Office of the State Superintendent of Education and the American Association of Pediatricians (AAP) latest guidance, schools are strongly encouraged to use outdoor spaces again, to address educational needs during the current pandemic. **The primary benefit of the use of outdoor space for learning is in the mitigation of risks related to the spread of Covid-19.**

Evidence Supporting Outdoor Learning

- Evidence is building that **Covid-19 is airborne**, spreading by aerosol at greater distances than initially believed. In one study, aerosols travelled nearly 20 feet following a sneeze, over 6 feet following a cough, and 3 feet while exhalingⁱⁱ. Additional research has found that the aerosol *remains infective for up to 16 hours*ⁱⁱⁱ. Importantly, we do not yet know how effective various types of



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non-medical masks worn by children, families and teachers will be in preventing transmission of covid-19 via aerosol^{iv}.

- Studies confirm **the transmission of Covid-19 is far lower outdoors**, citing a transmission rate of [20x lower than indoors](#). Evidence from case-study analysis in China provides additional evidence, finding only 2 cases of outdoor transmission out of more than 1,000 cases studied (both were from the same incident). Here at home, this summer's *mass* protests outdoors [did NOT result in an increase of Covid transmission](#). Researchers believe that being outside rather than inside played an important role in preventing virus spread.
- Schools may not have the **HVAC system requirements** in place to manage this highly contagious and dangerous airborne virus. We have conclusive evidence of air conditioning systems spreading covid-19^{vii}. Absent HEPA filters and other expensive upgrades, schools will need to find ways to minimize air recirculation in order to prevent the spread of the aerosol within and beyond each classroom in spaces that share airducts^{viii}.
- **PreK bathrooms are unique in that they are typically adjacent/attached to the classroom**, sometimes partially open to the learning space. Since the virus is present in urine and feces^{ix}, schools would need to upgrade bathroom ventilation systems, install doors, and/or implement touchless technology and hands-free door openers to minimize spread of the virus throughout the classroom environment.
- **Frequent touch surfaces** in indoor spaces place undue cleaning burden on teachers and other staff.

Why use outdoor space?

Outdoor education provides the added benefit of improving the quality of learning experiences for young children undergoing the stress of beginning school for the no first time, or returning to school following the initial covid-19 outbreak.

We are forced into a position where we as a city and as a country have to reimagine what educating our children should look like. Rather than focus our energies on what method of teaching (virtual, in-person, hybrid) will work best for the average DC student during the pandemic, we should use the universal design approach: focus first on the marginalized

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students in our city (in this case, preschool aged children) and design practices around this population that is flexible enough for older grades and other marginalized populations to utilize as the city reopens.

Using an universal design approach to reopen DCPS and charter schools would help the District to take a proactive approach and invest in possibilities to provide quality education to all our students once the threat of COVID-19 is over. Outdoor classrooms, if given the proper investment and study, should be considered as a possibility to ensure all students in DC have safe outdoor learning and play spaces at their schools and throughout the city. Outdoor classrooms and schools have a historical precedent in this country, when educators opted to continue community schooling outside during the 1918 pandemic. More recently, outdoor classrooms have developed out of a need for alternative educational options and a belief in the inherent benefits of experiential, hands-on and nature-based learning. A secondary benefit of the use of outdoor space is the potential for not just providing, but improving upon learning experiences during a pandemic.

- **Outdoor space is restorative** and functions as a natural stress buffer. Researchers have established that the natural environment promotes stress reduction in children experiencing hardship^x. This inherent feature of the outdoors is of particular importance now, as communities, families and children experience this new stressor in their lives.
- **Underlying cognitive skill development** is better achieved with outdoor learning. Importantly, attention is one of those cognitive skills that lays the foundation for later literacy and math achievement^{xi}. Researchers have found that informal, hands-on learning experiences outside improve attention and positive learning behaviors later in the day, during more teacher-directed, formal instruction^{xii}. In PreK, we are teaching metacognitive skills such as attention allocation, and any activity that improves these cognitive skills early in development will also help bridge the income achievement gap present at school entry among our most vulnerable learners.
- **Expansiveness of space is particularly important in early childhood**, as children have not yet developed behavioral self-management skills of older children and adults. Though childcare regulations typically require 35 square feet per child, current research finds that 48-54 square feet (exclusive of cubbies, restrooms and built-ins) should be the minimum quality standard for early learning environments^{xiii}. By moving most of the learning activity outside, a 54 square feet area per child more

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than allows for a 6' radius without the space constraints and high need for behavioral control of movement that we would find inside buildings. Expansive space also allows for song and movement activities, hallmarks of a joyful PreK classroom. Finally, research finds that vulnerable children living in stressful and crowded homes will benefit most from expansiveness in space we can create in outdoor classrooms^{xiv}.

