



# OUTDOOR PLAY INTERVENTIONS



# TABLE OF CONTENTS

INTRODUCTION .....	4
INTERVENTION SHEET MANUAL .....	5
SITE INTERVENTIONS	
Painted Asphalt .....	8
Artistic Fence .....	9
Customized Wood Seating .....	10-11
Shade .....	12-13
Tire Edge .....	14
Wood Edge .....	15
Raised Garden Bed .....	16-17
Vine Tunnel .....	18-19
PLAY INTERVENTIONS	
Sand Play Panel.....	22-23
Water Play Panel.....	24-25
Music Play Panel.....	26-27
Chalkboard.....	28-29
Sand Box .....	30-31
Loose Parts .....	32-33
Pallet Playhouse .....	34-35
Mud Kitchen .....	36-37
Tire Climber .....	38-39
LIST OF PLANTS	
Trees .....	42
Butterfly Garden Perennials .....	43
Shade Garden Perennials .....	44
Sensory Garden Herbs .....	45
Ornamental grasses .....	46
Vines .....	47
Plants for Sandy Areas .....	48

# INTRODUCTION

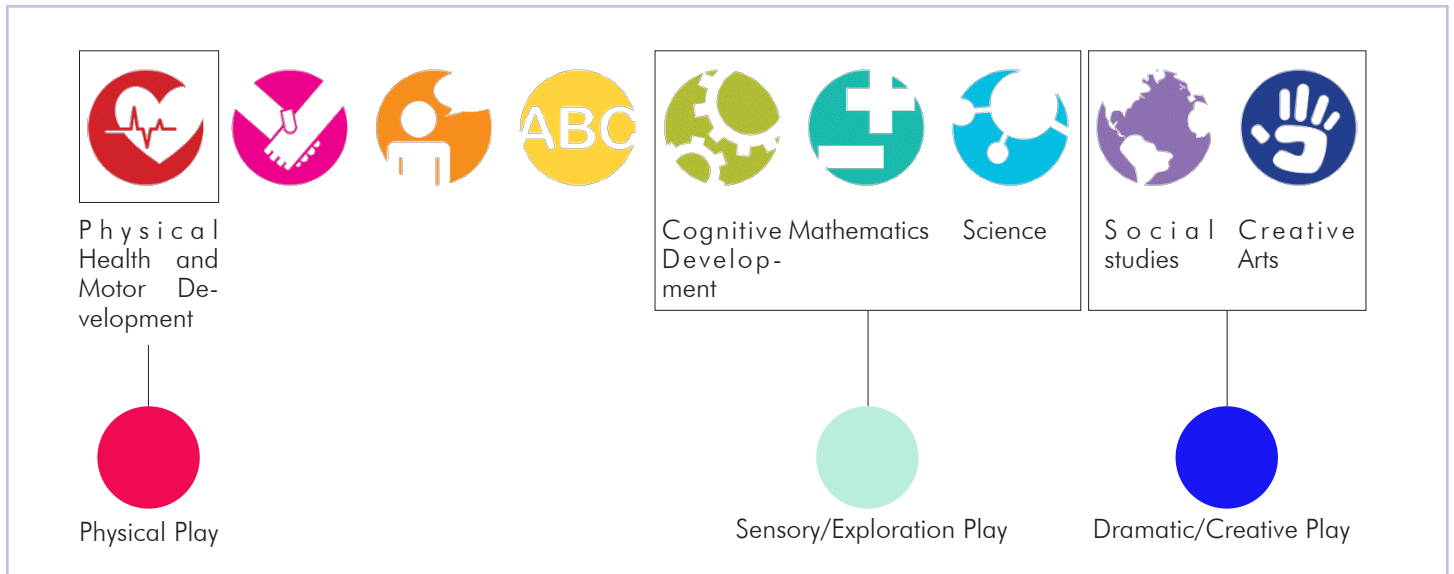
June 2017

These outdoor play interventions have been chosen and designed as low-cost, high-value design interventions for playgrounds.

In February 2017, designers from studioMLA Architects and LISC visited three pilot childcare centers – Westbay Children’s Center, Jamestown Early Learning Center, and Children’s Friend Hartford - and met with staff members at each site to brainstorm interventions that would improve each site’s playgrounds. The goal of these interventions is to increase the variety and quality of play and site elements in each playground.

In the spring of 2017, the designers and LISC regrouped with all three sites to share design concepts and collaborate on interventions to transform each space. The interventions in this document reflect the design concepts and ideas from all three sites. Each intervention relates to the Rhode Island Early Learning and Development Standards. These interventions have been designed with a focus on reusing materials to create high value play opportunities and functional site elements.

# INTERVENTION SHEET MANUAL



**NAME OF THE INTERVENTION**

RIELDS STANDARDS ADDRESSED

AGE GROUP

SIZE OF THE INTERVENTION OR PRODUCT

MATERIALS


HOW TO


IMAGE


IMAGE

IMAGE


**COST**


0 - 500 \$ 

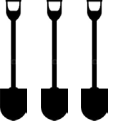
500 - 1500 \$ 


1500 - 5000 \$ 

**EASE OF IMPLEMENTATION**

Easy 

Moderate 

Challenging 

 **EXAMPLE CHOSEN FOR CONSTRUCTION**



**SITE INTERVENTIONS** 

# PAINTED ASPHALT



## RIELDS STANDARDS

 Physical Intervention

 Dramatic/Creative Intervention

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Latex Paint  
Valspar Duramax  
Striper paint (available at home improvement stores)  
Paint Brushes  
Rollers  
Paint Bucket/Tray  
Stencils  
Leaf Blower  
Tape  
Chalk

## HOW TO

1. Sweep the area where paint will be applied.
2. Wash the area with a pressure washer or hose with a high powered nozzle.
3. Let the area dry for at least 12 hours prior to painting.
4. Brush or blow off (use a leaf blower) the surface before painting.
5. Outline the area to be painted with tape or chalk.  
If painting a trike track, make track at least 4' wide.
6. Allow paint to dry.
7. Paint second coat.





# ARTISTIC FENCE



## RIELDS STANDARDS



Dramatic/Creative Intervention

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

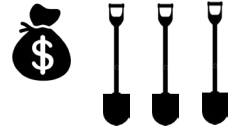
Fabric  
Plastic  
Strings  
Ropes

## HOW TO

Tie string, plastic, rope or fabric to one link of the fence. Weave fabric (or other material) through different links to create a pattern, design, or random art.



# CUSTOMIZED WOOD SEATING



## RIELDS STANDARDS ADDRESSED



Physical Intervention



Dramatic/Creative Intervention

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

48" L X 23 3/4" W X 20" H

## MATERIALS

Wood  
Nails  
Screws  
Drill  
Saw  
Sandpaper  
Tape Measure  
Hammer

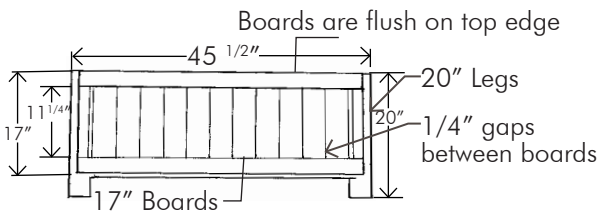
## HOW TO

Build the seating or platforms with wood planks, wood pallets. Customize with plants, paint, wood stain, storage options, etc.

