



# OUTDOOR INFRASTRUCTURE PLANNING STRATEGIES FOR TAKING LEARNING OUTSIDE AS SCHOOLS REOPEN

## OUTDOOR SPACES ARE ESSENTIAL ASSETS FOR SCHOOL DISTRICTS' COVID-19 RESPONSE

School districts across the United States can use their school grounds and local parks as safe outdoor learning environments to increase their capacity and options for social distancing as students return to school. Outdoor spaces will reduce the burden on indoor classrooms while providing fresh air, hands-on learning opportunities, and the health benefits associated with increased access to nature.

### BACKGROUND

Physical distancing will be required when most schools reopen, but our schools were not built to accommodate students 6 feet apart inside their buildings.

The National Council on School Facilities and Cooperative Strategies LLC estimate that most schools across the country are only be able to fit ~60% of their enrolled students in their usual classrooms, with the required physical distancing measures. Some schools might be able to accommodate a higher percentage of students if they have low enrollment or are able to use cafeterias, libraries, multi-purpose rooms, and other auxiliary rooms to hold classes. However, the majority of the 98,000 schools in the United States will need another solution to address this spatial problem and be able to safely accommodate all of their students.

Many school districts are turning to hybrid reopening plans with staggered schedules and online learning to meet their needs. We know from experience over the last 9 months, that despite the hard work and heroic efforts on the part of school districts and educators, there are significant and widespread problems with online learning including: deepening inequalities, substantial learning loss, increasing mental health burdens, and deterioration of children's physical health. Staggered schedules are also very hard on teachers, children and their families, and make it extremely difficult for parents to return to work. The economy will not be able to fully open until all children are back at school full time.

### PLANNING ASSUMPTIONS

**Small Groups.** Many schools around the country are dividing their student populations in half, to create two smaller groups within each class. These half classes generally include 10-18 students, depending on grade level and standard class size.

**Educators.** Each small group of students that returns to campus will need its own educator while onsite.

**Physical Distancing.** Outdoor classroom seating, like indoor seating, needs to be 6 feet apart. In an outdoor context, the teachers' voices will not easily carry beyond ~20–25 feet without amplification, so outdoor seating clusters should be designed to be as compact as possible while still respecting the physical distancing requirements. (See examples in our Outdoor Classroom Configuration diagram, on page 4.)

**Movement.** It is not practical or desirable for students to stay seated all day, indoors or outside. Each outdoor classroom will need a buffer space to accommodate normal childhood movement patterns and opportunities for hands-on learning.

**Variety.** Every school site is different. It is important to assess the physical characteristics of each school ground or park to help determine outdoor seating capacity, feasibility, and whether or not seasonal and climate adaptations are needed.

For more information please visit  
<https://bit.ly/COVID-OutdoorLearning>

## PLANNING CONSIDERATIONS

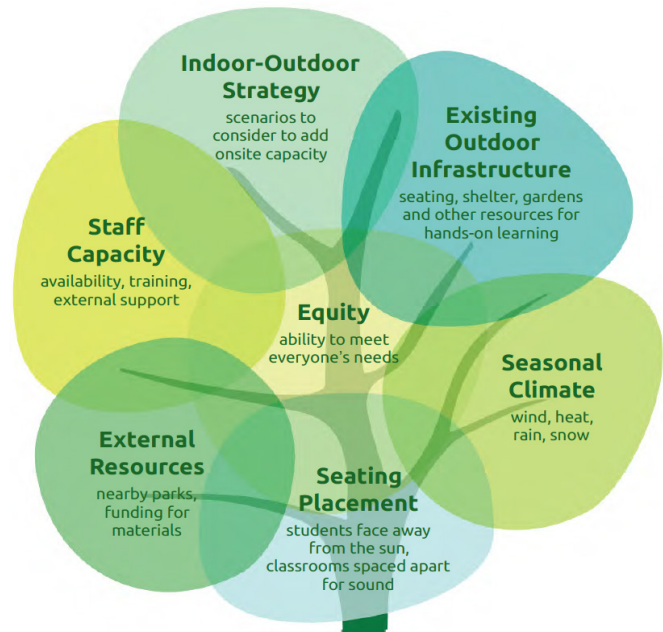
**Equity.** How can outdoor learning be a tool to address structural inequalities within the school system, and ensure a high quality experience for all students? How can outdoor learning be used to nurture and support young children, students with special needs, and other students who experienced significant learning loss in 2020?

**Indoor-Outdoor Strategy.** Consider the ways that outdoor classrooms could add capacity at your school. Set goals for the outcomes your school would like to achieve. For example, is there a way that 100% of students can return to campus every day? (50% inside, 50% outside?)

**Existing Outdoor Infrastructure.** Does your school have existing outdoor seating, shelter, gardens, or other resources that can be used for outdoor learning? Are there indoor bathrooms that can be accessed via external doors?

