

of Opportunity™

DENVER PUBLIC SCHOOLS

Facility Management





Acknowledgements

The following document provides guidance and resources for collaborative Learning Landscapes maintenance. This document was prepared by the University of Colorado Denver for the DPS Grounds Department with input from several sources including:

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- o Scott Muir, Community Outreach Assistant Learning Landscapes
- Mike Swankhouse, DPS Facility Management ,Grounds Foreman
- o Troy Garner, DPS Facility Management, Special Projects Manager
- Lois Brink, Executive Director Learning Landscapes
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Introduction

Learning Landscapes is the result of a longstanding partnership between Denver Public Schools (DPS) and the University of Colorado Denver (UCD). Started in 1997, the Denver Public Schools Learning Landscape program is the first district-wide schoolyard redevelopment project in the nation. Funding for Learning Landscapes schoolyard construction came from a variety of sources. Initially, the Learning Landscapes Initiative, a public/private entrepreneurial effort, launched the fundraising efforts. In 2003 and 2008 Denver voters passed multi-million dollar bond initiatives to complete the redevelopment.

Learning Landscapes schoolyards are designed to celebrate the unique character of the school and are community, and constructed as multi-use environments for outdoor learning, creativity and physical activity. As a schoolyard transforms into a Learning Landscape the maintenance requirements at the site evolve. The foundation for preserving the quality and character of these unique schoolyards is respect from students and the surrounding community. Keeping Learning Landscapes looking beautiful is a collaborative effort. Everyone helps keep a watchful eye for vandalism and maintenance issues. Learning Landscape maintenance is a responsibility shared among the school, district facility management, and community members.

For more information visit: Learning Landscapes Website

Vision:

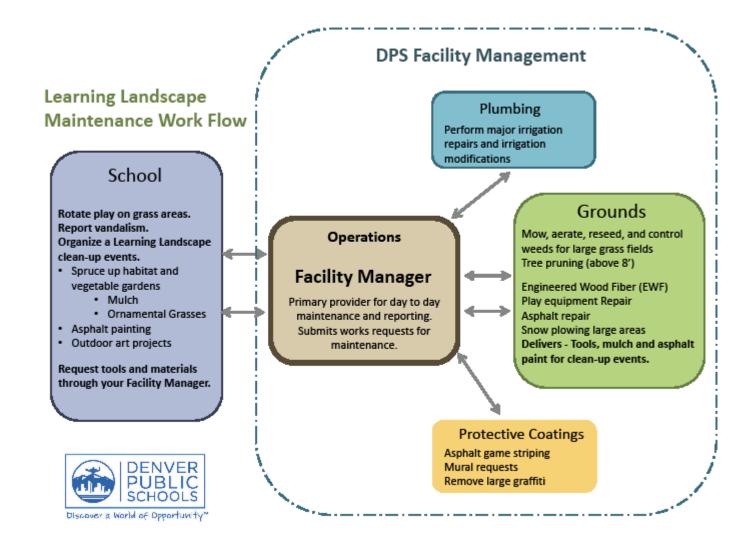
Schools, communities and DPS Facility Management will collaborate to maintain Learning Landscapes schoolyards as safe, attractive places for education, physical activity and community gathering for generations to come.



Learning Landscape Shared Maintenance

Maintenance Work Flow Chart

All Learning Landscape maintenance requests flow through the school's Facility Manager to the appropriate DPS Facility Management Departments.



ENSURING CONTINUED SUCCESS

Frequently Asked Questions

What can our school do to CLEAN UP our schoolyard? DPS can provide most of the material you need. All you need to do is organize a schoolyard cleanup event to cleanup natural areas and gardens, rake leaves, add mulch, fluff play pits, and paint asphalt. For More Info: **Organizing a Schoolyard Cleanup**

Can we PLANT TREES? Yes you can. Contact your school's Facility Manger to get approval and determine other steps that may be needed to plant. For More Info: <u>Cool Schools (Mile High Million)</u>

There is GRAFFITI on our playground. How can we get rid of it? Meet with your principal and your school's Facility Manager to make sure a work order has to been submitted to DPS. DPS policy is that graffiti should be removed within 48 hours. For small areas ask you FM for graffiti removal supplies.