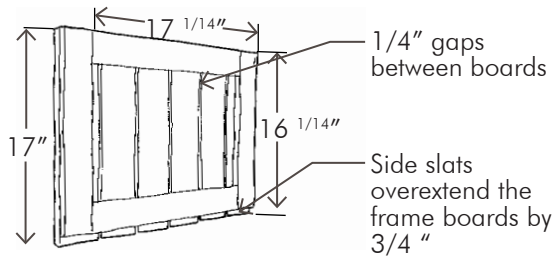


# WOOD STORAGE BENCH CONSTRUCTION

1 **SIDE PANELS:** After cutting the pieces of wood to the correct sizes, build two side panels. Start with one of the legs. Mark the leg 1 1/2" in from the outside. Attach the 45 1/2" board to the top corner of the leg. Space a 17" board 1/4" from the leg and use one screw to attach to the 45 1/2" board. Attach all of the 17" boards and the remaining leg to the top 45 1/2" board. Adjust all of the boards until the outside corners of the legs are square with each other. Attach the 11 1/4" boards to the legs, and then attach the remaining 45 1/2" board. Add additional screws to the top frame board. Use 1 1/4" screws and glue to secure .



2 **END PANELS:** Screw an 11 1/4" board to a 17" board to create ends. Lay all the 17" boards down, including the two screwed to the tops, and lay the 45 1/2" boards on top. Screw the 45 1/2" boards to the 17" boards using 1 1/4" screws and glue. Checking for square. Check that there is a 3/4" gap under the bottom 45 1/2" boards. All other outside edges are flush. Build 2 end panels in this manner.



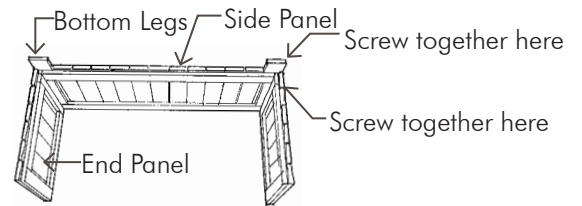
## RESOURCE

<http://www.ana-white.com/2010/05/furniture-plans-outdoor-storage-bench.html>

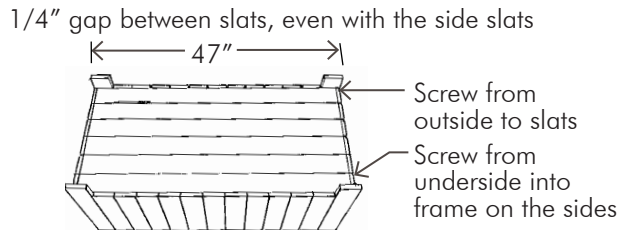
- Tool List**
- Tape measure
  - Speed square
  - Hammer
  - Safety Glasses
  - Kreg Jig
  - Drill
  - Circular Saw
  - Sander
  - Ear protection

- Material List**
- 15 – 1x4 Boards, 8' Long
  - 6 – 1x3 Boards, 8' Long
  - 2 – 1x2 Board, 8' Long
  - 2 Door Hinges for exterior use
  - 1 1/4 inch screws
  - 2 inch screws
  - 1-1/4" Pocket Hole Screws
  - Wood Glue
  - Wood Filler
  - 120 grit sandpaper

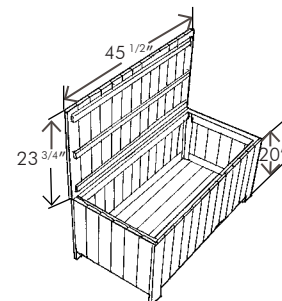
3 **ASSEMBLY:** When panels are complete, attach the panels to each other. Use 2" screws and glue.



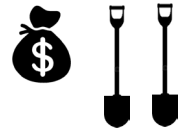
4 **BOTTOM:** Attach the bottom boards using 2" screws. Use glue to make a stronger joint.



5 **TOP:** Screw through the 1 x 2s into the underside of the top slats using 1 1/4" screws and glue. Attach the top to the bench using hinges.



# SHADE



## RIELDS STANDARDS ADDRESSED



Dramatic/Creative Play

## AGE GROUP

All ages

## SIZE

Modular

## MATERIALS

Fabric  
Sail Cloth  
Plastic  
Wood  
Posts

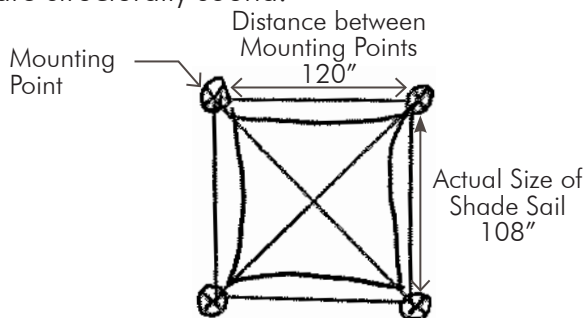
## HOW TO

Purchase, sew, or build a shade with recovered materials like fabric, plastic, or sail cloth. Attach corners of sail to fixed points (posts, building, fences)

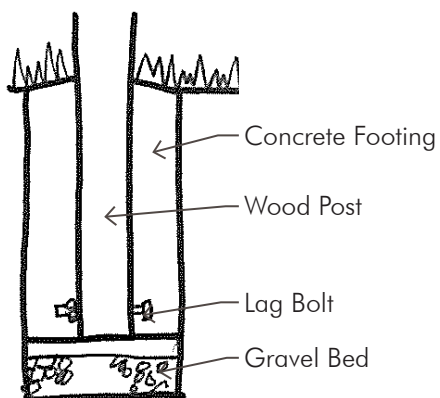


## SHADE SAIL CONSTRUCTION

- 1 **CHOOSE MOUNTING POINTS:** Determine the best place for the shade sail and where the corners of the sail will be mounted, ie: building, fence post, steel/wood post. Allow a space between the corner of the sail and the mounting point that is approximately 10% of the sail's length. Ensure all mounting points are structurally sound.



- 2 **INSTALL POSTS:** If additional posts are required, use 4" schedule 40 steel pipes or 6" x 6" wood posts. Footing depth should be 1/2 the length of the exposed pole. Measure out the centers of the footing positions. Dig holes at least 12" around the post and to the depth required by the post height. Wood Post Footing: Lay a 4" depth of 3/4 inch diameter gravel at the base of the post. Insert the posts using lag bolts partially driven into the post to hold it in place. Use string lines to ensure they are in plumb alignment.