**Seasonal Climate.** What is the climate like in your region during the school year? What is the microclimate like at each school, in terms of wind, rain, snow, and heat? Which months of the year are best suited to outdoor learning for in your local climate?

**Seating Placement.** Plan outdoor classroom spaces to face north (away from the sun), so that students will not have sun in their eyes when looking at their teacher. Position outdoor classrooms far enough apart so that discussions will not be audible or distracting for students in other classes. Include a buffer space around each one to allow for movement and provide resources for hands-on learning. Evaluate the condition of ground surfaces.



**External Resources.** Consider which outdoor spaces are available to your school. These may include space on school grounds or in local parks. Assess budget and fundraising capacity for small capital improvements and outdoor teaching materials and supplies.

**Staff Capacity.** Consider strategies to match each half-class with a classroom teacher and/or additional educator. Assess educator availability and training, and look for partnerships with local nonformal education institutions (e.g. museums, nature centers, art centers, YMCA).

## WHAT TYPES OF INFRASTRUCTURE WILL YOUR SCHOOL NEED TO BRING LEARNING OUTSIDE?

- **Outdoor seating** — log rounds, straw bales, picnic tables, benches, seating cushions, amphitheaters
- **Outdoor teaching supplies** — clip boards, white boards, and a table for the teacher; science, art, and math teaching tools; outdoor Wi-Fi access, if desired
- **Protection from the sun** — tree canopies, shade umbrellas, tents, shade structures
- **Protection from rain and snow** — rain shelters, weather-appropriate clothing; or plans to move inside when the weather is too wet or cold
- **Storage** — supply sheds or bins; wagons for teachers to transport their supplies
- **Hand washing stations** — portable hand washing stations or permanently installed outdoor sinks to allow for frequent, convenient hand washing
- **Accessibility** — ADA-compliant paths of travel and seating in outdoor classrooms
- **Bathrooms** — restrooms directly connected to the schoolyard or otherwise easy to access from outside
- **Transportation** — to ensure equity for schools that do not have outdoor space onsite or at nearby parks
- **Outdoor clothing** — provide for all children to protect from the elements and ensure equity

## SITE PLANNING STEPS

- 1. Identify your school's overall goals.** Are you aiming to accommodate 100% of the students on campus in half-size classes? (e.g. with 50% of the students inside, 50% outside?) Or, do you have another goal? How many hours of instruction per day will your school offer?

If only 50% of students will return to campus, can all of those students be outside, weather permitting?

Would your school like every class to have both an indoor and an outdoor space, to be able to spread out beyond fixed indoor seating arrangements?

If your school does not have space for every class outside, can you use outdoor classrooms to accommodate the youngest students? Special needs classes? Other students who would benefit from hands-on learning?

Will your school need outdoor space for recess? Physical education? Before/after school programs? Incorporate these programs into your overall strategy.

- 2. Estimate your school's indoor classroom capacity with required physical distancing measures, to determine what is needed outside.** (Many school districts are hiring planning firms to make these calculations.) Use the indoor capacity numbers to determine how many outdoor classroom spaces are needed to be able to reach your goal. (e.g. accommodate 100% of the students onsite)

- 3. Prepare your site map.** Download a detailed aerial photograph of your school grounds from Google Earth. Include the north arrow and scale bar for reference.

Review the aerial photo in detail. Mark locations of existing outdoor infrastructure that may be useful for outdoor learning. (e.g. existing picnic tables, garden seating, rain/sun shelters, large shade trees, storage sheds) Note any physical constraints including slopes and fire lanes, and plan for ADA compliant paths of travel.

Use the aerial photo to mark the locations of bathrooms with exterior doors, and existing outdoor sinks. Mark the location and path that delivery vehicles use if they are required to drive across the playground. Include additional locations that must be kept clear to allow for emergency vehicle access (e.g. fire trucks) and for emergency evacuations (e.g. earthquakes).

- 4. Consider seating style and size.** Review the attached Outdoor Classroom Configuration diagram and select or create option(s) that meet your needs.

Note the overall measurements of your seating selection(s) and use them as a guide for the minimum amount of space needed for each half-class. If you will be using picnic tables for seating, assume that each 6 foot or 8 foot long picnic table can only accommodate two students, on opposite corners.

- 5. Map potential seating locations.** Return to the aerial photo and mark all of the locations onsite that could accommodate an outdoor classroom if additional seating, shade, plantings, and/or other infrastructure is added.

Review the places you have marked on the aerial photo. Would all of these spaces be equally comfortable and practical for students and teachers over the course of the day? Rank the desirability and practicality of each location, and eliminate potential locations that are difficult to use or will not be comfortable even with additional infrastructure.

Consider other types of activities that will go on during the school day, in addition to classroom instructional time. Identify which areas of the school grounds will be needed for: PE classes, recess, before/after school programs, outdoor meals, and other school programs. Remove any outdoor classroom locations that will conflict with these other programmatic needs.

