VISION

LEARNING SPACES DESIGN STANDARDS

SUNNYVALE SCHOOL DISTRICT | FACILITIES MASTER PLAN 2022

LEARNING SPACES DESIGN STANDARDS

Introduction **3**

Site Elements + Characteristics **5**

Safety + Security 5
Parking 6
Building Orientation + Lunch Shelters 7
Service Areas 8
Custodial Spaces 9
Outdoor Learning Environments 10
Sustainable Strategies 11
Furniture 13
Technology 15

Elementary Schools **16**

Outdoor Learning Court 17
Playgrounds and Hardcourts 19
Kindergarten Play Yard 20
PK / TK / Kindergarten 21
1st - 3rd Grade Classroom 24
4th - 5th Grade Classroom 27
Special Education Classroom - Moderate / Severe (Grades K-2) 30
Special Education Classroom - Moderate / Severe (Grades 3-5) 33
Art Lab 36
Flex Lab 39
Music 42
Learning Resource Center 45
Administration 46
Library Media Center 48
Multi-Purpose Room 51

Middle Schools **52**

Typical Classroom 53
Special Education Classroom - Moderate / Severe 56
Visual Arts 59
Music 62
Flex Lab 65
Science Lab / 6th Grade Flex Science Lab 68
Learning Resource Center 71
Adaptive Daily Living 72
Administration 73
Library / Media Center 75
Multi-Purpose Room 78
Locker Rooms 79

BACKGROUND

There is a recognition at the State level that school design, as we know it, requires revisioning. There is also acknowledgment that the Title 5 Education Code may restrict the new form that school designs may take to support 21st Century learners. CDE's requirement for the Plan Summary Form, provided by the local education agency, allows for dialogue about what is needed to support educational programs for today's and tomorrow's learners. Ultimately the development of a lasting and sustainable vision that supports the goals of the District's educational program, depends upon a well thought out Educational Vision.

CIBOLO VALLEY ELEMENTARY SCHOOL

CONTENTS

Provided in this section are space programs for the Elementary and Middle Schools. The space programs identify the square footages that are intended for use in future campus development.

The purpose of the space programs is to provide a guideline for new construction or reconfiguration. The programs are based on an assumed school size in order to determine the adequate size of the core spaces such as the Kindergarten, and other support spaces. The square footages shown with the diagrams are net areas only.

One of the main purposes of these program enhancements is to describe clearly and concisely the various learning activities in each space, the spatial relationships, and the special features to support these activities.

The following categories for each space program component are described here in:

PROGRAM ACTIVITY

Provides a description of the functional goals of the space.

Describes the types of activities and user needs.

Describes how the program is delivered.

DESIGN OBJECTIVES

Describes specific room characteristics, general shape and feel of the space.

Correlates the qualities of the space with specific program activities.

ADJACENCY DIAGRAMS

Shows a graphic representation of the spaces and how they could be organized as a group.

SPATIAL FEATURES

Describes possible room features such as furniture, finishes and equipment that help support program functions.

CDE REQUIREMENTS

In 1994, California Department of Education (CDE) formalized regulations governing standards on the design and construction of new school facilities. Included in these regulations are requirements for the submittal of educational specifications (Facility Standards / Design Guidelines) – see California Code of Regulations, Title 5, Section 14034. The requirements are delineated in the Education Code Section 39101(c) and California Code of Regulations, Title 5, Section 14030(a). Specific school design standards are contained in the California Code of Regulations, Title 5, Section 14001, 14010 and 14030.

In 2009, CDE added a Plan Summary form for those projects applying for new construction funds from the State Allocation Board for a new school or additions to an existing school. In July 2010, all Educational Specifications (Facility Standards / Design Guidelines) were required to be approved by the District's Governing Board and submitted to CDE as part of any application for funding.


TARBUT V'TORAH COMMUNITY DAY SCHOOL

IMPLEMENTATION

Even though this document represents a District-wide guideline, it is important that when these guidelines are implemented, that the administrators, faculty, students and community at each site are allowed to participate in the process and express their site-specific program needs. Suggestions on how to improve or tailor this document for site-specific needs are critical as specific implementation plans are developed. It is understood that the degree of consistency between the site-specific solutions and the District-wide educational specifications may vary from site to site. Adjacencies shown in the space program diagrams following are suggested program placement but may vary from site to site based on existing conditions or program-specific solutions.