How do we report schoolyard VANDALISM or broken play equipment? Meet with your principal and your FM to confirm that a work order has been filed with the school district for repairs. Safety issues are prioritized. They should be reported within 24 hours, and noted as "Urgent Safety Issues."

Our students can't reach the SWINGS? The soft surface material under the swings needs to be either leveled or augmented with addition material. <u>Watch an Online Video</u> about EWF.

Our FIELD is looking bad, brown and bare. What can we do? There are three possible things causing this. 1) the irrigation water is turned off, 2) there is disease or 3) (most likely) the field is being over used. For More Info: **Field Rotation Information**

How does our school create new BANNERS? Who supplies the paint & banners? Each school purchases and coordinates the painting of new art banners. This is a great project to add unique character to the schoolyard, and help students take ownership of the space. For More Info: Learning Landscapes Outdoor Art

We want to paint an ART MURAL at our school. How do we get started? Murals are a great way to add colorful character to your schoolyard. Work with your FM to get approval for your mural project, from DPS Protective Coating Department. For More Info: Learning Landscapes Outdoor Art Guide

How can we REPAINT ASPHALT games on our schoolyard? Re-stripping White Lines: Have your FM place a work order with DPS Protective Coatings. Color Areas: Schools are responsible for adding color to the asphalt games. These can be repainted by small volunteer or student groups. DPS Grounds can provide you with the paint and tools. For More Info: Asphalt Painting

How do we start a new school GARDEN? Contact Laurel Mattrey, with the DPS Sustainability Department. For More Info, check out the <u>DPS Garden Coalition</u> or email: <u>laurel_mattrey@dpsk12.org</u>

Where do we get MULCH? DPS will supply mulch for habitat areas, but NOT for vegetable gardens. - HABITAT AREAS: Have your FM place a work order with the DPS Grounds Department. - VEGETABLE GARDENS: Mulch donations can often be found from local tree companies (ask if they'll load it into a truck for you.) You'll probably need to pay if you'd like it delivered. For More Info: **Mulching.**

How do we stop the broken IRRIGATION geyser? Talk with your Facility Manager. If the FM is not able to fix the irrigation then the FM will contact DPS Plumbing.

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Learning Landscape Maintenance Areas and Resources

Asphalt and Hard Surface Games

Colorful hardscape games excite students' creativity during play. Every four to five years the hard surface games need to be repainted. DPS Protective Coatings paints the white striping outlining the game courts. Schools recruit volunteers to add color and details to the game areas. Schools work with their Facility Manager to order colored paint and supplies to complete the project. For more information visit the Learning Landscape guide: Paint Colorful Asphalt Games



Habitat Areas

Learning Landscape habitat areas provide a place for curiosity, discovery and hands-on education in an urban environment. Habitat areas need care to continue to attract birds, bugs and other species. Schools are encouraged to work with their Facility Manager to keep their habitat areas attractive and inviting to students and community. Schools and volunteers can help with weeding, pruning, mulching and adding new plants. For more information visit the Learning Landscapes guides:

Help Control Weeds

Mulch: Shrub Beds and Habitat Areas

Ornamental Grasses: Winter Trimming

Shade Trees

Trees are a valuable source of shade and beauty on the Learning Landscape. Schools care for trees by teaching students not too peel off bark or break low hanging limbs. Schools work with the Facility Manager to add trees to the Learning Landscape. For more information visit the Learning Landscapes guide:

Young Trees: Pruning and Care

For a local resource for trees and tree education for your school visit:

Mile High Million School Tree Planting Program





Grass playing fields

Grass playing fields at Learning Landscape sites follow district maintenance guidelines for mowing, aeration, reseeding, top dressing, weed control and fertilization. Schools do their part to keep the fields healthy by: **rotating** games during recess and PE to reduce wear patterns, **restricting** use during very dry or very wet field conditions and allowing fields to **recover** after heavy use and during spring growth.

Grass Fields: Keep Them Green

Outdoor Artwork

Outdoor artwork gives students a sense of pride and ownership of their playground. Learning Landscapes outdoor artwork consists of student-designed banners, tiles and murals or installations by local artists. In addition to providing schools an opportunity to creatively express their unique character and culture, schools displaying outdoor art often report less vandalism.

Schools are responsible for maintaining and installing outdoor artwork. Visit the Learning Landscapes Outdoor Art Guide for more information.