### RESOURCE

<http://www.backyardcity.com/Shade-Sails/Shade-Sails-Installation.htm>

#### Tool List

Tape Measure  
Ladder  
Screw Driver  
Drill

#### Material List

Shade Sail  
Rope  
Eye Lag Screw  
Pad Eye  
Turnbuckle  
Snap Hook  
D-Shackle  
S-Hook  
Chain  
Cable Assembly  
Gravel  
Concrete

- 3 **SECURE SAIL POSTS:** Mix concrete according to package instructions. Pour concrete to the top of the hole ensuring it is packed well. Ensure the concrete surface is sloping away from the posts to allow for water drainage. Allow poles to set in concrete for a minimum of 48 hours. Brace if required.
- 4 **ATTACH SAIL:** Connect fixing accessories to mounting points as required. Ensure all connections face towards the middle of the sail and are tightly secured. Lay shade sail out on ground where it will provide the shade. Loosely attach each corner to a mounting point.
- 5 **APPLY TENSION TO SAIL:** Use a rope and a friend, or a 1" webbing with a winch to bring the last corner of the sail to its mounting point and put the last attachment hardware in place. Check for wrinkles. Tighten the turnbuckles on the other corners to and eliminate the wrinkles.

# TIRE EDGE



## RIELDS STANDARDS ADDRESSED



Physical Intervention



Dramatic/Creative Intervention

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

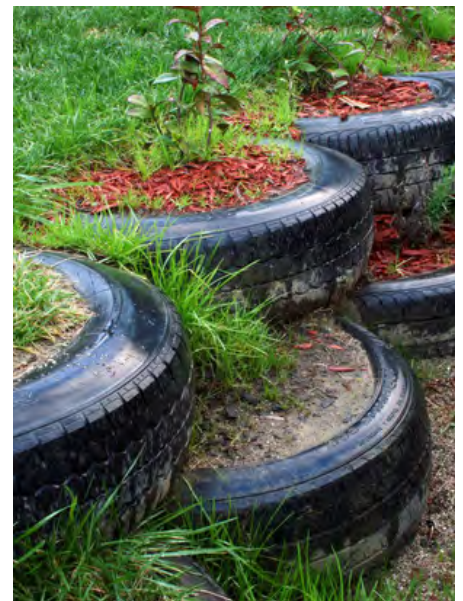
Modular - using automobile tires (~18" x 8 1/2")

## MATERIALS

Auto Tires  
Shovel

## HOW TO

Dig a trench along the proposed tire edge. The trench should be slightly wider than the tires. Place the tires vertically into the trench. In order to comply with playground safety standards, the hole/opening in the tire should be either smaller than 3.5" or larger than 9". Tires can be placed at varying heights in the trench. Once tires are in desired locations, fill in the trench with soil, making sure to pack the soil tightly.





## RIELDS STANDARDS ADDRESSED



Physical Intervention

### AGE GROUP

Toddler  
Preschool  
School Age

### SIZE

Modular

### MATERIALS

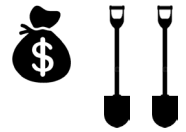
Black locust tree stumps  
Shovel  
Sanding Sponges (60,80,120,220 grit)

### HOW TO

Use black locust logs that are between 8-12" in height. Make sure the tree stumps have had time to dry out (at least 1 month)  
Create a smooth surface: Use a sanding sponge to smooth the top of the stumps and remove any sharp surfaces.  
Dig a flat trench larger than the width of the widest log. Place the logs in the trench 1/3 of the height of the log. Fill in the rest of the trench with soil. Make sure to pack the soil tightly.



# RAISED GARDEN BED



## RIELDS STANDARDS ADDRESSED



Sensory/Exploration Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

74 1/2" L x 19" W x 11 5/8" H

## MATERIALS

Wood pallets  
Wood planks

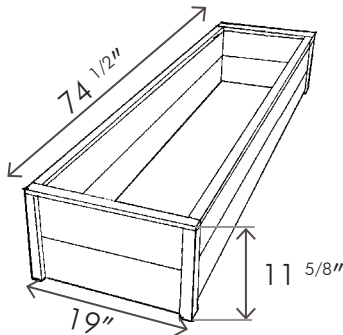
## HOW TO

Built the raised bed with wood. Fill the bed with a mix of soil and compost, stopping at least 2" from the top of the garden bed to allow for watering. Plant desired ornamental vegetation and/or fruits and vegetables.





# RAISED GARDEN BED CONSTRUCTION



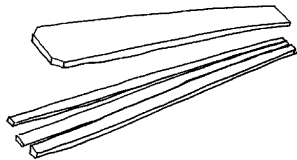
Tool List

- Tape Measure
- Drill
- Circular Saw
- Table Saw
- Speed Square
- Pencil
- Safety Glasses
- Ear Protection

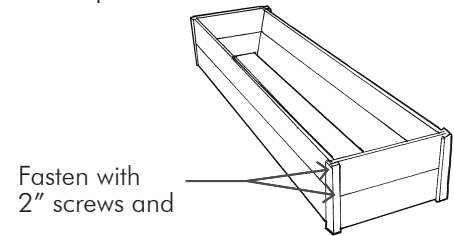
Material List

- 6 Cedar Fence Pickets
- 1" Screws
- 2" Screws
- Wood Glue

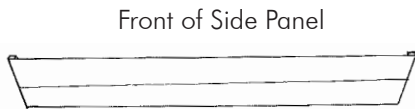
1 RIP CORNER POSTS: Set table saw to 1 1/4" and rip one of the fence posts to 1 1/4" wide



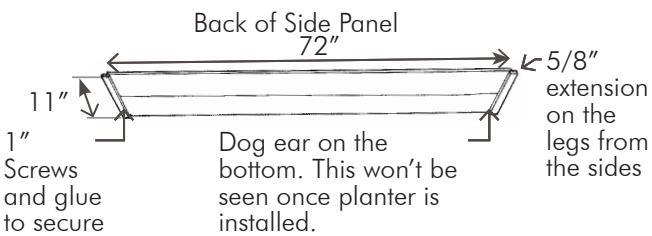
4 ASSEMBLE THE PANELS: The panels should fit together. Fasten with 2" screws and glue. Check for square



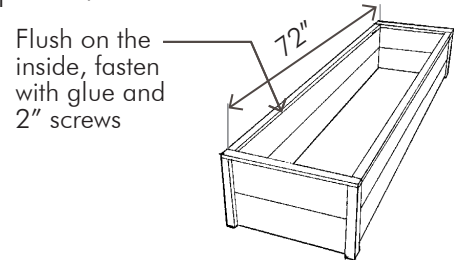
2 SIDE PANELS: Use 1" screws. Glue together side panels. Posts overextend the sides by 5/8"



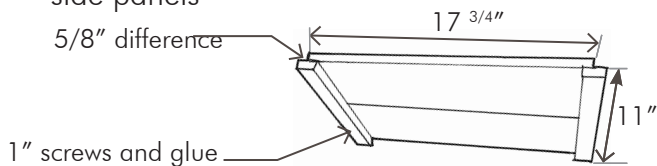
Front of Side Panel



5 END TOP EDGES: Finish top edges like the side panels.



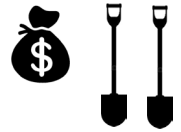
3 END PANELS: Build end panels the same as side panels



RESOURCE

<http://www.ana-white.com/2010/05/hack-natural-rustic-cedar-raised-beds.html>

# VINE TUNNEL



## RIELDS STANDARDS ADDRESSED



Sensory/Exploration Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Willow Cuttings  
Zip Ties  
Metal arch  
Shovel  
Compost

## HOW TO

Create an arch, a tunnel with willow rods or metal rods. Insert a willow branch into the ground at 15" depth. Bend it to plant the other end at 55" from the first anchor point. At 15", insert a second arch. Between the two arches, begin the braiding with iron wire, bamboo stalks or wooden rods.

