# TABLE OF CONTENTS

3 WHY?

5 BACKGROUND
   The Challenge
   Design Guidelines

10 HOW TO
   How to Use This Guide
   How to Get Started

14 DESIGN IDEAS
   The Panel
   Design Ideas and Details

65 HELPFUL RESOURCES

67 CONTACT US
As school administrators, teachers, and parents are contemplating possible scenarios for reopening schools safely, underutilized schoolyards offer additional square footage that could be repurposed to increase classroom capacity and facilitate social distancing.

Inspired by Baltimore’s Design for Distancing Competition and building on the success of the Community Design Collaborative’s Design Assistance In Demand A.I.D. initiative, the Design A.I.D.: Outdoor Learning Spaces Design Ideas Competition and Design Guide was developed.
WHY CREATE THE DESIGN AID: OUTDOOR LEARNING SPACES DESIGN GUIDE?

School districts all over the country are challenged with how to safely reopen schools. While this crisis presents many challenges, this is a unique opportunity to rethink how we use our school facilities. The Community Design Collaborative is uniquely positioned to connect school communities with talented designers from the Philadelphia area and beyond to envision inexpensive and flexible outdoor learning environments.

At the offset of the pandemic, the Community Design Collaborative launched the Design A.I.D. initiative to provide easily-implemented design solutions to nonprofit organizations and small businesses serving vulnerable populations. Since March, volunteer design professionals have developed customized plans for a homeless shelter, church, bodega, restaurants, and organizations serving recent immigrants. In a similar fashion, the Design A.I.D.: Outdoor Learning Spaces Design Guide will provide detailed examples that will provide schools, and other community groups, with inspiration for creating unique and engaging outdoor learning models which may be fabricated and installed by the school community—ideally with input and participation from the students themselves—and then replicated anywhere and used far into the future, beyond the pandemic.
Background
Students haven’t seen the inside of a classroom for months and they’ve been missing in-person interaction with their teachers and peers. They’ve tried school on a screen, but it’s just not the same. So, how can schools turn underutilized schoolyards into outdoor classrooms that could enable students to safely return to school?

As school districts and parents all over the country have been contemplating the possible scenarios for returning to school, history indicates that we should be (re)turning to the outdoors for answers. With funding from the William Penn Foundation, the Community Design Collaborative’s Design Assistance In Demand (A.I.D.): Outdoor Learning Spaces Design Ideas Competition encouraged architects, designers, educators, parents, communities — local and afar — to envision innovative and creative solutions for outdoor learning in a time of global crisis — and beyond — to bring all of our students back to school as soon as safely possible and to expand opportunities for learning in the extended future.

School buildings have a limited amount of square footage to address the proper social distancing necessary for all students to return to school, so we look to the typically underused footprint of schoolyards to expand learning environments to the outdoor classroom. While this challenge was not site specific, design solutions were considered for typical paved schoolyards. Designs were to address a range of interventions, from the simple idea of bringing existing classroom furniture outdoors to a kit of parts that can be mixed and matched in various schools and sites, and may be constructed by school and community volunteers.

Through this initiative, 5-6 pilot outdoor learning spaces will be implemented with the goal of serving those schools most in need. These sites will, hopefully, be catalysts, encouraging other schools to implement their own outdoor learning spaces.
DESIGN GOALS

- Welcoming, safe, accessible, and equitable
- Vibrant, intriguing, and playful
- Supporting teacher-student interactions
- Spaces that foster learning (all components/aspects of the design should strive to incorporate opportunities for learning, i.e., if there is a roof element, it can incorporate a system of rain collection to teach about stormwater management)
- Inclusive of all modalities of learning: kinesthetic (moving), visual (seeing), auditory (hearing), and tactile (touching)
- Appropriate for elementary (K-5) schools with special focus on the youngest students in grades K-3
- Promoting creativity and ingenuity in children

DESIGN PARAMETERS

- Be fabricated and installed for $5000 or less
- Easily fabricated and assembled quickly by volunteers (ideally with assistance from students)
- Be temporary, yet inspiring the potential for permanent installations.
- Accommodate year-round learning (all four seasons)
- Be low maintenance (in ease and cost)
- Make creative use of everyday materials and items prioritizing the use of durable, reusable, and sustainable materials
- Maximize accessibility throughout the site for all abilities
- Meet minimum code requirements for structures, railings, ramps, surfaces, etc.
- Consider a menu of design elements that are versatile and can be configured to the needs of multiple sites
- Accommodate clear lines of sight for supervision of a 30-student class by teachers
- Include opportunities for smaller groups or individual learning
- Integrate power, water, and wifi, as possible
- Be easily secured (security in some cases may be provided by an existing fence surrounding the schoolyard)
- Include opportunities for storage, writing and tackable surfaces
- Consider the design for one classroom and/or how multiple classrooms may be arranged within one schoolyard space
PUBLIC HEALTH RECOMMENDATIONS

- Incorporate public health guidance from the local, state, and federal requirements to maintain the health and safety of school staff and students.
- Embrace the Guiding Principles of Inclusive Healthy Places. These guiding principles can inform strategies for shaping public space projects that promote accessibility and diverse social interactions, reflect shared social values, advance equity, and are welcoming for all.

SUGGESTED STRATEGIES MAY INCLUDE:

- Seating that supports physical distancing and universal design for all abilities
- Proper signage for physical distancing that includes information on how to stop the spread of COVID-19. All signage should be available in languages appropriate to the host community
- Touchless hand-washing locations and automatic dispensers for hand sanitizer

ADDITIONAL CONSIDERATIONS

PLANNING & ACCESS

Design teams may review and use the following considerations to guide their designs, but are not required to address them in their submission.

- Designs should consider impact on surrounding residential areas.
- Designs are to be attractive and add to the overall look and appeal of the school and grounds.
- Designs should consider protection from surrounding vehicular traffic.
- Grade should be maintained, or changes should be easily navigable without gaps or steps.
- Designs should account for heavy traffic/usage.
- Designs should consider the increased need for bike or scooter parking within the schoolyard space.

PLAYFUL LEARNING

Playful Learning Landscapes uses an evidence-based approach that harnesses guided play in spaces designed for children to discover, explore, and learn.

- Encourage children to engage in the type of play known to support learning (i.e., joyful, meaningful, actively engaging, and socially interactive)
- Incorporate 21st century learning goals (i.e., 6 Cs; communication, collaboration, content, critical thinking, creative innovation, and confidence)
- Include elements that spark conversation & enriching interactions
- Integrate, where possible, elements of community culture and identity
COMPETITION BRIEF

Much of the previous information was included in the competition brief which was created to launch the competition, you can access the full brief [here](mailto:designaid@cdesignc.org).

AUGUST 14, 2020

designaid@cdesignc.org
How To
HOW TO USE THIS GUIDE

The Design A.I.D.: Outdoor Learning Spaces Design Ideas Competition and Design Guide is presented by the Community Design Collaborative. The goal of this competition is to develop a library of designs that schools can adapt for use at their specific sites with the support of their students, families, and neighbors.

While not site-specific, the following design solutions have been considered with typical Philadelphia schoolyards in mind and each design can be adapted to most any underutilized paved space of varying scales, with permission from the site owner.