Once projects are authorized to proceed into the next phase of design, the impact of site specific constraints and program specific needs will be assessed. This analysis may result in solutions that deviate from the educational design standards described in this document. It is expected that as the District's vision changes over time, this document would be updated to reflect the changes, while maintaining the overall guiding principles of the Educational Vision and the Facilities Master Plan.

DOCUMENT PURPOSE

The purpose of design guidelines is to ensure the following:

- **A Common Baseline**
  To guide a consistent approach in developing each school site master plan and its proposed improvements.
- **Common Goals**
  To engage District educational partners in a participatory process in developing the vision.
- **Focused Outcome**
  To serve to document educator's intent for program delivery and goals.
- **Equitable Quality**
  To be used for assessing existing facilities and budgeting for a long term financial plan.
- **Continuous Improvement**
  As a tool for the reevaluation, adjustment and measurement of the plan over time.

SAFETY & SECURITY

It is SSD's goal to design and build safe school campuses while maintaining an inviting environment. Students and teachers should feel safe anywhere in the school buildings and on the campus grounds. A secure environment is one that creates opportunities for natural surveillance and provides clearly defined and controlled access. Security technology can be used to enhance passive security strategies.

The organization of a building should always take into consideration supervision and circulation. For example, restrooms accessed from the outside should be easily supervised from the hardcourts and/or playfields. Evaluate and design areas in which students can line up and/or congregate before they enter their classrooms; make supervision easy by limiting visual obstacles. Provide easy entry and access to classrooms.

Adequate lighting at parking and exterior circulation areas allow for safe, after-hours staff and maintenance access. Lighting shall be considered as part of the family of site furnishings and relate to the architectural style. Metal poles, if appropriate, or fixtures mounted to canopy structures can be considered.

Provide a system of covered walkways between buildings where interior circulation is not provided.

RICHARD R. OLIPHANT ELEMENTARY SCHOOL

ARRIVAL SEQUENCE

Pedestrian and vehicular points of entry to the campus provide visitors the first look at a school site. These spaces are the 'face' of the school to the surrounding community and provide the initial impression of the overall campus character.

BY CAR

Entry points create a sense of arrival through open views to the campus at key locations. The vehicular arrival should be from a main roadway connecting the campus to the immediate community. The entry shall includes clear signage that leads students, staff and visitors to the appropriate parking or drop-off areas.

BY FOOT

Pedestrian arrival shall be enhanced at key locations of entry to the site. These include student drop-off locations, entry to playground areas where students will gather prior to entering their classes, multipurpose facilities, and shared field space. Community use of these facilities after hours may require wayfinding signage.

SIGNAGE

In addition to signage used for pedestrian and vehicular approach, appropriate signage should be provided to direct towards major program elements in the school. In particular, visitors and new students will require clear wayfinding to the Administration building.

DESIGN

Consider using key landscape and/or building features to aid in wayfinding and orientation of visitors as well as staff and students.

PARKING

Parking lots hold a support function to the campus. Parking lot locations provide staff and visitors a final destination for vehicles, before the users enter the campus on foot.

Visitor parking lots should be directly connected to buildings or areas that have short-term visitors, such as Administration and Kindergarten or Child Care.

Adequate shade for cooling of autos and pavement can be achieved by providing approximately one tree for every 4-10 stalls.

Limit pedestrian and vehicular crossing points.

Parking lot designs should follow local requirements for stall width, drive aisle width and shade. Provide a wheel stop for each parking stall where stalls are head-on to pedestrian areas, fencing, wall, building and planting areas or other obstructions. Consider speed bumps and/or speed tables in parking areas where driveways exist to protect pedestrians crossing aisles.

A secured bicycle and skateboard storage area should be accommodated. This area should be located near highly visible areas, to deter vandalism and near student campus access point(s). Racks should be provided to allow locking of these transportation devices. Provide lockable racks for at least 10% of the student population.

DROP-OFF

The site should have an on-site area to accommodate parent drop-off with a pass lane, at a minimum of 200 feet in drop-off length. Lanes and drop-off should be clearly labeled with appropriate pavement markings and/or signage to avoid confusion. In addition, to alleviate on-site congestion, the site should be ideally surrounded on three sides by public streets in order to provide multiple safe drop-off areas or zones.