Learning Landscapes Outdoor Art Guide





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FORCE ELEMENTARY ANIMAL CLIMBING STRUCTURES (DESIGNED BY ELEMENTARY STUDENTS AND BUILT BY PLAYTIME)

Vegetable Gardens, Urban Farms

School vegetable gardens are an example of site-specific programming on Learning Landscapes that promote sustainability through community capacity building, healthy eating, and curriculum enhancement. In 2010 local garden organizations with a long history of working on Learning Landscapes schoolyards formed the Denver School Garden Coalition(DSGC) with DPS Facility Management. This group developed a document with guidelines and procedures for gardening on DPS Property. <u>DSGC Operating Manual</u>

Denver Urban Gardens	Slow Food Denver	No Affiliation
BARRETT	ASBURY	ASHLEY
CHELTENHAM	CENTENNIAL	BRYANT-WEBSTER
COLE	CORY	DENISON
DOULL	EAGLETON	EVIE DENNIS
EDISON	KUNSMILLER	FORD
FAIRVIEW	LINCOLN	GILPIN
FALLIS (Denver Green School)	MCGLONE	GREENWOOD
GREENLEE	MCKINLEY-THATCHER	KNIGHT
HARRINGTON	MONTCLAIR	MARRAMA
JOHNSON	SLAVENS	PHILIPS (Odyssey)
MAXWELL	SMITH	ROBERTS
MITCHELL	STEDMAN	SABIN
PALMER	TELLER	SCHENCK
PARK HILL	BRADLEY	WALLER
PLACE BRIDGE	BROMWELL	
SAMUELS	BROWN	
SANDOVAL	ELLIS	
STECK	FAIRMONT	
SWANSEA	LOWRY	
VALDEZ	STEELE	
BRADLEY	WHITTIER	
BROMWELL		
BROWN		
ELLIS		
FAIRMONT		
LOWRY		
STEELE		
WHITTIER		
Learning Garden	UrbaCulture Farms	LiveWell Westwood
AMESSE	COLUMBIAN	MUNROE
CASTRO		
COWELL		
NEWLON		
OAKLAND		
SCHMITT		
VALVERDE		
UNIVERSITY PARK		
-		
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CARING FOR YOUR SCHOOLYARD

ORGANIZE A SCHOOLYARD CLEAN UP!

PLAN AHEAD!

1. Pick a Day 2. Reserve DPS Tools 3. Advertise with Posters/Newsletters 4. Have Fun!



MULCHING BEDS DPS provides free mulch. Contact DPS Grounds Department 2-3 weeks before your Work Day for mulch delivery.

ASPHALT PAINTING

Keep your schoolyard bright and beautiful. DPS provides free paint. Paint asphalt every 2-3 years. Click here for more info.

PLANTING

Fall: Plant bulbs in shrub beds and under trees. Spring: Plant Flowers and vegetables.

WEEDING

Dig up roots and preventing seeds from scattering. Click here for more info or a Video on Weeding.

PRUNING Think Safety & Visibility!

Remove 'suckers' from the base of trees and thin plants so you can see through them (instead of shearing outside edges). Click here for more info.

COMPOSTING LEAVES Build Better Soil.

Collect leaves in fall for compost bins or as mulch in habitat areas. Coordinate with your school's FM or garden leader.

PLAY AREA EWF

Improve the safety of Engineered Wood Fibers by fluffing annually. Watch a Video on EWF Maintenance.

GARBAGE & SWEEPING

No schoolyard clean up is complete without a final sweep. Take pride in your work and in your school.



CONTACT DPS GROUNDS FOR TOOLS Your school's FM can help.



Spring or Fall, Bring Your Community Together to Keep your Schoolyard Beautiful !