When selecting a design for implementation, we encourage you to engage your community in that selection to ensure that it will meet the needs of your community and will be used, loved, and cared for.

While the intention is for all design solutions to be fabricated and installed for no more than $5000, we recognize that a few of the solutions may require additional funds if built in their entirety and donations of materials and/or labor can not be secured.

Design solutions address a range of interventions, from the simple idea of bringing existing classroom furniture outdoors, to a full schoolyard design incorporating all new elements, to a kit of parts that can be mixed and matched within various schools and sites. Additionally, some designs that appear to be all-inclusive may also be drawn upon for only one or two of its components. Designs may or may not be replicated in their entirety depending on community needs and specific site conditions.

Designs may or may not take security into consideration. Need and opportunities for securing the interventions must be considered based on the conditions of the selected site.

This guide is available to all free of charge. Our goal is to share it broadly in order to assist as many schools and communities as possible.
DESIGN ASSEMBLY DIFFICULTY

To determine the skill set and tools you may need for your chosen solution, we have included Design Assembly Difficulty Level icons for assistance.

Please note that some designs may indicate more than one icon which means that there are several components of the design and each may require a different level of assembly difficulty. In addition, material lists have been included to help identify what you may need to acquire to create your outdoor learning space.

No Tools
Assembly required with strength and sweat

Hand Tools
Hammer, wrenches, screwdrivers, mallet, hand saw, etc.

Power Tools
Drill, screw or nail guns, chop saw, etc.

Specialized Skills
VR/AR, welding, plumbing, woodturning, 3d printing, electrical, etc.
HOW TO GET STARTED

Design ideas contained in this guide are intended for schoolyards and other paved open space to serve a range of learning environments. Before selecting a design idea, or any of its components, from the Design Guide, we recommend the following steps to start your community’s outdoor learning space today!

- Select a site(s) and get permission from the property owner.
- Establish a core group to lead the effort.
- Engage the community and stakeholders in choosing the design(s).
- Consider the materials needed and their potential cost and availability.
- Consider the level of assembly difficulty and the resources available to you.
- Understand permitting requirements in your municipality.
- Adapt designs as needed to accommodate the specific characteristics of the site and needs of the user group(s).
- Adapt the design to reflect the culture of the place.
- Confirm public health guidelines that are specific to the site and use.
- Consider the need for signage to assist users of the spaces.

Look to your community to help think through these ideas and how a whole approach, or the use of components, will best address the needs. Your community is your strongest asset – reach out for their assistance and to help broaden your network of support. And remember, it is possible to adapt solutions for a smaller space, class size, and budget. Be resourceful and creative!

Although there are public health recommendations listed in this guide, please be sure to check the most up-to-date guidelines of your municipality at the time of planning and assembly.
This page intentionally left blank
Outdoor Learning Spaces Design Ideas

ROUND 1
Deadline Date: August 26, 2020

Design ideas are presented in the order in which they were submitted
THE PANEL

All design submissions were reviewed by a panel and evaluated for inclusion in this Design Guide based on compliance with the listed criteria of Design Goals, Design Parameters and Public Health Recommendations.

We thank and recognize the following panel members and the organizations they represent for their time and expertise.

SCHOOL DISTRICT OF PHILADELPHIA

Laura Lau
Lead Grants Development and Support Specialist

Mary Lee, M. Ed., ALEP
Educational Facilities Planner, Office of Grade and Space Planning

Daniel P. Mullin, RLA, ASLA
Site Improvement Coordinator, Office of Capital Programs

Kenneth Rux, P.E.
Design Project Manager, Office of Capital Programs

Paula Sahm
Educational Facilities Planner, Office of Early Childhood Education

Nicole Ward, AIA, NCARB
Design Manager, Office of Capital Programs

PLAYFUL LEARNING LANDSCAPES

Rachael Todaro, PhD
Post-doctoral Research Fellow / Science Advisor

Doug Piper
Lab Coordinator

FLEISHER ART MEMORIAL

Elizabeth Grimaldi
Executive Director

COMMUNITY DESIGN COLLABORATIVE

Alice K. Berman, AIA
Owner/Principal, Alice K. Berman Associates

Jeffrey Brummer, AIA, LEED AP
Owner, Jeffrey Brummer Architects

Maria Sourbeer
Vice President of Development, Shift Capital

Adam Supplee, RLA, ASLA, AICP, LEED AP
Landscape Architect/ Planner
Traffic Planning & Design, The American Society of Landscape Architects
DESIGN SOLUTION

In the wild, hummingbirds make their nests out of soft, flexible materials, allowing their nests to expand as their young grow. Project Hummingbird uses this same concept of accommodation in its design, as its cost-efficient materials and easy set-up allow for adaptable design. Hummingbird has two main structures, the tarp enclosure ($150 each), and the fabric enclosure ($260 each). The tarp enclosure is weather-resistant and serves as the base of the classroom, with storage and the teacher’s desk located beneath it. The fabric enclosure can be added upon to accommodate growing classes, or changed in shape to function as different education environments, such as a covered reading area, or a place to do arts and crafts. One fabric unit can seat 12 socially distanced student desks. Additionally, the sheer fabric can be moved easily along the clotheslines across the poles, allowing for adjustable lighting in the student areas.
**DESIGN DETAILS**

**Design Assembly Difficulty**

- No Tools
- Hand Tools
- Power Tools
- Specialized Skills

**Tarp Assembly**
1. Place 6 Footpads 10' apart.
2. Hammer 3 Steel pegs into each Footpad.
3. Place 4 8' poles and 2 10' poles into their respective Footpads, and tighten.
4. Place Tarp, aligning holes with poles and fasten.
5. Reinforce the 4 8' poles with tent cords tied to pegs in the ground 4' away.

**Fabric Assembly**
1. Place 6 Footpads in two arrays of 3 poles spaced 10' from each other. The arrays 20' from the each other.
2. Hammer 3 Steel poles into each Footpad.
3. Place 6 8' poles.
4. Connect the 4 corner poles with 20ft of clothesline along the top.
5. Clip 4 12 yard lengths of Fabric to Clothesline using Heavy Duty Clothespins.
6. (Optional) Use Curtain Tiebacks to create openings in the Fabric.

**Materials Required**

**Tarp Enclosure (~$155)**
- 4 8' Aluminum Poles. ($13 ea.)
- 1 10' Aluminum Poles. ($19 ea.)
- 6 1 1/4" Footpads. ($5 ea.)
- 22 9" Steel Pegs (~$0.37 ea.)
- 1 10' X 40' Tarp ($20 ea.)
- 4 13' Tent Cords (~$1.66 ea.)

**Fabric Enclosure (~$259)**
- 6 8' Aluminum Poles. ($13 ea.)
- 6 1 1/4" Footpads. ($5 ea.)
- 18 9" Steel Pegs (~$0.37 ea.)
- 100ft Clothesline (~$0.04/ft.)
- 48yds 118" Sheer Voile (~$2.79/yr)
- 20 Clothespins (20 for $6.50)
Shiftspace partnered with a local elementary school to prototype and deploy a system of prefabricated units to make up areas for outdoor classrooms to help reinvigorate an atrium space at the heart of their school. The faculty expressed a desire to have a space that was less a “play” space and more a learning, performance, and meditation space.