Count the number of seating areas marked on the map. Is this enough to meet your outdoor seating goal? If so, move on to Step 6. If not, consider whether it may be possible to hold some classes at a nearby park, and repeat Steps 3–5 to assess park capacity, too.

- 6. Plan for additional outdoor infrastructure.**

Consider which types of additional infrastructure your school ground and park spaces will need to function well as outdoor classrooms. Refer to the list on the previous page as a starting point. Add storage sheds, rain and shade canopies, handwashing stations, and other features to your aerial photo site plan.

- 7. Seek feedback.** Share your draft outdoor learning map with school and district staff, parents, and students. Circulate it widely. Incorporate the feedback you receive into your plan, and revise accordingly.

- 8. Create a cost estimate for your plan.** Use the Outdoor Classroom Cost Calculator on our website to develop a preliminary budget for your school's outdoor learning infrastructure. Adjust seating type and other options to meet your financial needs.

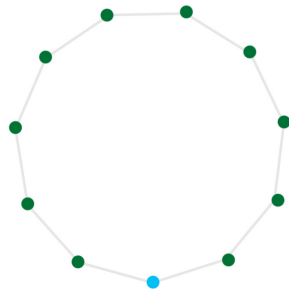
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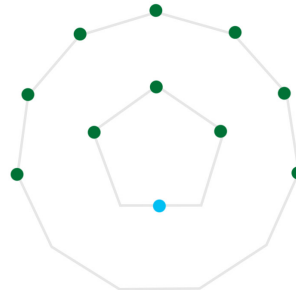
# POTENTIAL OUTDOOR CLASSROOM CONFIGURATIONS WITH 6' SOCIAL DISTANCING

SCALE MODELS BELOW ASSUME EACH OUTDOOR CLASSROOM FITS PART OF A CLASS

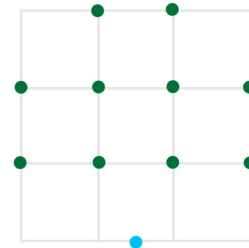
## 10 students + 1 adult



Circle: 21' diameter

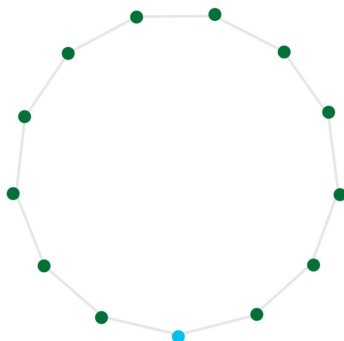


Amphitheater:  
22' dia. outside & 10' dia. inside

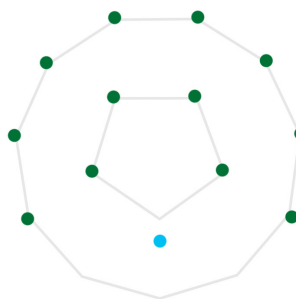


Grid: 18' x 18'

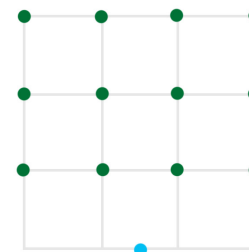
## 12 students + 1 adult



Circle: 25' diameter

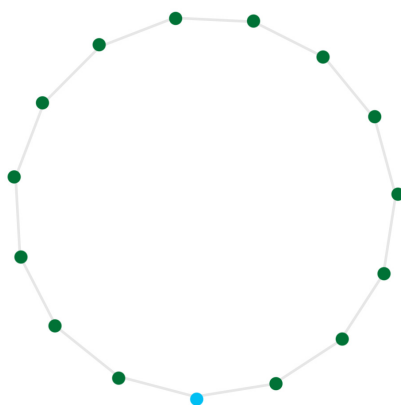


Amphitheater:  
22' dia. outside & 10' dia. inside

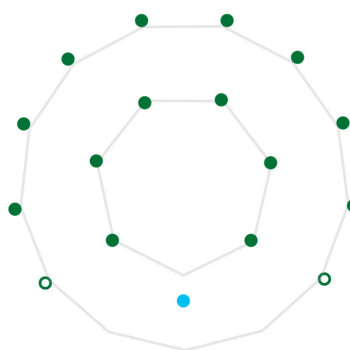


Grid: 18' x 18'

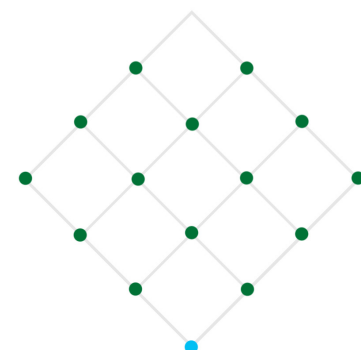
## 14 students + 1 adult



Circle: 29' diameter



Amphitheater:  
25.5' dia. outside & 13.5' dia. inside  
(14 – 16 students)



Grid: 18' x 18'  
(rotated)