The drop-off areas will tend to have high traffic during morning drop-off and afternoon pick-up times, and therefore circulation and safety is of utmost importance. Limit pedestrian and vehicular crossing points, utilizing appropriate barriers and make sure pedestrian walk areas are identified with unobstructed visibility.

A separate drop-off with visitor parking for Early Childhood Development programs ideal. This dedicated drop-off shall have direct and visible access to the Kinder play area which is adjacent to their respective classrooms. The configuration should allow parents to either drop off and watch their child enter the campus or park and walk their child in.

TARBUT V'TORAH COMMUNITY DAY SCHOOL

BUILDING ORIENTATION & LUNCH SHELTERS

Place buildings to optimize natural daylight and reduce solar heat gain on the building's mechanical heating and cooling systems. The design of the buildings should consider the impact of prevailing wind and solar patterns relative to the overall building energy performance.

The lunch area is used primarily for dining and socializing. The space may also be used for informal teaching or gathering throughout the school day.

A sheltered structure is required for optimum use of this exterior space during inclement weather. It should protect from rain as well as provide shade. The shelter or building component should fit within its architectural context.

Tables and seating shall be durable and appropriate for large groups and sustained use, vandal–resistant and comply with the Division of the State Architect's (DSA) accessibility requirements for seating.

MONTGOMERY MIDDLE SCHOOL

JOHNSON MIDDLE SCHOOL

COURTS

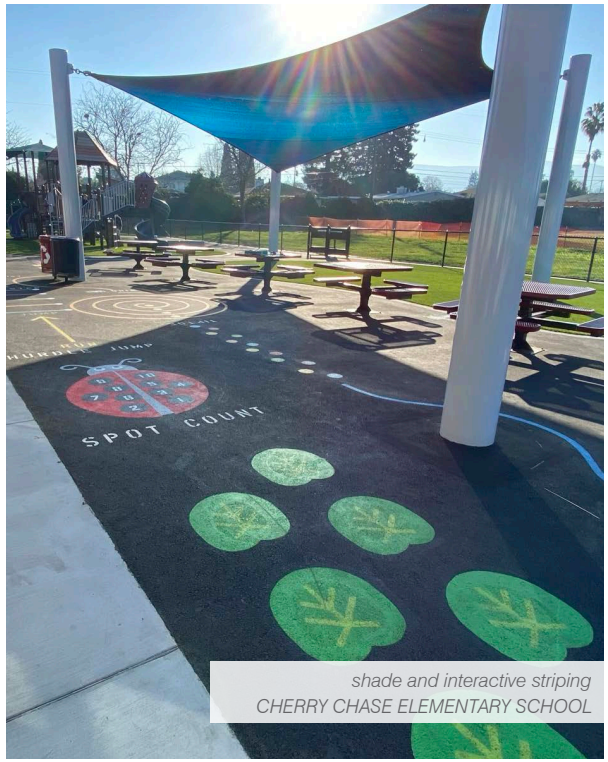
Paved hardcourt areas shall include striping for a variety of age-appropriate games including circles, four-square, basketball, handball, hopscotch, tether ball, etc. Exterior drinking fountains and/or water bottle filling stations shall be located throughout. Exterior access to restroom facilities, located in a visible and easily supervised area, shall be made available.

PLAY

Age-appropriate and accessible play structures, adequate in size to accommodate its users, shall allow for climbing, sliding, walking, and hanging activities. Safe, recycled rubberized surfacing shall be placed underneath this play area. Shade should be provided either by landscaping or shade structure(s).

CONTEXTUAL DESIGN

The built environment should be integrated within its natural context in a way that promotes harmony between mechanical and natural systems as well as the users that will inhabit the space. Designing in this way will provide increased efficiencies and user wellbeing, ultimately leading to the longevity of the overall facility.



shade and interactive striping
CHERRY CHASE ELEMENTARY SCHOOL

SERVICE AREAS

Service areas are high traffic areas for heavy machinery and equipment, including areas for the storage and removal of trash and recycling. Service areas may be spread throughout the campus, as they should be adjacent to the buildings they serve. Adequate lighting is required for early morning and evening deliveries.

The design of these service areas shall anticipate maintenance service points, limiting the quantity of access in order to promote student and staff safety. Service locations should be accessible to staff at the front of the school and limit circulation interruptions.