The atrium features a central spine walkway that doubles as a space for yoga classes and events. This spine is composed of prefabricated decks that are set in playground mulch and enhanced with native plantings. Vibrant geometric outcroppings become benches, informal stage elements and planters that add a visual layering to the path. These prefabricated elements are made from HDPE sheets and standard framing structure allowing them to create classroom seating and stage space for both young and older students. These units were specifically designed for this atrium space however, our designs can be re-imagined for site specific works with minor changes needed. Our studio goal is to create semi-permanent space to enrich the well being of our schools and communities.
Design Assembly Difficulty

No Tools Hand Tools Power Tools Specialized Skills

Materials Required

- Sculptural Elements
  - HDPE or PVC 3/4" Sheets
  - Pressure Treated 2x Framing
  - Stainless Steel fasteners
  - Exterior Paint

- Deck Walkway
  - Composite Deck
  - Pressure Treated 2x Framing
  - Stainless Steel fasteners

- Playground Mulch

Heart of the School: a pop-up experience
Buildings + Grounds + Community

Cynthia Hron

https://cindihron.myportfolio.com

Work with the site as it is by leveraging existing site infrastructure. Look at existing conditions with new eyes, embrace what is there to create a palimpsest, a layering, where new layers do not erase all traces of what came before. Do a site inventory to identify exterior water and electrical access, patterns of egress, community assets, unprogramed outdoor spaces, and programmed spaces that can serve double duty to create an exciting school experience.

The ground plane can define program areas that provide teachers with specific classroom space. Using paint, claim space with vibrant colors and text that identifies social distancing, teacher names, subjects, and welcoming signage in the languages most fitting to your school community. Cohort grouping is supported by CDC recommendations.

Don’t just make it about COVID think about how this is a catalyst to consider education futures and a new relationship with the environment.
Buildings + Grounds + Community

Cynthia Hron

Design Details

Design Assembly Difficulty

No Tools  Hand Tools  Power Tools  Specialized Skills

Water access, spigot on building

Planters for gray water catch

Ground markings for social distancing

Materials

Paint & chalk
Plants, shrubs & trees (rentals)
Mobile planters (rentals)
Shade Sails & Hardware
The Schoolyard Kit
Cloud Gehshan
cloudgehshan.com
@cloudgehshan

Design Solution Description

The Schoolyard Kit is a versatile kit-of-parts for transforming schoolyards and parking lots into outdoor classrooms that emphasize physical distancing.

1. A painted grid of dots spaced 6’ apart allows for appropriate physical distancing for children in the classroom.
2. Educational graphics are interspersed throughout the grid to facilitate learning.
3. Painted blocks display health-related messaging and can be customized by individual students. They can also serve as a seat or desk.
4. Mobile chalkboards can be moved around for optimal positioning to conduct a class or be used as a divider.
5. Artificial grass circles give students their own mobile space, helping define appropriate physical distance.

The Kit-of-parts aims at reducing disease transmission by utilizing visual and spatial representations of national health recommendations in the outdoor educational setting.
The Schoolyard Kit
Cloud Gehshan

DESIGN DETAILS

Physical distance in-situ

Physical distance dots layout

Layout option 2

Layout option 3

Design Assembly Difficulty

No Tools  Hand Tools  Power Tools  Specialized Skills

Materials Required
1  Gallon of paint per color
   Paint brushes
   Paint rollers
1  Tape measure
1  String or rope
**The Schoolyard Kit**

**Cloud Gehshan**

### DESIGN DETAILS

**Chalk Board Concept 1 Model**

- Cut 3/4" thick pine sheathing fastened to wood stud
- Cut 2" x 4" wood stud is fastened to pine sheathing with countersunk wood screws

**Chalk Board Concept 2 Model**

- Cut 3/4" thick pine sheathing fastened to wood stud
- Cut 2" x 4" wood stud is fastened to pine sheathing with countersunk wood screws

**Exploded Axonometric View**

1" x 1" x 4'-0" length block, fastened to upright panels with countersunk wood screws

3/4" thick x 4" x 8" structural pine sheathing, fastened to 1" x 1" wood block, adhered graphite laminate sheet to both sides

**Exploded Axonometric View**

3/4" thick x 4'-0" x 8'-0" structural pine sheathing with 3/4" wide cut slits, slides into upright panels, adhered graphite laminate sheet to both sides

**Cut 2" x 4" wood stud**

- Fastened to pine sheathing with countersunk wood screws

**Rubber caster wheels**

- Fastened to wood stud with countersunk fasteners

**Artificial Turf Mat**

- 3'-0" diameter

### Materials Required

1. Chalk board consists of:
   - 3/4" thick x 4'-0" x 8'-0" structural pine sheathing
   - 4'-0" x 8'-0" graphite laminate sheet
   - 2" x 4" x 8'-0" length wood stud
   - (18+) countersunk wood screws
   - (4) Titan 3 inch rubber swivel caster wheels with countersunk fasteners

2. Wooden box consists of:
   - 3/8" thick x 24" x 24" pine sheathing
   - 3/8" thick x 24" x 24 3/4" pine sheathing
   - 2" x 2" x 24" length wood blocking
   - (1 per child) 3'-0" diameter, circular artificial turf mat
   - (4+) cans of black spray paint as needed

### Design Assembly Difficulty

No tools: assembly required with strength and sweat

Hand tools: hammer, wrenches, screwdrivers, mallet, hand saw

Power tools: drills, screw or nail guns, chop saw

Specialized skills: VR/AR, welding, plumbing, woodturning, 3d printing, electrical
This page intentionally left blank
Groundscapes focuses on the flexibility of playful and functional elements that can be synthesized to enhance learning needs.

The influence of an outdoor environment cannot be overstated for developing minds, especially during a pandemic. This unique design matrix uses graphic surfaces, movable furniture, and an adjustable canopy to provide a learning setup inclusive of the imaginations of many, and includes tactile surfaces, vibrant hues, and sound-curating partitions.

The ground is demarcated by playful colors and geometry—circles spaced 6’ apart deal with Covid concerns, while connective elements suggest social groupings.

Stackable furniture and movable partitions can be arranged for different class configurations, and students are encouraged to help put them away afterwards.

The canopy cover offers shade subject to environmental needs, using a basic framing structure with optional solar, planted or polycarbonate panels. Greenery and an interactive box garden nearby allow for students to feel at ease while learning.
Menu of Elements
A: Sliding Partition (curve)
B: Sliding Partition (straight)
C: Study Pod (cone)
D: Study Pod (pyramid)
E: Canopy Panel (solar)
F: Canopy Panel (polycarbonate)
G: Canopy Panel (plant grid)
H: Seat

Three Scenarios
All class for 32 students
E + F + G + H

Half class for 15 students
A + B + C + F + H

Casual group
A + B + C + E + H

Materials Required
Color Paint
Steel Column
Wood Beam
Solar Panel
Polycarbonate Panel
Planter Grid Panel
Net Pod
Sliding Partition
Furniture
White Board
Tack Board
Our proposal consists of the use of two basic elements, some metal plates of 6 different types and some wooden slats. With these elements, three types of structural ribs are built with which a space is generated with a two-high tier (considering the maximum allowed heights) for 30 people, green beds and a table with seats.