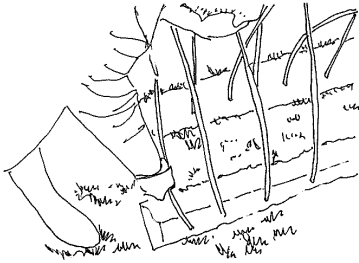


## NATURAL VINE TUNNEL CONSTRUCTION

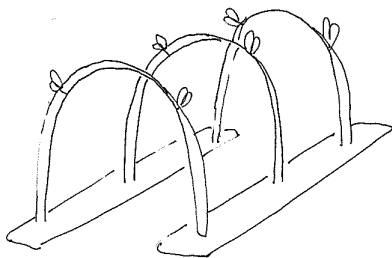
- 1 Mark out 2 trenches where the edges of the vine tunnel will be installed, dig to a depth of 12" and mix with compost.



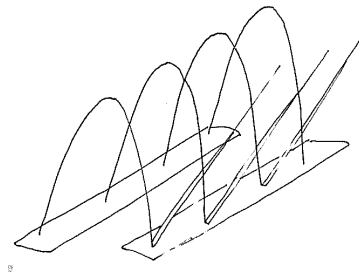
- 2 Insert 2 willow branches opposite each other along the length of the trenches at a spacing of approximately 10". Shorter poles can be used towards the rear of the tunnel to enhance the tapering effect.



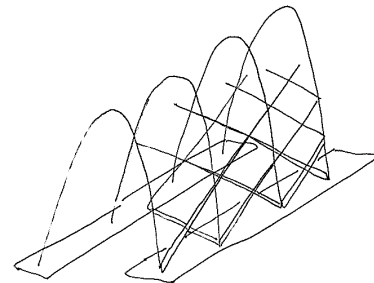
- 3 Bend each pair of poles together to form an arch and tie at the end of each pole.



- 4 To increase the stability of the structure, secure a pole along the length of the tunnel at the apex of curves.



- 5 In order to build up the growth on the sides of the tunnel insert two woven poles at an angle of approximately 45 degrees at the base of each upright on each side. These are then woven back along the tunnel to finish near the top of the curve



Tool List  
Shovel

Material List  
Willow stems  
Zip ties or rope  
Compost

## RESOURCE

[http://www.jprwillow.co.uk/willow\\_sculpture\\_tunnel.htm](http://www.jprwillow.co.uk/willow_sculpture_tunnel.htm)



**PLAY INTERVENTIONS** 

# SAND PLAY PANEL



## RIELDS STANDARDS ADDRESSED



Sensory/Exploration Play



Dramatic/Creative Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Zip Ties  
Buckets  
Watering Cans  
Plastic Tubings  
Plastic Water Bottles/jugs  
Funnels  
Wires  
PVC Pipes and Joints

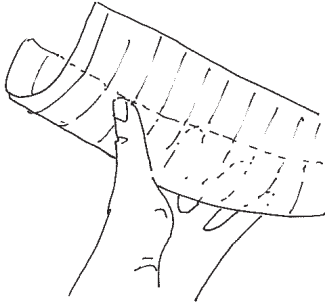
## HOW TO

Create a structure or use the existing fence to hang sand play objects. Use zip ties to attach funnels, tubes, pipes, sand containers on the fence or the structure. Use hooks to attach objects that can be moved around on the fence or be taken off and used by children.

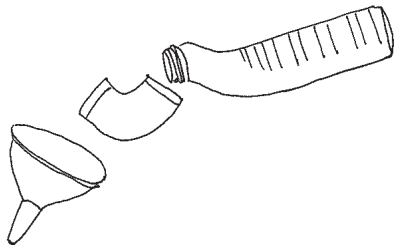


## SAND PLAY PANEL CONSTRUCTION

- 1 Brainstorm what items would work well on the sand wall. Be creative! Funnels, pipes and plastic tubing all work well.



- 2 Cut off the bottom of a plastic cup, or cut a plastic jug in half to help funnel the sand.



- 3 Plan out the sand wall by laying the different parts out on the peg board. Create interesting paths for the sand to travel by planning the design to travel back and forth across the peg board or fence.



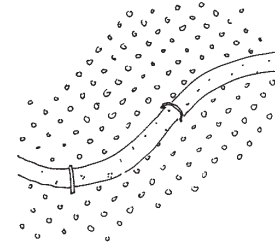
### RESOURCE

<http://www.allparenting.com/my-home/articles/968545/make-a-backyard-water-wall>

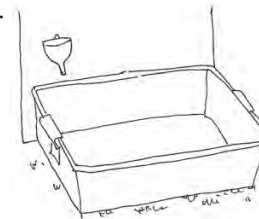
Tool List	Scissors
	Cutter

Material List	Peg board
	Zip ties
	Hole punch
	Plastic tubing
	Funnels
	Plastic cups
	Assorted PVC pipe pieces
	Assorted empty bottles
	Plastic pitcher
	Large plastic container

- 4 Use zip ties to secure the pipes and tubing to a peg board. If using thinner plastic items such as cups or water bottles, punch a hole in them with a hole punch and feed the zip ties through the holes.



- 5 After everything is secured to the peg board, prop the sand wall up against a fence or other sturdy structure. Place a large plastic bin at the bottom of the sand wall to catch the sand as it falls down.



- 6 Provide the children with plastic cups or pitchers for scooping and pouring the sand. Pour the sand in the top of the sand wall and watch it fall.



# WATER PLAY PANEL



## RIELDS STANDARDS ADDRESSED



Sensory/Exploration Play



Dramatic/Creative Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Zip Ties  
Buckets  
Watering Cans  
Plastic Tubings  
Plastic Water Bottles/jugs  
Funnels  
Wires  
PVC Pipes and Joints  
Taps

## HOW TO

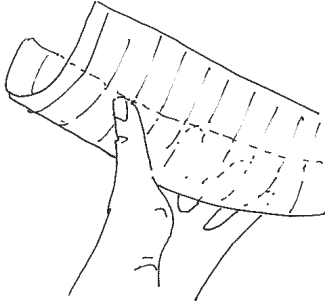
Create a structure or use the existing fence to hang water play objects. Use zip ties to attach funnels, tubes, pipes, sand containers on the fence or the structure. Use hooks to attach objects that can be moved around on the fence or be taken off and used by children.