Provide an adequate quantity of durable and easily serviceable trash and recycling containers adjacent to heavy-use areas (e.g. at exit and entry points, fields and large assembly areas).

RECYCLE

Recycling collection stations should be incorporated at the ends of classroom/ building wings to facilitate student recycling efforts and allow for easy pick up by maintenance staff at the end of the day. Bins should be well placed and should have covers so that odors will not permeate into other areas.

SHELTER

Service areas require covered space that can accommodate storage of maintenance equipment. These areas are to be sheltered and screened from the campus core as they often require large vehicle circulation for waste pick-up and delivery of food and supplies.

ENCLOSURES

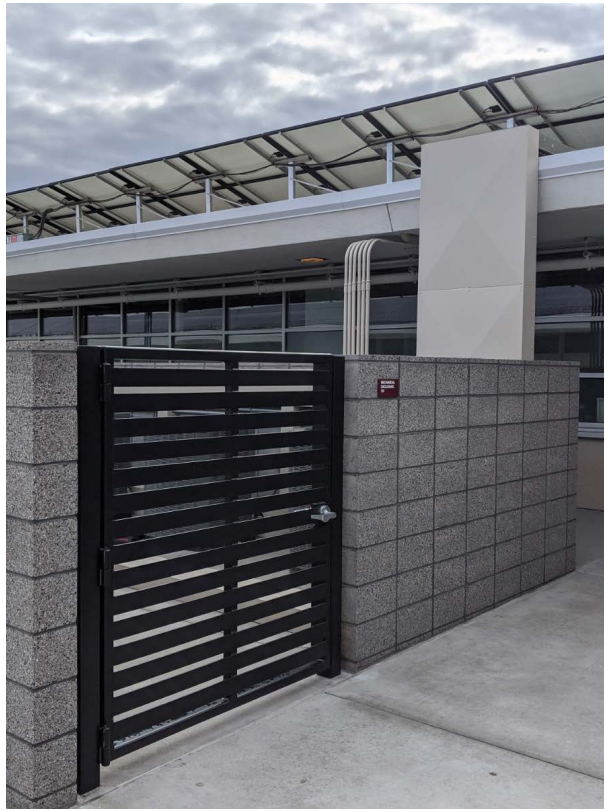
Waste and recycling enclosures shall be covered and shall contain a can wash area. This can wash shall have a curb enclosed drain complete with a hose bib. Provide drainage for the entire enclosure. Use sturdy vehicular concrete pavement and/or asphalt pavement for the entire length of access to the enclosure for stability.

ACCESS

Wide access ramps shall lead from the parking area to the delivery door of the Food Service building.

CONSIDERATIONS

Provide service areas that accommodate the appropriate amount of storage spaces, parking for District vehicles and maintenance equipment, food service delivery, support delivery, and waste / recycling enclosures as needed for the campus.



CUSTODIAL SPACES

Place custodial closets in various locations throughout the campus for convenience of access to equipment and supplies.

DETAILS

Finishes:

- Floors: Sealed concrete
- Walls: FRP panels (minimum height to top of faucet), painted gypsum board
- Ceiling: Painted gypsum board

Equipment & Accessories:

- Shelving with 4 foot depth
- Mop and broom hangers

Electrical:

- Dedicated circuit to GFI receptacle
- All electrical fixtures, sprinklers, etc. protected by metal cage

Plumbing:

- Hot and cold water at sinks
- All electrical fixtures, sprinklers, etc. protected by metal cage

RESTROOMS

Adequate restrooms for student and staff shall be placed in various locations throughout the campus. Furnish restrooms with durable finishes that are easy to clean and maintain.

Restroom locations and plumbing fixture counts should meet code requirements as well as the details identified to the right.