The construction system is designed so that it can be built by people with basic or no knowledge in construction, since with a simple drilling system, holes can be made easily and assembled as if it were a LEGO game.

We have designed the proposal considering that the terrain is slightly sloping. In the case of being a soft soil, concrete cubes would be used as the foundation, as can be seen in the drawing. In the case of a concrete floor, the cube would be eliminated and it would be attached directly with the plates to the floor.
Design Assembly Difficulty

No Tools

- Hand Tools
- Power Tools
- Specialized Skills

Participatory projects require inclusive designs. But at the same time, the projects must endure in time. For this reason we propose a durable construction system, where the metal elements resist loads, but the material with which it is built is wood.

The main maintenance that the project requires is to protect the wood from the sun with some type of oil or varnish and check the nuts once a year.

Similar projects made by us have lasted for more than five years with no extra maintenance costs.

Materials Required

- 240 Metal plate 3/16 thickness
- 200 Wooden slat 120"x2"x1"
- 65 Wooden slat 120"x7"x1 1/4"
- 800 Bolts and nuts 5/16"

1 Material 5
0 Material 6
0 Material 7
0 Material 8
0 Material 9
0 Material 10
0 Material 11
Design Solution Description

The "Outdoor Classroom Kit" seeks to answer one of many questions schools are grappling with during our current pandemic: How can schools utilize available outdoor space to allow students to safely return to school?

The design uses the Center for Disease Control’s (CDC) recommended 6ft social distancing as its main design goal. The floor plan is a 54ft X 30ft grid divided into forty-five 6ft student zones. These zones allow for traditional classroom/lecture layouts or for flexible collaboration layouts. The design also offers visual guidance on how to keep a 6ft distance. Each zone is able to be colored and personalized by the student.

The design is a kit of parts that may be assembled in pieces to make the whole. The exterior consists of wall panels with triangular opening to allow for easy circulation in and around the structure as well as cross ventilation. Each opening has the potential to be painted whatever color the school desires to add interest for the students. PVC panels are used to help diffuse light, reduce glare, and protect students from the elements.
The "Outdoor Classroom Kit" has been designed to be assembled like a set of furniture instructions. The two main pieces to the kit are the roof grid panels and the wall panels. These pieces fall along a 30 ft by 54 ft grid composed of 6ft painted squares and circles to represent CDC’s guidelines for proper social distancing. Depending on classroom size the structure has the flexibility to shrink or grow by simply increasing or decreasing the grid.

The entire structure has the potential to be prefabricated off-site and assembled on site. Students could potentially assist in the assembly as part of a learning experience in itself. They could also enjoy drawing or painting their own 6ft student zone.

**Materials Required**
1. CLEAR OR WHITE PVC ROOF PANELS
2. 2X4 TREATED LUMBER
3. NAILS AND SCREWS
4. CHALK OR SPRAY PAINT
The inspired design of The Book Stop creatively approaches a global issue of limited resources for public access to great literature. Creating a space that embraces the experience of diving into a fresh new page of a book was articulated through the subtle shift in paneling. This architectural quality integrates the flipping pages of a book into its form. With an adaptable execution, the Book Stop becomes recognizable and distinct in its geometry. Construction of the design is very modular with Lego inspired connecting members. An accessible bike rack enables cyclist to utilize the space as a rest stop between routes. The angled roof provides exterior shading and opportunities for solar powered charging stations. The culturally sensitive form and sustainable construction allows the design to fit in many different settings. This will ultimately refresh the importance of the sharing of knowledge through literature in a more playful and hands-on way.
THE BOOK STOP

KEMET FLOYD, BAD'IR ZABARAH

DESIGN DETAILS

- SLIDING DOORS FOR SKYLIGHT PANELS
- METAL BIKE STOP EASY SOCKET CONNECTION
- 2"x6"x10" PLYWOOD - EACH PANEL REQUIRES 3" FOR STRUCTURAL SUPPORT
- SEAT USED AS STRUCTURAL COMPONENT - CHARGING COMPARTMENT ON UNDERSIDE

FULL READING CABIN

- 2"x6"x10" PLYWOOD
- 3"x12" METAL PLATE
- SOLAR POWER BANK
- BLUE MOD STORAGE CHAIR
- LARGE DRY WALL SCREW SET
- 4"x10" DIAMETER METAL BAR
- METAL BIKE HALT RACK
- 2" PLEXI GLASS
- WOOD CEMENT FOR CURING PANELS
- METAL SLIDING DOOR RACK
- METAL SLIDING DOOR AND HANDLE
Welcome to Room(s) for Error, an adaptation of the classroom beyond a building. The project becomes a tool for learning, as an easy to assemble, lightweight, durable structure that fosters all modalities of learning. Room(s) for Error recognizes (and encourages) that in life, there is error, and that’s ok!

A centralized learning space acts as the home base for learning, accommodating plenty of room in accordance to public health guidelines. Several additional follies can connect and detach from the home base for small group learning. Folly potentials include science laboratory, greenhouse, reading room, and art room, where the surfaces become the canvas for exhibiting student work! The materials to assembly are simple: stainless steel pipes, and a custom 3D printed, twisting connector. These connectors are designed so the Room(s) for Error can be assembled with your two hands and friends.

Room(s) for Error welcomes students to engage in learning well into the future.

AXONOMETRIC NOTES
1. Main classroom assembly accommodating state-mandated 1,030 sq ft.
2. Secondary detachable folly classrooms for break-out sessions
3. Power and data connection to supply electricity and Wi-Fi to classrooms
4. Wall for vertical gardens and outdoor science labs
5. Exterior pin-up panels for outdoor learing
6. Angled roofs to collect water run-off into potted plants below
7. Easy to adjust overhead panels to provide shade from sun and shelter from rain
Room(s) for Error
Office of Aesthetic Exuberance

DESIGN DETAILS

Stainless Steel Tube
1" Diameter, 0.028" Wall Thickness, Mill finish, 180G (#4), Cut to Length, De-burred

Custom Connectors (3d Print)
PLA

Exterior Grade Nylon Fabric
Cut to Size

Design Assembly Difficulty

No Tools  Hand Tools  Power Tools  Specialized Skills

Materials Required

Stainless Steel Tube
1" Diameter, 0.028" Wall Thickness, Mill finish, 180G (#4), Cut to Length, De-burred

Custom Connectors (3d Print)
PLA

Exterior Grade Nylon Fabric
Cut to Size
**DESIGN SOLUTION DESCRIPTION**

Building on the module of a milk crate, our proposal creates a field for outdoor learning at various scales. The **Crate-Module** can be carried, climbed, or planted! Starting with the ground plane, a six-foot physical distancing grid creates a field to deploy and define the three major elements - the **Commons**, the **Hub**, and the **Pod**.