Learning Landscapes Maintenance & Volunteer Guide - Created for Denver Public Schools by Scott Muir



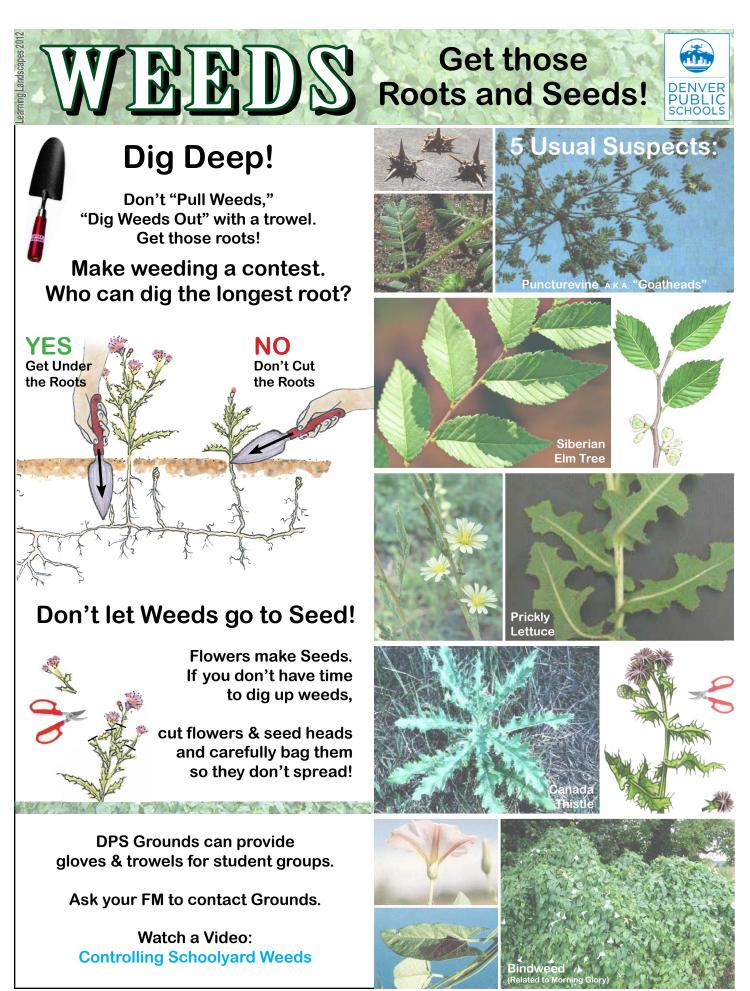








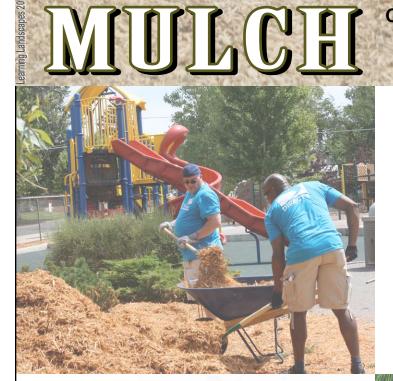




Learning Landscapes Maintenance & Volunteer Guide - Created for Denver Public Schools by Scott Muin



Learning Landscapes Maintenance & Volunteer Guide - Created for Denver Public Schools by Scott Muin



Conserves Water Improves Soil Fertility Reduces Weed Growth



Help conserve water use on your schoolyard. Mulch does more than just look good. It reduces mud, prevents erosion and helps the soil retain moisture for plants.

Mulch can be spread anytime, spring or autumn. Contact DPS Grounds Dept. 2-3 weeks before your work day to coordinate a delivery of mulch. They can provide tools as well.

Your school's FM can help contact DPS.

Aim for a 6 inch mulch layer

Trees love a mulch ring, but keep it 3-4 inches from their trunk, to avoid moisture rot on their bark.





Tips:

- Spreading mulch near plants? Use your hands instead of a rake, to avoid accidental damage.
- Mulch isn't too heavy, so fill wheelbarrows all the way to the top.
- Use Square 'Transfer' Shovels
- Don't bury irrigation heads

ORNAMENTAL GRASSES EARLY SPRING TRIMMING



Ornamental grasses are low-water, low-maintenance plants that are wonderful in habitat areas. They grow in bunches and provide visual interest to snowy winter landscapes, while their seeds can be a valuable food source for birds.





Ornamental grasses benefit from being cut back, and **winter is an excellent time, before new spring growth appears**.

The week before school starts back is NOT the best time to trim grasses. Focus on the rest of the school.

Watch a Video

Before trimming, **tie grasses together into bundles** using twine or a bungee cord to help make clean up easier. Do NOT cut grass even with the ground, as this can kill them. Instead, **leave 6-12 inches** of last season's growth, it will soon be hidden by new growth.