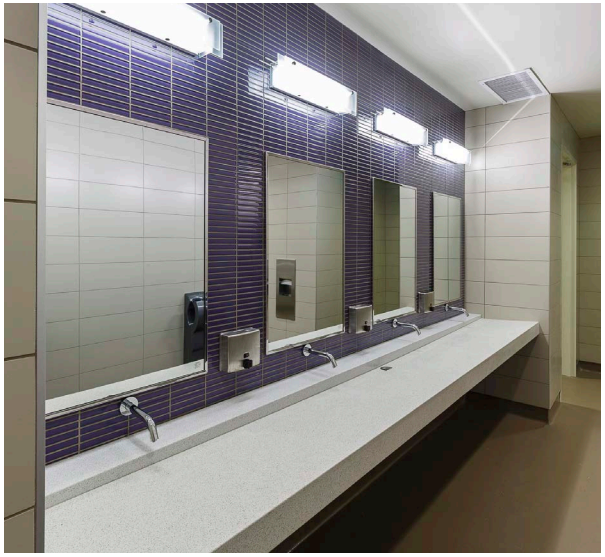
DETAILS

Finishes:

- Floors: Epoxy coating; slope to drain with trap primers
- Walls: Large format ceramic/porcelain tile
- Ceiling: Painted gypsum board

Equipment & Accessories:

- Solid phenolic partitions, floor & wall mount
- Single mirrors per each lavatory sink
- No recessed trash receptacles
- Jumbo roll toilet paper dispensers, except at ADA and staff
- Soap dispensers at each lavatory sink
- Women's restrooms to have napkin dispensers and napkin disposal (staff)
- Men's & Women's staff stalls to have toilet seat cover dispensers
- Electric hand dryers (student)
- Paper towel dispensers (staff)



Electrical:

- Dedicated circuit to GFI receptacles
- Electric hand dryers to be push button only, no IR sensors

Plumbing:

- Recessed hose bib with locking cover
- Clean out above all urinals
- Hot and cold water at all lavatories/ sinks, per code
- All restrooms to have ball valve shutoff (in recessed areas provide access panel)
- Low-flow plumbing fixtures
- 1 pint urinals

OUTDOOR LEARNING ENVIRONMENTS

Outdoor spaces adjacent to classrooms can function for small group sessions. They can be utilized by teachers and students as an extension of the indoor learning environment, for activities including 'hands-on' art and science activities, reading, discussion, other collaborative activities and even outdoor play.

Include spaces for both active group and passive, individual learning to support various learning styles. Spaces should allow "messy" multipurpose areas for student experimentation, dependent upon age group.

Shade shall be provided by utilizing adjacent buildings, trees, shade structure(s) and/or other design features in order to maximize the use of the space.

Environmental considerations should include drought resistant plants/vegetation.

The spaces should be inviting and engaging – utilize different paving materials and vegetation opportunities to design the passive and active spaces.

Classrooms within the vicinity may be affected by noise levels while the learning court is in use, therefore screen buffer planting may be useful in alleviating noise transfer to other spaces.


PA5B ELEMENTARY SCHOOL

ACTIVITIES

- Instructional lessons, group and individual work
- Independent exploration and hands-on projects including: arts and crafts, science labs, etc.
- Social gathering

FURNITURE

Furniture should vary. Include a variety of types to allow for flexible use of the space. Include group tables and individual type furniture to accommodate different densities of students and purposes.

FINISHES

Outdoor areas need to be monitored and have visual boundaries, but should allow children to experience the space freely. Some spaces will rely on vegetation for designation of space. Include open green space, as well as hard space, for children to experience individual activity/playtime.

EQUIPMENT

These areas are typically low-tech spaces with limited seating, enhanced with shade trees, and buffered by planting. Include projection and writable surfaces to enable group work and presentation.

The outdoor teaching areas can be themed to relate to areas of study. For example, a space with sundials and angular, concrete seat walls could be used by a math class to study geometry.


TARBUT V'TORAH COMMUNITY SCHOOL

SUSTAINABLE STRATEGIES

In an effort to provide healthy environments and act as a good steward of the environment, the district and its educational partners are interested in exploring and implementing sustainable strategies that:

- increase energy efficiency,
- lower energy usage,
- conserve natural resources,
- reduce environmental impacts, and
- reduce operating and maintenance costs.

In doing these things, the district can also look for teachable moments for their students.

Create an environment that is socially, economically, and environmentally sustainable.

For new construction, consider pursuing CHPS Verified (Collaborative for High Performance Schools), or LEED Certification (Leadership in Energy and Environmental Design) or at a minimum, meet LEED best practices for modernization projects.

biophilic design strategies
Wilkes Elementary School

SAFE & HEALTHY ENVIRONMENTS

Specify materials, products, and systems that are sustainable, durable, and easy to maintain.

Apply biophilic design strategies with goals of increasing user comfort and decreasing stress levels.