- DCPS's district-wide PreK curriculum, **the Creative Curriculum, has a hands-on, project-based framework that lends itself easily to outdoor learning.** Teachers support growth in development and learning through engaging children in 4-6 in-depth studies, most of which could easily be enriched through outdoor experiences. Teachers can choose curricular frameworks based on in-depth studies focused on Gardens, Reduce/Reuse/Recycle, Buildings, Insects, Trees, and Simple Machines, among others. It's difficult to imagine any of these studies being facilitated without substantial time outside.

How do we make outdoor space work?

What outdoor structures, materials and supplies would I need to consider when moving PreK learning outside?

EmpowerEd's teachers with early childhood expertise in DC schools, in consultation with outdoor classroom experts, developed the following guidance for schools considering outdoor classrooms:

1. **Consider including locked storage.**

To prevent theft/loss, a large, lockable storage shed would be necessary.

2. **Set physical boundaries, using the built and natural environment**

The safety of children is paramount; outdoor space will need to be contained by fencing and child-proof locking gates, designed to make supervision easy. Within the space, additional physical boundaries such as bushes, natural "walls" and other changes in landscape can provide visual cues to decrease need for teacher-directed behavior management^{xv}.

3. **Plan for a large, defined gathering space.**

Each classroom would need a legible space for morning meetings, read-aloud, and other group gatherings to accommodate greater than 6' distance between individual students,

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and including furnishings such as natural seating and supplies such as a teacher easel and storage for teacher tools and materials.

4. Set up outdoor tables.

Outdoor space would also need appropriately-sized work tables for preschoolers, for writing, drawing, eating, and other activities, allowing for social distancing given classroom size. Removable, sturdy acrylic barriers could also be combined to support peer-mediated learning and creating a sense of community, with safety, at meal times.

5. Design four or more *legible* play centers.

Each classroom would need outdoor furnishings and supplies that allow for enriched independent play-based learning. Center environments should be designed with furnishings at a preschool scale, allowing independent child access to materials.

- **Dramatic play:** Mud kitchens, performance stage, puppet theater
- **Art:** Outdoor easel
- **Discovery/science/math:** Outdoor scales, thermometer, rain gauge, measuring cups, measuring tape; planting station; bird feeders/houses; butterfly/insect houses; flower and/or vegetable garden; compost
- **Music / movement:** Outdoor music, sound-making structure
- **Toys & games:** Outdoor lego station; outdoor puzzles, oversized outdoor games (giant jenga, giant connect four)
- **Library/writing:** Outdoor bookshelf/baskets; Outdoor easel/chalkboard
- **Blocks:** Open-ended natural blocks of various sizes

6. Consider designing expansive, natural gross-motor play space.

Schools should consider designing spaces for gross motor play that minimize the use of metal and plastic, since researchers have found that coronavirus survives longest (up to seven days) on stainless steel and plastic^{xvi}. Natural playgrounds might include natural climbing and sliding surfaces, tree swings, wooden monkey bars and teeter totters, natural climbing walls, and/or bridges and "roads" for trikes, bikes and scooters. Important design considerations for playground space includes varying complexity and challenge and opportunities for open-ended play (straight and curvy lines, flat and inclined surfaces, rough and smooth surfaces, vertical and horizontal movement, pully systems, tramways)^{xvii}.

7. Build stimulus shelters

Outdoor preschool spaces need stimulus shelters (e.g., crow's nests) with soft spaces to rest, and limited space ensuring uninterrupted, individual play or rest. The seclusion of a

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stimulus shelter allows for self-regulated escape from emotional fatigue, cognitive fatigue or over-stimulation^{xviii}.

8. Create areas with shade/shelter and heaters/coolers, as well as indoor spaces to address weather-related challenges

Shade structures can be designed to protect from exposure to the sun and/or low-levels of precipitation. Options vary in price, ranging from more expensive solid roof structures, to less expensive options of cloth or cloth shade structures, to the no-cost use of naturally shaded spaces. Alternative space indoors will be necessary to provide shelter for some classroom activities and during inclement weather. have clear and easy paths for 3 and 4 year-olds to access bathrooms and to enter large indoor spaces such as a gym or cafeteria for naps.

9. Include teacher worktable and structure to support teaching tools

Teachers and instructional aides will need their own work areas with tables and other structures to support their needs.