These elements can be used as separate learning environments for smaller scaled spaces, such as a parking space or joined together as a whole within a school-yard. The **Commons**' painted pixelated path connects the Hub and Pod areas and allows students to plug in their modules to collaborate and learn safely as a school community. The **Hub**, a semi-enclosed space made up of a larger **Container-Module** is used for structured learning; the **Pod** is a small-scale space for unstructured playful learning activities like gardening, painting, or playing.

As children return to places of outdoor learning, we asked our focus-group of small thinkers, ‘What will you bring with you to play or learn outside?’ A pair of binoculars, a basketball, a yo-yo, a jump-robe, a book, a bottle of sunscreen. The Crate-Module is portable and can be used to organize personal storage and manipulatives in a sanitary way.
The Pod is a small-scale space for unstructured, playful learning activities like gardening, painting, climbing, or swinging. These spaces can be manipulated to serve any activity or lesson.

- Open air activities
- Storage for activity items
- Space-marking Trellis
- Pixels to organize groups
- Plug & Play

The structured learning space within the Container-Module can be manipulated to allow ventilation or expand past standard dimensions with the addition of a simple trellis.

- Whiteboard / Pin-up board
- WiFi Hotspot / Solar Panel Power
- Clipboards for Students
- Crate-Seating / Storage / Cubbies
- Weather Protection
- Pixels to mark seat locations

The majority of this design can be constructed with just “strength and sweat.” The students could even help place and stack crates! Hand tools such as a hammer and saw will be needed for constructing the trellis in the Activity Pods and the furniture created with the crates and plywood.

The shipping containers for the Learning Hubs will require power tools, specialized skills, and machinery to move the containers.

Materials Required:
- Shipping Containers (3)
- Solar Panels (2)
- Wifi Hotspot (1)
- Sidewalk Paint / Durable Paint
- Plywood Sheets
- Standard Lumber
- Milk Crates
- Soil / Plants
- Fabric / Upholstery
- Fasteners
The Eco-Igloo™ offers schools an outdoor modular design, adaptable for any location. Self-powered, rugged and relocatable, choose from four modules to theme your fresh-air classroom and guide safe, playful learning.

**WEATHER VANING:** Forecast the Future! Learn about and monitor weather patterns, air quality, UV/heat index and atmospheric pressure. Study how weather impacts our health, our food supply and what you need to wear to school.

**GROWING UP:** Plants, Pollinators and Poo! Discover what plants need to help them grow and flourish, explore the World Wide Food Web and dive deep into soil life.

**HOME IS YOUR HABITAT:** What do animals need to survive? Make birdhouses, batboxes, birdfeeders and other micro-habitats for the wildlife in your neighborhood. Curate and observe mini nature environments.

**THE POWER HOUSE:** How do we power our future? Learn about solar, wind and hydro-electric power, energy storage and transformation, and sustainability of harnessing natural systems for power.

---

**WEATHER VANING** enables students to measure and record rainfall, wind speed/direction, investigate urban heat island effects and generate a precise forecast for future activities. Pole can be customized with student artwork.

**SYSTEM ADD-ONS**
Assembling your Eco-Igloo™ can be completed with commonly available hand tools and accessories, though an electric or cordless drill will speed the process up.

**Materials Required:**
- GrowSpan Round High Tunnel
- Galvanized Stock Tubs for multiple uses
- Pre-Mixed Concrete
- Wood 4x4 Poles
- Plywood
- Stainless Steel Screws
- Outdoor Paint
- System Add-Ons include:
  - Solar powered, wireless Wi-Fi Hub to support 75 simultaneous users
  - Solar power Generator with 30-Hr Rechargeable Battery
  - Wind-powered Catenary Lights
  - Rainwater harvester with Multi-Use Tub
  - Wind turbine mounted in Multi-Use Tub
  - Solar-Powered Weather & Air Quality Monitoring Station mounted in Multi-Use Tub

**FRAME**
- Pre-Fab Round High Tunnel
  - Size: 12’ h x 20’ w x 48’ l = 960 SF serves class of 30 students
  - Snap together pipe armature, can be enlivened with paint
  - Roll up sides for ventilation, front & rear door options
  - Withstands 80 mph winds
  - Multiple school year lifespan

**MULTI-USE TUBS**
- Herb
- Pollinator
- Berry
- Wetland

**HOME IS YOUR HABITAT : DIY K-3**

**DESIGN DETAILS**
Design Solution Description

The Mod-PODS (Modular Protective Open Desk Solutions) classroom system is a flexible, inexpensive solution for the physical infrastructure challenges currently facing education systems. The system utilizes freestanding structures designed for students and educators that can be arranged in various configurations, providing flexibility to accommodate site constraints and meet diverse classroom, student, and educator needs. The modular approach allows for a scalable investment and right sizing of classrooms for their specific needs.

Simple construction methods and readily available materials allow for easy procurement and assembly of repeatable modules. A wood frame provides support for the fixed roof and roll-up sides. These sides create an opportunity for physical separation, allow closer seating arrangements and offer weather protection. Modules can be customized with paint to give students control over their learning spaces and create a vibrant canvas for self-expression in the classroom.
Mod-PODS (Modular Protective Open Desk Solutions)

Ballinger

**DESIGN DETAILS**

Mod-PODS can be painted to transform the outdoor classroom into a joyful, inspirational space, as shown at the far left.

They can be arranged to accommodate large classes, small learning groups, and individual learning. Sketches on page 1 showcase two different classroom layouts for 30 students and a teacher.

Student modules include an integrated desk and horizontal members that can be used for hanging storage of coats and bags.

Teacher modules are designed to improve sight lines and provide space for mounting tack boards and writing surfaces.

**Materials Required**

Makes 30 Student Modules + 1 Teacher Module

- 217 ea 2"x4"x16' Pine Lumber
- 31 ea 11/32"x4"x8' Plywood
- 31 ea 30"x10' Corrugated Sheet
- 2500 sqft Clear Vinyl Sheet
- 930 lf Velcro
- 3000 ea 2-1/2" Screws
Design Solution Description

To accommodate the constraints of different sizes and shapes of school yards, our design features a menu of items allowing for the classroom to be reconfigured to fit each school’s needs. Each classroom can have an assortment of biome specific planters, desks, animals, rain barrels, and painted features that can be selected by classroom and arranged to fit inside the schoolyard.