Trimming habitat areas is less important - these grasses can be left long all year. Grasses used to buffer play areas from parking. Still Green = Don't Trim Yet These would look great all trimmed to the same height just before new spring growth.





Old majestic trees come from young trees that were well cared for.

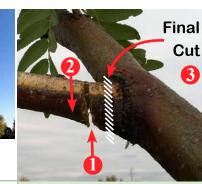
Hand tools are best for tree trimming. Chain saws are faster, but pruning is not a race. Working slowly prevents accidents to both you and the tree.

PRUNING: "So a bird could fly through..." Thin trees so you can see through them, rather than shearing them into rigid shapes.









3-Step Saw Cut Prevents Bark Tears

1. Under Cut just out from final cut.

2. Main Cut -

just out from undercut. 3. Clean-up Cut

Do NOT

Remove Suckers

Criss-Cross: Remove smaller

Branches Too Clustered

A bird could fly through



- 1. Suckers growing from the base of trees.
- 2. Criss-Cross Branches Branches that rub together damage the tree's bark and lead to disease. Remove the smaller limb.
- 3. Dead Wood Rather than bending under snow weight or wind, dead wood will break, which can be dangerous.
- 4. Low Limbs Less than 3" diameter and below 8 feet -Hanging from small branches can be dangerous for students, but also for the trees if their bark is torn or damaged.

MULCH. Mulch rings help keep young trees happy. They make mowing easier too!

WATER. Winter watering helps young trees stay healthy.

Girdle Trees

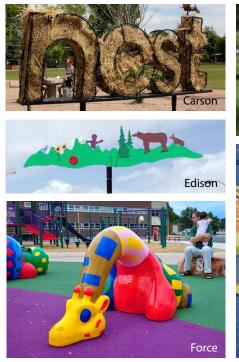
Vocab:

Cambium - A tree's essential layer of living green tissue just beneath the bark; (Good) Girdle - Damage/Removal of a ring of bark all the way around a tree - Kills the tree; (Bad)



Outdoor Art

Art installations are created for each school by students and local artists















Learning Landscapes Tiles & Banners Murals & Sculptures

Outdoor Art Projects are a great way to give your schoolyard unique character while engaging your school community. When students help create outdoor art, they also gain a wonderful sense of pride and ownership in their playground.

Schools must get district permission before installing artwork

For Funding, Check: www.dpsfoundation.org/school_resources_AtoZfund.php





Learning Landscapes Outdoor Art Guide - 2012 - Created for Denver Public Schools by Scott Muir





Outdoor Art Local Denver Artist Contacts

Tony Ortega tortegaartist@cs.com www.tonyortega.net/index.html

Schools: Bromwell, Ebert, Gilpin





Michael Gadlin mgadlin@gadlinscanvas.com gadlinscanvas.com

Columbine, Smith





Deb Grebener sculptureinstone@yahoo.com debgrebenar.blogspot.com

Bradley, Bromwell, Columbine, Eagleton, Fairmont



Chris Olson www.chrisolsonstudio.com Philips, Smith



Andy Dufford andy@chevostudios.com www.chevostudios.com

Carson, Ebert, Ellis, Fairmont, Steele, Southmoor



Robert Pietruszewski artbob@visualidea.com robertpietruszewski.com Bromwell, Columbine, Ebert, Fallis, Gilpin



Rik Sargent sargentstudio@gmail.com College View, Goldrick



Scott Muir 13scotts@gmail.com Greenwood, Knight CEE, Swigert, McKinley-Thatcher



These local Denver artists created artwork for Learning Landscapes Schoolyards.

Learning Landscapes Outdoor Art Guide - 2012 - Created for Denver Public Schools by Scott Muir



2012







- Display Student Artwork
- Create School Pride & Ownership
 - Involve Community & Parents



Outdoor Art



Your Learning Landscapes playground has steel banner poles with horizontal arms to accomodate 44"x 24" canvas art banners.

Help Students Create New Banners!