Eliminate materials that may be harmful to the environment in terms of harvesting and transportation.

Eliminate materials that may be harmful to the occupants in terms of off-gassing, user comfort, etc.

Implement safety and security measures including improvements to pedestrian and vehicular circulation, replacing door hardware, addition of security systems (passive and active strategies), and reorganizing campuses to ensure the main point of campus entry is easily located and secure.

Educate staff and administration on sustainable environments and practices, and create teachable topics for students of every grade level.

ENERGY EFFICIENCY

Life-cycle planning and decision making; consider the long-term impacts when selecting materials.

Building design that is responsive to local climate and solar orientation.

Consider 'solar-ready' construction and install solar (photo-voltaic/ PV) panels where feasible and in a location that will not prohibit the implementation of the master plan concept. Consider locations that serve a dual purpose such as shade over parking, play, or dining areas.

Include Battery Energy Storage Systems (BESS) where feasible.

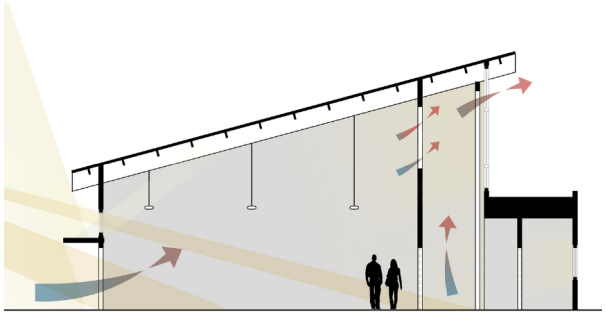
Utilize passive design strategies such as building orientation to maximize daylighting and natural ventilation.

Balance natural daylighting with energy efficient LED fixtures and lighting controls.

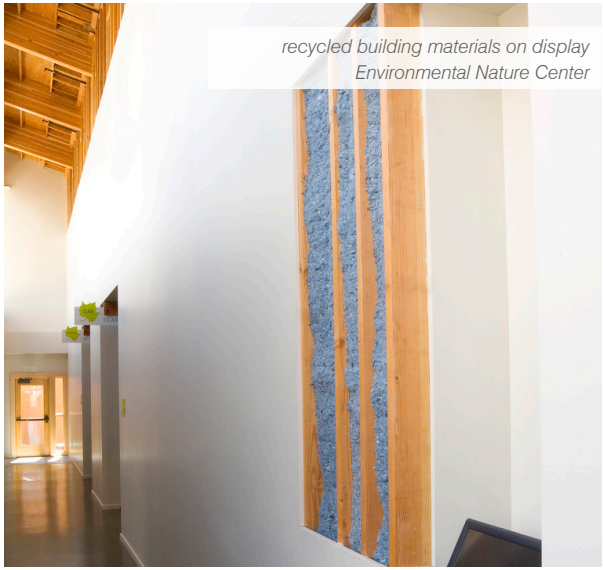
Regulate climate controls. Provide personalized thermal comfort, increase cognitive performance, and reduce HVAC/electrical loads through the use of Ceiling Fan-Integrated Air Conditioning strategies.

SUSTAINABLE STRATEGIES, continued

passive ventilation
Environmental Nature Center



pervious / permeable concrete



recycled building materials on display
Environmental Nature Center

CONSERVATION

Encourage use of recycled materials and the active recycling of materials on each site.

Consider pervious concrete, pavers and other alternatives to traditional hardscape.

Install artificial turf and all-weather tracks.

Specify low-flow fixtures for water and cost savings.

Utilize green cleaning products and select materials that are easy to clean / maintain.

Include technology in the renewable materials; invest in systems that have a low carbon footprint.

Implement water reclamation strategies.

Prioritize planting material that is native or adapted, water-efficient, and low maintenance.

Preserve healthy, mature trees and integrate them into new spaces.

CURRICULUM CONNECTION

Design with the student in mind, consider locating windows at low heights so students may benefit from direct outdoor views.

Utilize the opportunity to educate students in citizenship and responsibility towards the environment by getting students involved in building systems management.

Emphasis on natural lighting, for cost savings and connection of students with environment.

Establish recycling and composting programs with student participation.

Cultivate and continue organic school gardens with edible and native plants; incorporate water efficient irrigation strategies.

Create learning dashboard displays for solar and energy monitoring, biology and water sustainability.