Our design approach is based on the biomes of the world, designating each classroom as one biome. The classroom features and decorations would explore the animals, plants, and climate of the biome to act as an exciting and immersive learning experience. The desks would create six feet of separation between students while integrating nature and green space to the classroom. Solar panel fabric would line the tent’s roof to keep the classroom powered and shaded. Asphalt murals would act as an activity area while promoting social distancing. Rain barrels painted to reflect specific biomes can be incorporated as a means of watering planters.
**Design Assembly Difficulty**

- **No Tools**
- **Hand Tools**
- **Power Tools**
- **Specialized Skills**

---

**Design Details**

- Fill planter with planting soil, geotextile fabric, and biome-related plants.
- Plywood frame cover
- 2" x 4" support beams
- Plywood desk with 2" x 4" beams
- Plywood desk seat cover
- Support beam of storage lid
- Plexiglass shield
- Planter side view
- 4" x 4" vertical beam
- 2" x 6" lumber
- Plan view

---

**Materials (Per Unit)**

- 16 x 6'L 2" x 4" exterior grade lumber
- 4 x 6'L 2" x 6" exterior grade lumber
- 2 x 6'L 4" x 4" exterior grade lumber
- 7 Plywood (3' x 6')
- 12 Hinges
- 41 Bolts/Screws
- 9 Joist Hanger
- 1 Rain Barrel
- 3 cans Asphalt Paint

---

**3D Plywood Animal Cutouts**

**Solar Fabric**

---

**Bench Module**

**Desk Module**

**Planner A**

**Planner B**

**Planner C**

**Desk + Planner A**

**Desk + Planner B**

**Desk + Planner C**

**Desk + Planner B + Planner A**

**Desk + Planner B + Bench**

**Desk + Planner A + Planner C**
Creative Commons: 
As students start a new academic year, many students will only be able to participate virtually; why this should be the norm during this pandemic, can we provide a solution with thinking and innovation? Everyone’s safety is imperative, and it is essential to have our kids safely return to the classroom. For this to happen, we need to bring the structure of indoor classrooms into a safe space without hindering the student’s creativity and engagement. Classrooms do not need to be the rigid spaces they are now; they can be spaces where fun and creativity are fostered. The approach of Creative Commons is to marry the traditional (indoor classrooms) with fun-tactile experiences were teachers and students can cooperate and learn. Outdoor learning requires that these pieces shall be flexible and rearrangeable. Total configuration allows for three to four teachers with a full of forty students in max configuration capacity.
Creative Commons - Modular Furniture for Safe and Creative Learning

TRANSforma Studio

DESIGN DETAILS
Total configuration allows for three to four teachers with a total of forty students. Construction cost is around $5,600.00, factoring the cost of manufacturing and material transportation.

Pavilion: All panels are removable to allow the class to be configurable per the teacher’s need and to optimize air circulation and security.

Axonometric: Demonstrates how the panels can be reconfigured and used as the outdoor furniture for the classroom and storage.

Pavilion Configuration Stages:
1. The pavilion can be fully closed for storage and security.
2. Removed Panels can be teacher working stations.
3. A configuration of the pavilion when class is in section.
4. The pavilion with trellis & marine canvas.

Design Assembly Difficulty

<table>
<thead>
<tr>
<th>Tools Required</th>
<th>No Tools</th>
<th>Hand Tools</th>
<th>Power Tools</th>
<th>Specialized Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>4</td>
<td>6</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Work Station</td>
<td>4</td>
<td>5</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bookcase</td>
<td>2</td>
<td>3</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Materials Required & Legend

1. Polycarbonate Corrugated Roofing Panel White Opaque 164 sq. ft.
2. 2X6 P. T. Lumber (98)
3. 2X6 P. T. Lumber (12)
4. 23/32 P. T. Pine Plywood 780 sq. ft.
5. Blackboard Paint (3gl)
6. Paint (Teal, Rose, Purple, Pastels Paint (6gl each)
7. Marine Canvas Tarps (4 tarp)
Design Solution Description

The Learning Leaf creates an engaging outdoor educational environment that draws from nature while maintaining CDC requirements.

The covering consists of a large tent, which can be sized according to need and provides shade for the ground grid in the abstracted shape of a leaf. The leaf shape and tent are joined together by a system of fabric strips designed to mimic the shade from trees. These strips help screen the learning area while adding color and vibrancy to the environment in all weather conditions, via lowering clear curtains, while also providing space to hang student work. The incorporation of pre-made readily available elements helps to keep the design easy to assemble and low cost.

Beyond these practical considerations, many nodes throughout the design, breakout and individual learning areas, painted blacktop games, and an educational garden offer a safe space for play and learning!
LEARNING LEAF

TEAM JKRP

DESIGN DETAILS

1. Tent Frame: Secure lighting, electric, & fabric to frame
2. Fabric Walls: 4” x 8” cut strips of water/UV resistant, non-fray fabric
3. Clear Plastic Curtain: Protection from rain & temperature
4. Container Garden: With seasonal plants or crafts
5. Sanitation Station: Painted social distancing markers at entrance
6. Weighted 1 1/2” rope aligned to edge of painted blacktop
7. Breakout play space painted into grid
8. Existing classroom furniture or colored turf mats
9. Miscellaneous storage
10. Breakout Seating: Painted wooden logs
11. Painted Blacktop w/ 2’x2’ grid

Plan Diagram

Installation Sequence
1. Paint blacktop layout
2. Install party tent
3. Align weighted ropes
4. Cut fabric strips
5. Wrap fabric strips
6. Paint/arrange pots & stumps
7. Arrange furniture or mats

Materials Required
1 Party Tent
35 yd Exercise Rope
500 sf PVC/Polyester Fabric
15 yd Turf
1,130 sf Exterior Paint
17 Wooden Logs
20 Flower Pots
20 Plants

Clip Items to walls
Secure lighting to tent
Fabric strips
Weighted ropes
Painted blacktop
Wrap Fabric
Wrap ends so they don’t fray
Heavy Rope
Curtain Wall Diagram
Curtain Wall Construction
Educational Garden
Seating
Interactive Learning
Perennial Plants
Bird’s-Eye View
Inspiration Diagrams

Design Assembly Difficulty

No Tools
Hand Tools
Power Tools
Specialized Skills
**Up!**

**HOPS**
(Sean Pickering & Hayden Bernhardt)

**Instagram:**
@pickering_sean
@haydenbernhardt

---

**Design Solution Description**

Up! plays with the simple idea of a modular system that allows for flexibility through the arrangement of individual and group spaces. Children have the opportunity to learn while playing. This environment fosters multiple modes of engagement through transformable wall panels that act as a drawing board and a table. The vibrant colors of the balloon-like roof create a beacon for group gatherings and a sense of wonder as children look above. Easels act as an independent learning space while allowing for customization in layouts. Through this, multiple means of collaboration and learning are able to be achieved while maintaining appropriate distancing in an outdoor setting.
**Title of Design Solution**

**HOPS**  
(Sean Pickering & Hayden Bernhardt)

**DESIGN DETAILS**

**Wall Panel**

The adjustable wall panel is a wooden frame with a dry erase board on each side. It is mounted to the columns on either side and rolls in a metal track. Once raised, legs unfold underneath to create a table.

**Roof**

The roof contains a series of colored, polycarbonate, domes that are mounted to the plywood sheet of the roof. This resembles a bundle of balloons overhead, creating a sense of wonderment and play.

**Materials Required**

- Plywood Sheeting
- 2X4s, 2X8s
- Dry Erase Boards
- Misc. Bolts / Fasteners / Bearings
- Polycarbonate Domes
Design Solution Description

Inspired by the iconic whispering walls of Philadelphia’s Fairmount Park, the modular bench provide a sheltered outdoor classroom for 30. Maintaining 3-season comfort with shade and a windbreak, these simple nested seating circles allow teacher to connect to each student, and conduct their classes close enough for a normal speaking voice.

Made from the simplest of forms and assembled with hand tools, the benches provide economical shade and shelter.