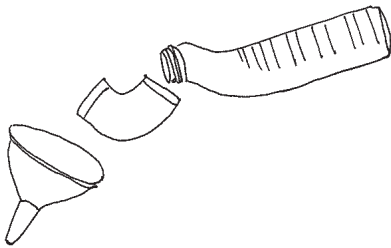


## WATER PLAY PANEL CONSTRUCTION

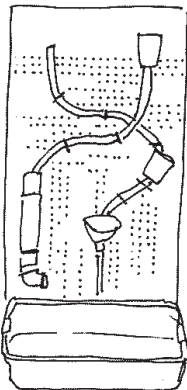
- 1 Brainstorm what items would work well on the water wall. Be creative! Funnels, pipes and plastic tubing all work well.



- 2 Cut off the bottom of a plastic cup, or cut a plastic jug in half to help funnel the water.



- 3 Plan out the water wall by laying the different parts out on the peg board. Create interesting paths for the water to travel by planning the design to travel back and forth across the peg board.



### RESOURCE

<http://www.allparenting.com/my-home/articles/968545/make-a-backyard-water-wall>

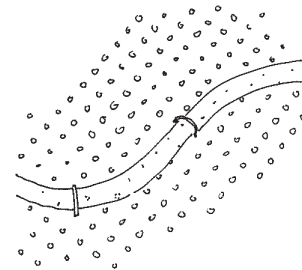
#### Tool List

Scissors  
Cutter

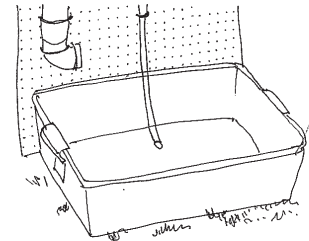
#### Material List

Peg board  
Zip ties  
Hole punch  
Plastic tubing  
Funnels  
Plastic cups  
Assorted PVC pipe pieces  
Pool noodle  
Assorted empty bottles  
Plastic pitcher  
Large plastic container

- 4 Use zip ties to secure the pipes and tubing to the peg board. If using thinner plastic items such as cups or water bottles, punch a hole in them with a hole punch and feed the zip ties through the holes.



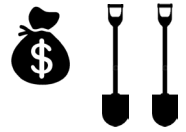
- 5 After everything is secured to the peg board, prop the water wall up against a fence or other sturdy structure. Place a large plastic bin at the bottom of the water wall to catch the water as it flows down.



- 6 Provide the kids with plastic cups or pitchers for scooping and pouring the water. Pour the water in the top of the water wall and watch it fall.



# MUSIC PLAY PANEL



## RIELDS STANDARDS ADDRESSED



Sensory/Exploration Play



Dramatic/Creative Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Pans  
Pots  
Pipes  
Watering Cans  
Plastic Tubing  
Rack  
Dishes

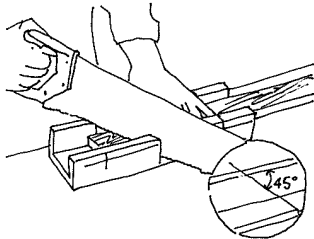
## HOW TO

Create a structure or use the existing fence to hang the playful objects. Use zip ties, screws, nails or plastic clamps to attach pans, pipes, pots, on the fence or the structure.

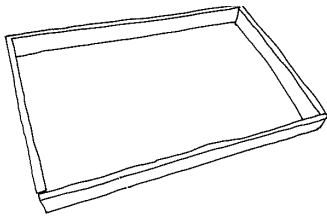


## MUSIC PLAY PANEL CONSTRUCTION

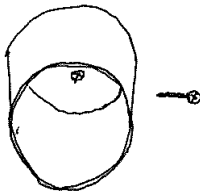
- 1 Build the Frame. Cut the stick into 4 strips corresponding to the dimensions of your needs, using the back saw and the miter box at a 45° angle.



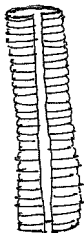
- 2 Assemble the frame with screws.



- 3 Use screws to attach the pots onto one side of the frame.



- 4 On the other side of the frame, open the split plastic tube and slide it on the wooden stick.



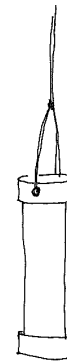
### Tool List

Cutter  
Scissors  
Saw  
Miter box  
Drill

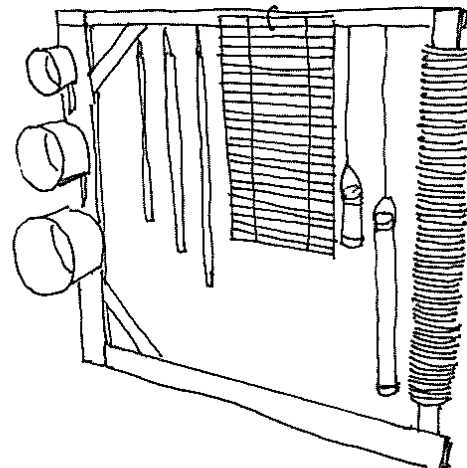
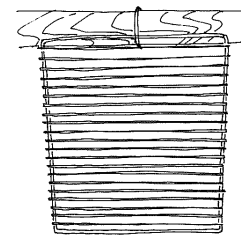
### Material List

Wood stick  
Screws  
Split plastic tube  
Pots  
Oven grill  
Plastic pipe  
String  
Zip ties

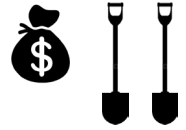
- 5 Make two holes on the plastic pipes and slide one string. Hang it on the top of the frame.




- 6 Use zip ties for hang the oven grill on the frame.



# CHALKBOARD



## RIELDS STANDARDS ADDRESSED

 Dramatic/Creative Play

## AGE GROUP

All ages

## SIZE

Modular

## MATERIALS

Wood Plank  
Chalk Paint  
Paint Brush

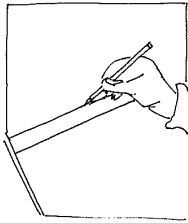
## HOW TO

On a plank of wood, apply chalkboard paint. Attached to a wall, fence, the top of a sandbox or create a structure with different sides and panels.

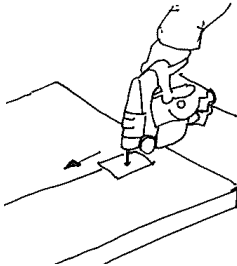


## CHALKBOARD CONSTRUCTION

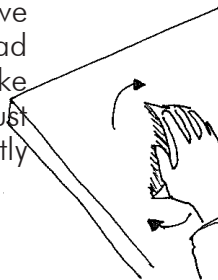
- 1 Prepare the support. Determine the desired size of the chalkboard.



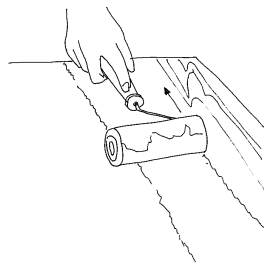
- 2 Cut the panel with a jigsaw.