Pursue opportunities for students to monitor and study building energy use; this could include the use of anemometers, occupancy sensors and daylighting controls, and/or photo-voltaic arrays.

FURNITURE

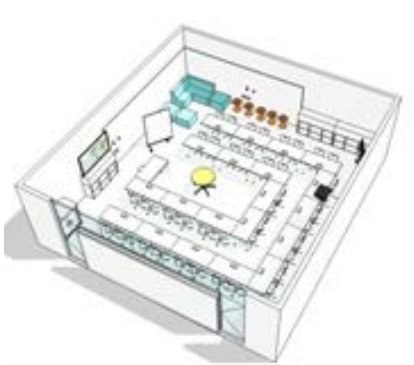
The creative use of furniture can produce a dynamic environment that shifts to the needs of the activities and preferences of those who use it.

The images below reflect how a single kit of assorted furniture solutions can take on various organizations and support different activities and learning styles.

PRESENTATION

Row configuration oriented to the main presentation wall, appropriate for lectures and testing.

DISCUSSION



Whole-class engagement, appropriate for discussion, debate, and demonstration.

SMALL GROUPS

Individual student desks organized into small groups, appropriate for team projects.

MULTI-MODAL

Varied organizations occur simultaneously to support student-led learning and accommodate individual study, small group activities, and push-in support services.

discussion
SAMUELI ACADEMY

small groups
SAMUELI ACADEMY

FURNITURE, continued

Furniture should enable variations in student work settings such as individual study and testing, small groups, and whole group activities.

Student Tables:

- **Objective:** Allow classroom flexibility, ensuring the tables can be rearranged in multiple configurations for individual work, small group clusters, and whole group lectures and discussions.
- **Features:** Individual tables that are on lockable casters and have a work surface that is writable and can be flipped vertically for easy storage and display.

Teacher's Desk:

- **Objective:** Encourage mobility and technology integration.
- **Features:** Adjustable-height podium on lockable casters

Student Seating Options:

- **Objective:** Allow students to select seating appropriate to their grade level and age, and that supports their individual learning style.
- **Features:** Provide a variety of seating options that coordinate to the age of the intended student group and other furniture selections. Select furniture that is sized efficiently, to capture more usable classroom space.

Shared / Support Elements:

- **Objective:** Support the needs of the whole student by providing tools to engage with other students and share ideas, as well as support spaces where a student can gain respite.
- **Features:**
  - **Writable Surfaces:** Provide a mix of writable surfaces such as individual, hand-held boards, large white boards on locking casters, and wall-mount surfaces. Consider surfaces that are magnetic (avoiding thick, glass surfaces).
  - **Soft Furniture:** Soft, modular furniture that is durable and can be cleaned easily and that can seat at least one student and an adult (teacher, counselor, etc). This addition can create a nook of respite or quiet study.
  - **Small Group Tables:** Provide at least one small group table per classroom that can accommodate six seats.

INTEGRATION

Consider the opportunity for outdoor learning. Select furniture that is durable, agile, and can be moved to an adjacent outdoor learning environment. Support this movement by providing a smooth threshold transition between spaces free from steps or ramps.

student nesting desks

seating option

teachers podium

mobile, magnetic, writable surface

TECHNOLOGY

Technology should support classroom flexibility. Ceiling-mounted power drops are appropriate where equipment moves frequently throughout the room, such as within Science and Flex Labs. Floor- and wall-mounted power outlets are appropriate when it supports a stationary piece of equipment that is expected to remain in its place long-term.

Infrastructure per classroom should include:

- 2 drops near the teaching wall
- 2 drops near the teacher's desk
- 1 drop for wireless internet at the center of the classroom
- 2 drops at the back wall

All drops should have a home run back to a central IDF.

Provide wireless access points to cover outdoor learning environments. A survey of the environments should be done to confirm proper WAP locations.

Provide an IP-based network for all systems including EMS, clock, intercom, and fire alarm. Each site should have a unified fire alarm system.

PRESENTATION

Presentation technology should include a mobile LCD monitor capable of wireless streaming content and wireless or hard-wired connection to a laptop or desktop computer. The monitor should be able to display digital, streaming content from a device as well as live-action content similar to a document camera.

Voice amplification within the classrooms and small learning spaces but should be provided within large assembly areas.