Material count:
10 benches: (5) 1” 4x8 sheets of plywood
10 bench backs: (5) 4x8 sheets of 1/4” plywood
24 tall & 16 small ribs: (7 1/2) 1” 4x8 sheets of marine plywood
Supports, struts, and bracing: (40) 8’ long 2x4s
Awnings: 125’ of aircraft cabling and all-season fabric
DESIGN DETAILS

The Chair Rib is the basis of construction. 1" marine plywood ribs are cut from 4'x8' sheets and assembled in groups of four to create 8'6" long segments.

Design Assembly Difficulty

No tools: assembly required with strength and sweat

Hand tools: hammer, wrenches, screwdrivers, mallet, hand saw, etc.

Power tools: drills, screw or nail guns, chop saw, etc.

Specialized skills: VR/AR, welding, plumbing, woodturning, 3D printing, electrical, etc.

MATERIAL LIST

- 20 sheets (total) of 1" plywood
- 24 screws (48) of 1/4" phillips
- 8'6" long logs
- 1/4" x 2" blocking
- 360' of 1/4"-3/8" wood wash
- 180' of 1/4" stainless airplane cable
- 40' (4) of all-weather canvas awning
SCHOOLHOUSE BLOCK

Open House with Design Art Building Co. and Neighborhood Square, LLC.

Website:
open-house.org

Instagram:
@open_house_org
@designartbuildco

Design Solution Description

Open House’s modular building system of Boxels can be fabricated, installed, and rearranged to create safe, durable, and inspiring learning spaces. Boxels are created using CNC Routers, which are a growing trend in efficient fabrication that reduce cost and waste. The variety of Boxels’ forms can adapt to any school’s curricular and spatial needs. Schoolhouse Block proposes an interpretive outdoor classroom with spaces for storage, writing, and performance. Requiring no power tools to assemble, Boxels’ interchangeable shapes support creative designs and can address specific learning goals like urban gardening or storm water management. Open House’s open source platform allows for collaboration and feedback within the design, parent, and teaching community.
DESIGN DETAILS

Assembly:
To make a Boxel, download free design files from the Repository at open-house.org. Cut the components from plywood using a CNC Router, flatpack to the site, then assemble with a mallet. Multiple Boxels can be connected with standard hardware. Contact info@open-house.org for help. Boxels can be weatherproofed with standard outdoor wood sealant, and customized with paints, stains, or other finishes.

Materials Required
- Plywood (baltic birch/OSB)
- Hardware (bolts, wing nuts, washers, lock washers)

Additional Tools:
- CNC Router (rent time from a makerspace)
- Rubber mallet
- Work gloves
- Sandpaper
Straw is an agricultural byproduct consisting of the dry stalks of cereal plants after the grain and chaff have been removed. It makes up about half of the yield of cereal crops such as barley, oats, rice, rye and wheat. It has a number of different uses, including fuel, livestock bedding and fodder, thatching and basket making.

Straw is usually gathered and stored in a straw bale, which is a bale, or bundle, of straw tightly bound with twine, wire, or string. Straw bales may be square, rectangular, or round, and can be very large, depending on the type of bale used. Modern farming equipment allows harvesters to wrap large high density straw bales with a protective membrane called a silage wrap. The wrapping allows the baled material to remain outdoors for 12-18 months without spoilage. Thus, making them useful building blocks for temporary installations. Such straw bales are readily available within most areas of the United States.

This design study examines the use of wrapped straw bales as a primary material for defining spaces and making shelter within the school yard. In addition to the straw bale, paint membranes and off the shelf agricultural shelters are used in combination to help create an enriching outdoor educational experience and help to maintain safe practices such as social distancing, as required due to the COVID 19 pandemic of 2020.
The Last Straw: Emergency Education Strategies
BrownSprague LLC
Barbara Sprague, AIA
Peter E. Brown, PEIO
www.brownsprague.com

Design Assembly Difficulty

<table>
<thead>
<tr>
<th>No Tools</th>
<th>Hand Tools</th>
<th>Power Tools</th>
<th>Specialized Skills</th>
</tr>
</thead>
</table>

Bale Yokes:
Used to transfer the weight and stresses from the canopy rooms to the ground. Designed to be assembled with standard off the shelf building materials such as engineered lumber, heavy duty ratchet strap and galvanised pipe.

Pre-manufactured 1.66" dia. schedule 40 galvanized pipe as canopy frame.

Rectangular bales 32 x 32 x 68 weigh over 750 lbs each. Bales cost between $65-$75 each. Best to maximize delivery efficiency to lower shipping and installation cost.

Adjustable beam connectors necessary to level the canopy plate.

Large, high density straw bales
Pros:
- Readily available in various shapes and sizes.
- Resilient, can withstand long periods of use while maintaining their integrity.
- Silage membrane is cleanable with soap, water and most household disinfectants.
- Very stable, can be dry stacked.
- Very high acoustical attenuation properties, they absorb sound.
- When baled, straw can provide fire resistance comparable to traditional construction materials.
- Can provide ballistic protection against small caliber fire.
- Silage membrane is typically available in two colors, white and charcoal.
- If undamaged, straw bales can re-enter the local agricultural economy, be resold, re-baled and or re-purposed. Within the same year, undamaged straw bales retain their value.

Cons:
- Required equipment and operator, such as a bale squeeze and skid loader to be easily unloaded and installed.
- Relocation is difficult without required equipment and operator.
- They are vulnerable to sharp objects and vandalism.
- Kids love to play on them.

Skid loader w/ bale squeeze

Bales cost between $65-$75 each. Best to maximize delivery efficiency to lower shipping and installation cost.
Plug and Play Outdoor Learning

CB Studio

DESIGN DETAILS

Design Solution Description

These unusual days during COVID-19 are challenging for everyone. Providing students an outdoor classroom not only gives a purpose to under utilized playground space, it can allow students to continue being educated in a student led, project based learning environment while still maintaining safe social distancing behaviors.

This scheme provides a basic trellis and canopy which are meant to have biophilic design qualities that mimic leafy shade patterns from trees. The canopy is also meant to aid in providing shade, holding in warmth in cooler months, and keeping out (most of) the rain. The scheme is meant to provide most of the conveniences that would be found indoors. The solid walls provide a place to connect the existing school building. The provided counter surface has a sink with a hose connection. The goal is that this scheme could really offer a plug and play outdoor solution for 21st century learning.
Plug and Play Outdoor Learning
CB Studio

DESIGN DETAILS
Possible furniture layout. Dashed circles represent safe social distancing

Floor Plan
Canopy Plan

Canopy Netting
Exterior Floor System
Corner Planter Boxes

Design Assembly Difficulty
No Tools   Hand Tools   Power Tools   Specialized Skills

Materials Required
Netting or Canvas
Dimensional Lumber
Lumber Connections
Wood for Siding/Planter Box
Interlocking Floor
Design Solution Description

The overall design concept was derived from a need for adaptability, modularity, and provisional longevity. The solution was designed to have the ability to be easily stored for use as circumstances demanded and moved as future spatial needs evolved creating personalized space spurring imagination and creativity.

The base design utilizes a modular 10'-0" shipping container, with the ability to scale larger where space allows, and sliding envelope enclosing educator space and expanding to create a semi-enclosed lecture area.