- 3 Sand it with the abrasive paper. Use a sanding pad for ease of use. Make circular movements. Dust it carefully with a slightly damp cloth.



- 4 Apply paint. Apply a layer of blackboard paint using a roller. Allow to dry for at least 12 hours. Apply a second coat. Tip: If you apply an undercoat of magnetic paint, you can magnetize photos, notes, drawings on the chalkboard.



## RESOURCE

<https://decoration.ooreka.fr/fiche/voir/286237/fabriquer-un-tableau-noir>

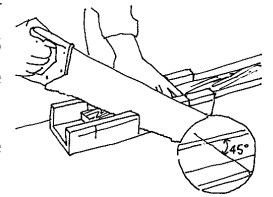
### Tool List

Tape measure  
Speed square  
Pencil  
Saw  
Abrasive paper  
Miter box  
Clamps  
Screwdriver

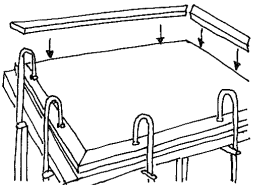
### Material List

Wood or plywood panel  
Wood stick  
Blackboard paint  
Glue  
Screws  
Fixing brackets  
Fastening rings

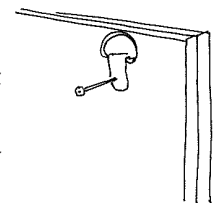
- 5 Build the frame. Cut the stick into 4 strips corresponding to the dimensions of your panel, using the back saw and the miter box at a 45° angle.



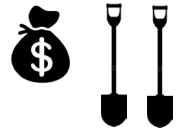
- 6 Apply glue to the entire surface and glue all around the board to form a frame. Press and hold with clamps.



- 7 Attach two fastening rings about 4" from the top and side edges of the back of the board. Screw the fixing brackets to the screwdriver and use the appropriate screws on the back of the board.



# SAND BOX



## RIELDS STANDARDS ADDRESSED



Sensory/Exploration Play



Dramatic/Creative Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

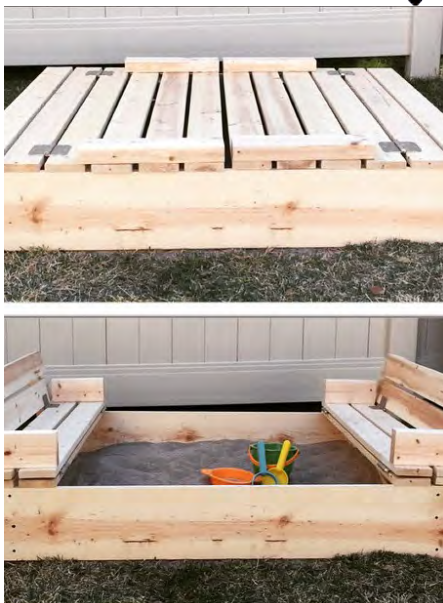
Modular

## MATERIALS

Wood pallets  
Wood planks + wooden battens  
Fabrics  
Plexiglass

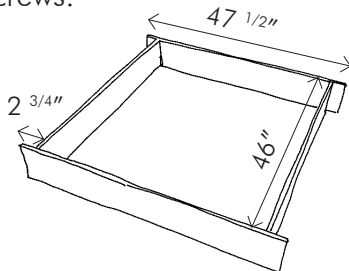
## HOW TO

Create a rectangular box (or a different shape) with wood pallets or planks and put a drainage filter on the ground, on the bottom of the box and under the sand. Add a cover with fabric or create a lid or a roof in wood or plexiglass.

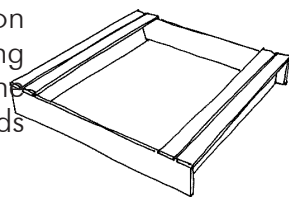


## SANDBOX CONSTRUCTION

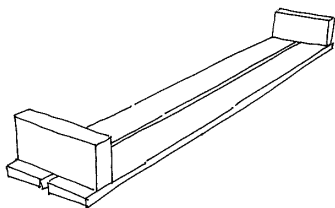
- 1 Create a basic box, insetting the short sides as shown above. You can either use pocket holes or pre-drill through the long sides and use 1 1/4" screws.



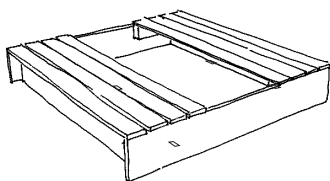
- 2 Screw in two planks on each side, countersinking your screws through the top. Space the boards 1/2" apart.



- 3 Create the seat. Screw the 1 x 4 boards (1/2" apart) onto the 2 x 4 arm rests. Make sure that the 2 x 4 are at least 1" inset from the edge to allow for them to fold into the box nicely. (Make two of these seats.)



- 4 Attach the seat that you created in step 3 to the plank you created in step 2. First attach the hinge to the seat (on the side opposite the arm rests) and then attach it to the screwed-in plank. Make sure to space them 1/2" apart.



### RESOURCE

<http://www.ana-white.com/2011/10/plans/sand-box-built-seats>

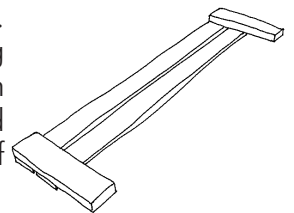
### Tool List

Tape measure  
Speed square  
Pencil  
Drill  
Drill bit set  
Saw  
Sander

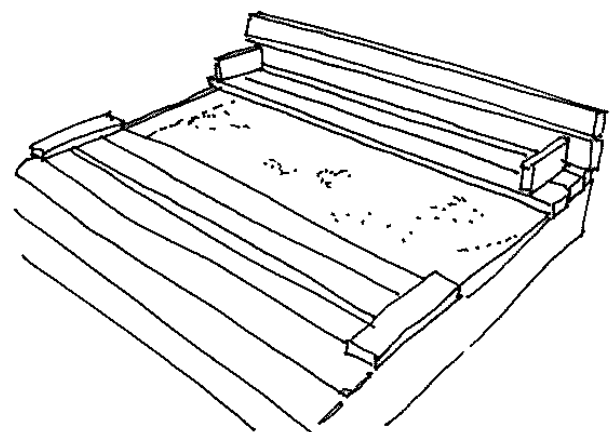
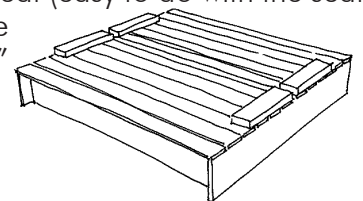
### Material List

1 x 8 x 47 1/2" (x2)  
1 x 8 x 46" (x2)  
1 x 4 x 47 1/2" (x12)  
2 x 4 x 7 1/2" (x4)  
2 x 4 x 12 1/2" (x4)  
4 sets of exterior grade hinges  
1 1/4" Screws  
1 1/4" Pocket Hole Screws  
Elmer's Wood Glue

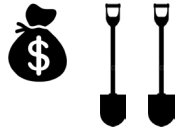
- 5 Create the seat's back. Screw the boards to the ends of the final 1 x 4. Make sure the 1 x 4 are spaced 1/2" apart. If you are planning on adding rope, pre-drill through the 2 x 4 completely, between the 1 x 4 and at the bottom of the "inner" 1 x 4 (the one closer to the overhanging 2 x 4). If you plan on adding handles, you can attach them wherever you find it pleasing. (Make 2 of these seat backs.)