Supplies & Vendors:

BLANK BANNERS: Denver Tent (local) Contact: Jeff Greene 303-399-3232 www.denvertent.com Approx. \$40 per banner

Material Promotions (Connecticut) Contact: Peter Bove 1-888-757-8908, 203-757-8911 (fax) pbove@materialpromotions.com Approx. \$25 per banner

Banners - Nylon Canvas Double-Stitched Seems 3" Pole Sleeves on Top & Bottom Security Grommets



ACRYLIC PAINT : Guiry's Art Supplies Contact: Felicia 303-758-8244 2468 South Colorado Blvd. Denver, CO 80220







Outdoor Art BANNERS

Outdoor Art Banners are a great way to display students' artwork and give the students a sense of pride & ownership in the playground.

Step 1: CHOOSE A THEME Character Traits, Seasons, International Flags, Nature Scenes, Colorado History, or ???



Step 2: DESIGN

Students brainstorm a theme, then create artwork on paper to develop their ideas. Select a few drawings or combine several.

Step 3: TRANSFER ART ONTO CANVAS

Use Chalk to transfer artwork to canvas banners.

Step 4: PAINT !

For best results, have 2-3 students work on each banner at a time, while others engage in another project. If students are inexperienced painters, take time to show them a few techniques:

- Small brushes are best for edging and details.
- Paint larger areas first, before small details.
- Lighter colors often require a second coat.
- Contrasting colors are easier to see far away.
- Save supplies and minimize mess -Give students colors only as they need them.

TOUCH - UP

Banners will be displayed high on your schoolyard, so take time to add contrasting outlines to lettering, so they can be read from the ground.

Step 5: SEAL & HANG

Protect from weathering with clear polyurethane, such as "Canvak" from Denver Tent.

Secure banners to poles with carabiner clips. An 8 or 10 foot ladder should be tall enough.



a time. color. the same a little paint at g 2 of your people need so only add stronger, all are Remember, not so experiment. Darker colors even less Brown. different, a little Red & all Mixing Skin Tone Paint - Our skin tones are & add Yellow, just Start with a White base











2012





Outdoor Art TILES



- Display Student Artwork
- Create School Pride & Ownership
 - Involve Community & Parents

Your Learning Landscape has concrete seating walls with special recessed areas to accomodate ceramic tiles.

> Help Students Create Art Tiles !









Tiles - Blank tiles are available in both 4"x 4" and 8"x 8" sizes. 8" tiles are sold 30 tiles/box - 4" tiles are sold 88 tiles/box - apprx.\$40

Glaze - Use a low-fire ceramic glaze, such as 'Duncan Envisions I.N.' which is non-toxic. The colors stay true during the Kiln-Firing process.



Supplies & Vendors:

BLANK TILES: Daltile 735 S. Huron Denver, CO 80223 303-744-1743

Ask About a DPS Discount !! GLAZES: Mile Hi Ceramics 77 Lipan Street 303-825-4570

FIRING TILES: CAPCO Tile and Stone 5800 E. Jewell Contact Sue McRae 303-300-8205

Or you can fire your own if your school has an electric kiln.

4"x 4" CD01 White STD product# CD01441P

8"x 8" Porcl Nat CD28 Bianc Ghiacci STD product# CD28881PP



Art Tiles are a great way to add playful color to your schoolyard. Your Learning Landscapes playground has concrete seating walls with special recessed areas to accomodate ceramic tiles.





ahead of time, then transfer their design onto tiles using special low-fire glazes.

Step 2: GLAZE

2012

Do NOT water down glazes. Colors look best if they are applied in thin even strokes, with a second coat applied when dry. Dry brushes well after washing.

Step 3: KILN FIRE

Tiles must be fired before installation. If you have an electric kiln, you can fire the tiles at your school @ Cone 06. Or, CapCo can fire the tiles for you.

Step 4: INSTALL

Installation is simple, but requires a few special tools and 2 days of good weather. Having 2 or more people also helps.

- Day 1. Adhere the tiles. It helps to lay out the tiles before appying adhesive, to verify spacing. Follow the manufacturer's instructions, using a grooved trowel. 'Premixed Thinset' is easiest.

- Day 2. Grout the gaps. In addition to a rubber grouting trowel, you'll need a water bucket and a few large sponges, to buff and polish the tiles as grout sets.



These tiles were painted by Kindergarteners at Knight Center for Early Education, with the theme: "Things we find in a garden" Adults helped the young students add black outlines & details. Simple green stripes help unify the finished tiles.