10. Design a sanitation area or cleaning station

The CDC does not recommend much disinfectant use outside; any high touch plastic or metal surfaces will need to be cleaned regularly using disposable gloves. Outdoor sinks may be necessary to allow for frequent handwashing. Outdoor trash and recycling receptacles with non-touch lids will also be needed.

Page Break

Interested in designing outdoor space for children in your PreK and elementary school program?

Next steps for Interested Schools:

1. Optimize your outdoor space for learning, with pro-bono landscape designers.

Sign up to [get expert help](#) designing your school space for *safe* outdoor learning. Schools should sign-up for a pro bono landscape design assistance program called the COVID-19 Emergency Schoolyard Design Volunteers made up of landscape architects and designers who are students, faculty and professionals. If you have questions, please contact the Schoolyard Design Volunteers organizer, Claire Latané: calatane@cpp.edu

2. Identify partnerships.

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Out Teach works as a thought partner to help schools turn under-used outdoor space into learning labs, and provides professional development and coaching to support teachers as they move learning outside. <https://www.out-teach.org/>

OSSE School Gardens Program (SGP) supports the building and maintenance of school gardens, and provides garden-based teacher trainings.

<https://osse.dc.gov/service/school-gardens-program-sgp>

Garden Science at Washington Youth Garden works with high-poverty schools to establish school gardens and outdoor science classrooms over a period of 3-5 years.

<http://www.washingtonyouthgarden.org/garden-science>

Cultivate the City helps schools use their green space to develop gardening space and educational opportunities. <http://www.cultivatethecity.com/schools>

Project Zero collaborates with DCPS to nurture a form of global competence that opens students' minds and engagement with the world while also deepening their local belonging as they explore manifestations of the world in their city, Washington DC.

<http://www.pz.harvard.edu/projects/the-world-in-dc>

3. Develop your plan.

Develop a plan with budget, given unique needs of your school and decisions driven by landscape design reports. Sign up to be part of a nation-wide coalition working together to share planning, best practices and problem solve the creation of outdoor learning space.

4. Secure funding and landscape architects if needed.

5. Begin project.

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Sample Schedule Full Day:

Morning Meeting	Gathering together under shade, with 6 feet between students, to build community and plan the day
Center Time	Outdoor centers such with mud kitchens, puppet theaters, art easels, among other areas, with natural materials
Small Group Literacy / Math	Small tables and play mats will define space for literacy and math games and activities
Outdoor Play	Gross motor play equipment can be used more safely in natural space, where exposure to plastic and metals are minimized.
Lunch	A family-style lunch can be shared at small outdoor tables set with safety protocols in place.
Read Aloud	Small or large group read-aloud can take place outside with comfortable, natural seating under shade
Specials	Enrichment opportunities provided by art, music, physical education teachers requiring movement and song should take place outside under shade, where it will be safer to engage in enrichment activities.
Creative Curriculum Study Focus	Small tables or large gathering space could be used for experiential, hands-on learning activities related to the in-depth study theme.
Naptime (INSIDE)	Naptime should take place inside, in a large open room, allowing for adequate space between cots.
Closing Meetings	Gathering together under shade, with 6 feet between students, to share experiences from the day and wish one another farewell.

Note: Outdoor space should be used flexibly and where feasible. Some schools may opt to spend more or less time in outdoor classroom space.

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Sample Schedule Half-day Outside, Half-Day Inside:

Outside	
Morning Meeting	Gathering together under shade, with 6 feet between students, to build community and plan the day
Center Time	Outdoor centers such with mud kitchens, puppet theaters, art easels, among other areas, with natural materials
Outdoor Play	Gross motor play equipment can be used more safely in natural space, where exposure to plastic and metals are minimized.
Lunch	A family-style lunch can be shared at small outdoor tables set with safety protocols in place.
Specials	Enrichment opportunities provided by art, music, physical education teachers requiring movement and song should take place outside under shade, where it will be safer to engage in enrichment activities.
Inside	
Creative Curriculum Study Focus	Small tables or large indoor gathering space could be used for experiential, hands-on learning activities related to the in-depth study theme.
Small group Literacy / Math	Small tables and play mats can be used inside to define space for literacy and math games and activities
Read Aloud	Small or large group read-aloud can take place inside with comfortable assigned seat cushions
Naptime	Naptime should take place inside, in a large open room, allowing for adequate space between cots.
Closing Meeting	Gathering together inside in a large, open space, with 6 feet between students, to share experiences from the day and wish one another farewell, followed by dismissal to outside space for meeting parents.

Recent Articles About Outdoor Education

New York Times: [“Schools Beat Earlier Plagues With Outdoor Classes. We Should Too.”](#)

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