- 6 Attach the second set of hinges to the seat back, on the opposite side of the 2 x 4s, and then attach to the seat (easy to do with the seat "up"). Make sure to space the 1/2" apart.



# LOOSE PARTS STORAGE



## RIELDS STANDARDS ADDRESSED

-  Sensory/Exploration Play
-  Dramatic/Creative Play

## AGE GROUP

- Toddler
- Preschool
- School Age

## SIZE

Modular

## MATERIALS

- Wood
- Tire
- Plastic tube
- Plastic box
- Straw
- Cardboard
- Fabric
- Tarp

## HOW TO

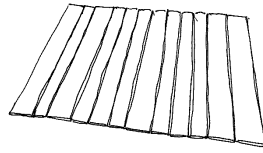
Collect objects of different sizes, textures, shapes, colors and make them available to children.





## LOOSE PARTS STORAGE CONSTRUCTION

- 1 Disassemble the pallets using a crow bar, and discard any broken boards (probably 2-3 pallets). Remove any staples from the boards.



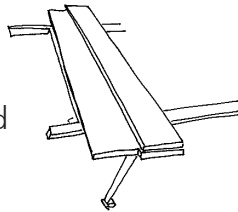
Tool List

Tape measure  
Speed square  
Pencil  
Saw  
Drill

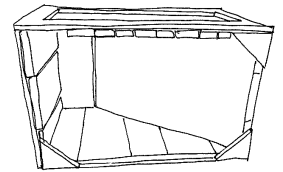
Material List

Pallets  
Screws  
Leather hinges

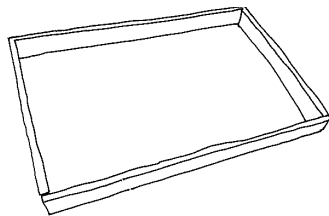
- 2 Choose the straightest, sturdiest pieces for the frame. Measure and mark your cuts with a pencil. Cut the frame pieces to size and rip the frame pieces in half lengthwise.



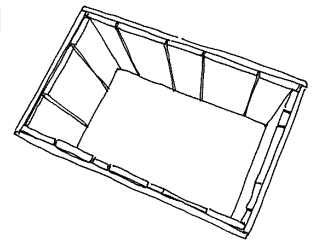
- 6 Cut triangles from some of the scrap pieces for the feet of the base, and attach to the bottom edges of the boards.



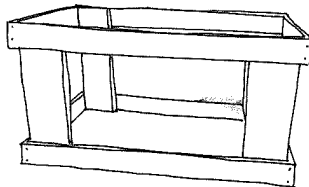
- 3 Assemble the frame. Create two pieces like this, one for the top and one for the bottom.



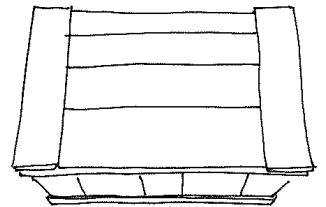
- 7 Drop in the base and attach to the feet.



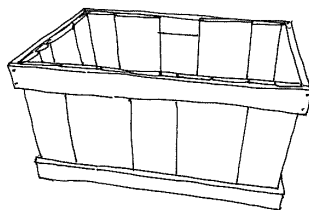
- 4 Choose pieces for the sides of the box. Play around with the layout, since the boards will have slightly different colors/weathering. Measure and mark with a pencil, then cut to size. Attach the corner boards of the box to the frame first.



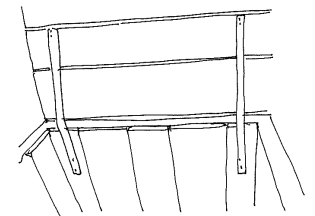
- 8 Build the Lid. Lay out pieces lengthwise and then use perpendicular boards on either side to screw them together (from the underside).



- 5 Attach the rest of the boards to fill in the gaps. You may have to trim one or two boards to get them to fit.



- 9 Attach trim pieces to finish off the top edges of the box. Use hinges to attach the lid to the back of the box.



### RESOURCE

<http://www.deardiy.com/2014/02/10/pallet-wood-storage-box/>

# PALLET PLAYHOUSE



## RIELDS STANDARDS ADDRESSED



Dramatic/Creative Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Pallets  
Carpet  
Screws  
Drill  
Saw  
Sander

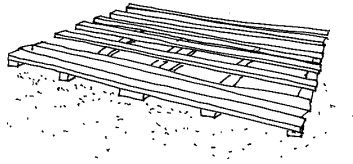
## HOW TO

Construct playhouse using wood pallets - cut to desired sizes.

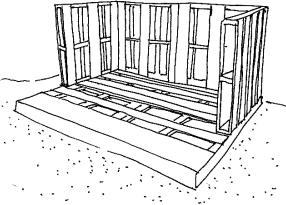


# PALLET PLAYHOUSE CONSTRUCTION

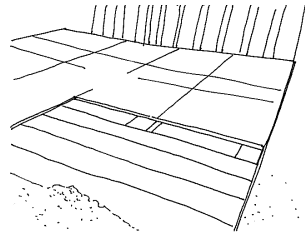
1 Lay out the foundation for the playhouse and stabilize the pallet.



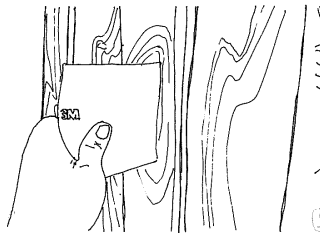
2 Attach the walls. Place two pallets on the back and one of each side.



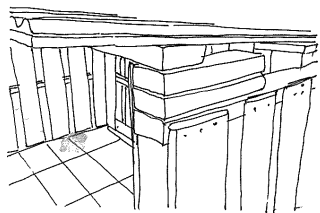
3 Attach the OSB panel on the pallet at the bottom with screws.



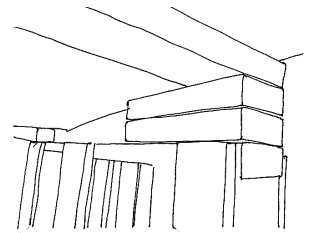
4 Smooth out all the surfaces with sand paper.



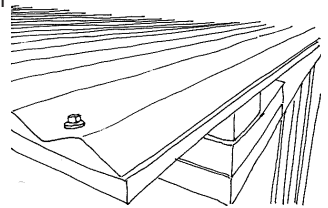
5 Cut one wooden slat into four pieces. Place two of them on the top of each pallet on both sides.