Furniture elements incorporate natural accents of repurposed wood and expandable planters help to define space creating an instinctual boundary from the public realm, while also improving viewing angles and maintaining enforceable social distancing as students are now spaced further away.

Canopies are designed to swing out from the rigid expandable frame, derived from the idea of a folding paper fan, and provide a canopy space shading exposed conditions for the students.
The nature of adaptability in design for this outdoor classroom is sown into all elements that make up the LearnWork habitat as demonstrated with the folding fan nature of canopy, or pull out seating or the multifunctional container itself.

Each module is designed to individually serve multiple functions as well as collectively create and characterize unique classroom compositions per the need of the day.

**Materials Required**
- Shipping Containers
- Steel
- Wood
- Plywood
- Fabric

**Design Assembly Difficulty**

- No Tools
- Hand Tools
- Power Tools
- Specialized Skills
PARACHUTE

Team FUN!

Design Solution Description

PARACHUTE uses the iconic rainbow fabric (used in children's games) to create a series of covered outdoor classrooms for the Philadelphia public schoolyard during the pandemic. The familiar and playful element is repurposed to enclose a circular, physically distanced gathering space for a single cohort of (30 or less) students, with their teacher at the center.

To supplement the colorful learning space, the project imagines several other repurposed elements – wooden pallets, milk crates, and water jugs – to meet all the needs of an outdoor classroom. These elements include handwashing stations, rolling stools that double as storage cubbies, and lightweight desks.
PARACHUTE

Team FUN!

DESIGN DETAILS

2 PLANTED HANDWASHING STATION

5 WOOD PALLET DESK

Materials Required
1  5-gallon water container
2  water-filtering plant
3  laser-cut acrylic tray
4  zip ties
5  canvas
6  paint or custom printing
7  24’ kids’ parachute
8  tent poles
9  rope
10 carabiner clip
11 stakes for ground
12 milk crate
13 roll of fabric
14 seat cushion
15 piece of reinforcing wood
16 hemming tape + iron
17 superglue
18 wheels and hardware
19 wood pallet
20 cutting/power tools
21 nails/screws
22 extra wood for infill
23 cork board/roll of cork
Like many households, when it's time for a project or makeover we sometimes think we have to buy all “new” things to make it happen. During COVID-19 stay-at-home order, we’ve had to create or adjust spaces in our homes to meet our needs. In order to abide by this order and be safe, we’ve turned to things we already have by reusing, recycling, or repurposing materials and objects. We can do the same at our schools. Let's showcase the creativity, resourcefulness, and ingenuity that's been the beating heart of our school buildings out on the schoolyard. Bring out the desks, tables, and chairs...We’re taking learning outside!

Washing your hands, wearing a mask, and social distancing has been the key guidance during this pandemic. A pre-COVID practice of social distancing that we may be most familiar with is sitting at the beach under an umbrella.
Determine if your existing tables/desks are good for 1 or 2 pupils.

2 How many pupils can you seat with the tables/desks you have?
   - If the table is slightly below the six feet social distance requirement to seat two pupils consider creating a barrier with a tabletop easel, a foamcore board or chalkboard/dry-erase surface with foam core stands to double as a teaching resource.

3 Not enough for the full class?
   - Consider another learning surface.
   - Determine if your existing chairs is suitable for the pupil and surface.

4 Arrange learning locations with social distancing in mind with the use of paint or tape.

Materials Required
- 12-30 existing tables or desks
- 30 existing chairs
- 3-6 outdoor umbrellas with stand + weight
- 200 pounds of sand per weight
- 12-20 alternate learning surfaces: lap desk* or easel
- 12-20 *need floor seats
- 1-2 gallons of paint
- paint rollers/brushes OR
- 2-4 rolls of colorful outdoor duct tape
The Design A.I.D.: Outdoor Learning Spaces Design Ideas Competition was organized and administered by the Community Design Collaborative (The Collaborative). The goal of this outdoor learning space initiative is to develop a Design Guide that schools can adapt for use at their specific sites with the support of their students, families, and neighbors.

All competition submissions were vetted by The Collaborative for eligibility and adherence with the design criteria in the competition brief. All design solutions adhering to the listed design criteria are published in the Design A.I.D.: Outdoor Learning Spaces Design Guide. Decisions of eligibility were at the discretion of The Panel and all decisions are final. The Panel and The Collaborative reserved their right to refuse any entry.

By submitting an entry to this competition, the designer/design team represents that all work submitted is the original work of the designer/design team. The Collaborative shall not be responsible for any misrepresentations, disputes, or other concerns associated with the authorship of the submissions. The Collaborative reserve the right to publish and/or reproduce images and text from any and all submissions, with credit to the creator(s). By submitting an entry to this competition, entrants transferred unlimited use for publication, exhibition and electronic posting of all entries to The Collaborative, and entrants acknowledged and accepted that all aspects of any submission may be used for publicity purposes. The Collaborative shall not be responsible for any technical or other conditions that prevent the receipt or evaluation of a competition submission, or any part thereof.

Entrants agreed to release, indemnify, defend, and hold harmless The Collaborative and their respective directors, officers, employees, and agents from and against all claims, liens, demands, causes of action and suits and all losses, damages and expenses, including without limitation reasonable attorneys’ fees, in any manner connected with entrants’ participation in the competition.

Upon submitting an entry to this competition, all entrants agreed to waive any and all claims against The Collaborative in connection with the competition. The Collaborative shall not be responsible for evaluating the soundness of any entry for construction or safety purposes, including without limitation with respect to any public health requirements.

The opinions expressed in this report are those of the author(s) and do not necessarily reflect the views of the William Penn Foundation.
HELPFUL RESOURCES

Public Health Recommendations
CDC guidance for schools
City of Philadelphia Reopening Guidance for Elementary Schools – (English) (Espanol)
City of Philadelphia’s Reopening with Care Guidance

Design Resources
Multilingual Downloadable COVID-19 Signage Decals & Posters, Entro
A collection of COVID-19 Graphics for Schools and Educators, Printer ARC Document Solutions
COVID-19 Related Graphics, Cloud Gehshan
Design For Distancing: Reopening Baltimore Together, City Of Baltimore, Baltimore Development Corporation and Neighborhood Design Center
HELPFUL RESOURCES

Media
Schools Beat Earlier Plagues With Outdoor Classes. We Should, Too. New York Times
Some Philly Schools want to use outdoor classrooms when IRL lessons resume. WHYY

Playful Learning
Playful Learning Landscapes Website
Playful Learning Landscapes Handout
Kaboom Play Everywhere gallery

Schoolyards
School District of Philadelphia Design Guidelines for Outdoor Learning
Green Schoolyards America, Covid-19 Outdoor Learning
Community Design Collaborative Transforming Schoolyards Resources and Guide
Reach out!

We would love to hear how and where you’re using this guide.

Share photos with us of your outdoor learning spaces – from your community, your build day, and in-use.

designaid@cdesignc.org

Tag the Community Design Collaborative!

facebook @cdesignc
instagram @cdesigncphl
twitter @cdesignc_tweets