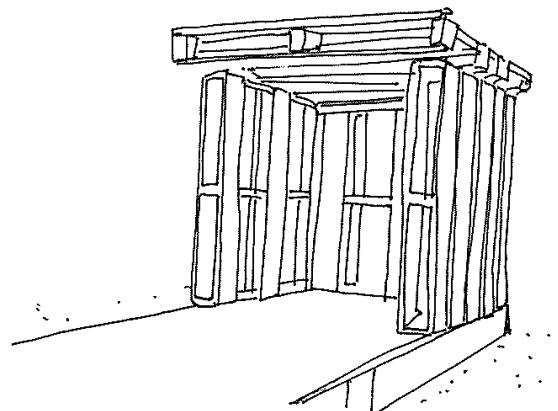
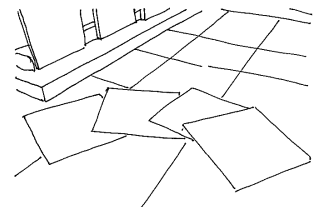
6 Fix one slat between the both sides to install the roof.



7 Use the last OSB panel to create the roof. Attach the galvanized steel panels using self tapping screws specifically designed for galvanized steel.



8 For a comfortable ground, use carpet tiles by fixing with glue.



## Tool List

Tape measure  
Speed square  
Pencil  
Drill  
Drill bit set  
Saw  
Sander

## Material List

Wood Pallets  
Oriented Strand Board (OSB) panel (x2)  
Screws  
Drill  
Hooks  
Sand Paper  
Galvanized Steel Panels

## RESOURCE

<http://builtbykids.com/how-we-built-our-pallet-playhouse/>

# MUD KITCHEN



## RIELDS STANDARDS ADDRESSED



Dramatic/Creative Play



Sensory/Exploration Play

## AGE GROUP

Toddler  
Preschool  
School Age

## SIZE

Modular

## MATERIALS

Wood pallets  
Wood planks  
Basin  
Sinks  
Hooks

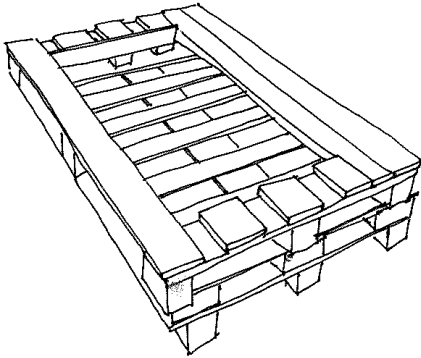
## HOW TO

Create a table with wood pallets or planks. Make a hole and incorporate a basin/sink and bowls.

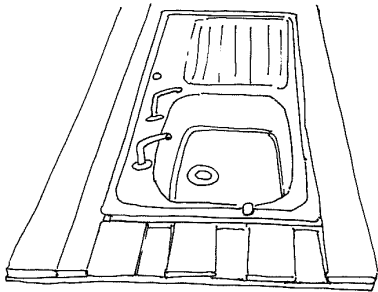


# MUD KITCHEN CONSTRUCTION

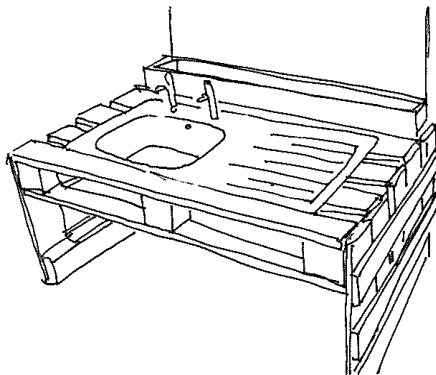
- 1 Cut out a hole big enough to fit the sink in. This will be the counter.



- 2 Place the sink in the hole of the counter and screw the sink to the pallet using the holes on the under side of the sink.



- 3 Cut the second pallet in half to make the legs. Screw the legs to the counter pallet.



## RESOURCE

<http://grillo-designs.com/katies-mud-kitchen/>

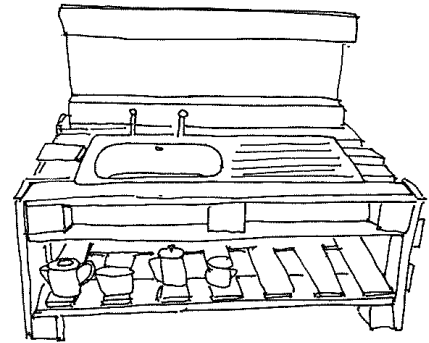
### Tool List

Tape measure  
Speed square  
Pencil  
Drill  
Drill bit set  
Saw  
Sander

### Material List

Pallets  
Screws Drill  
Hooks  
Sink

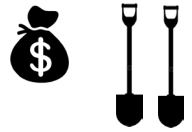
- 4 Use the end of the pallet with the sort of feet on as the bottom of the legs and screwed the other end to the side of the counter pallet.



- 5 Using the third pallet, place a piece of wood underneath one of the planks and make a shelf to plant some herbs. Screw the whole pallet to the back of the base unit.

- 6 With the fourth pallet cut this to size and screw it in to place. Decide where you want to put the hooks and also screw them in to pallets.

# TIRE CLIMBER



## RIELDS STANDARDS ADDRESSED



Physical Intervention

## AGE GROUP

Preschool  
School Age

## SIZE

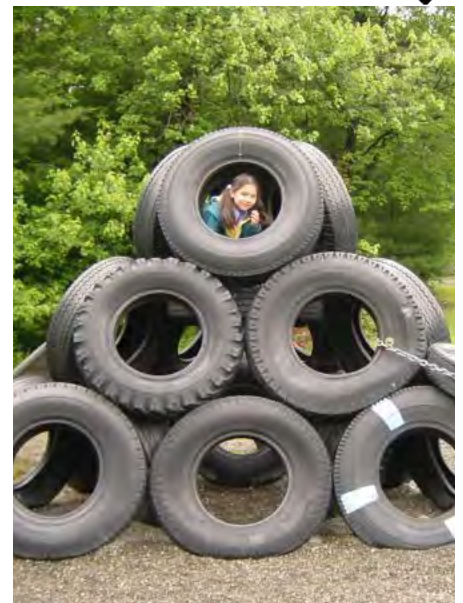
Modular with standard tires

## MATERIALS

Tires

## HOW TO

Horizontally, superimpose tires in pyramidal form by filling them with soil.  
Vertically, accumulate to create a tunnel or superimpose to make a dome.



# TIRE CLIMBER CONSTRUCTION

- 1 Lay 3 truck tires in a triangle and drill and bolt them together. Make 3 of these triangles.
- 2 Dig 3 trenches in a triangle shape and place the 3 tire triangles in so that they lean in towards each other.
- 3 Bolt together all the corners where the triangles are touching with 2 bolts in each tire. Leave a 6' of space free around all sides of this structure

Note:

All openings (in tires and between tires) must not be between either smaller than 3.5" or larger than "in diameter in any direction to avoid head entrapment.

All tires need to have holes drilled or cut at their lowest point to ensure good drainage.

Tool List	Drill
	7/16" bit
	9/16" wrench
	Shovel

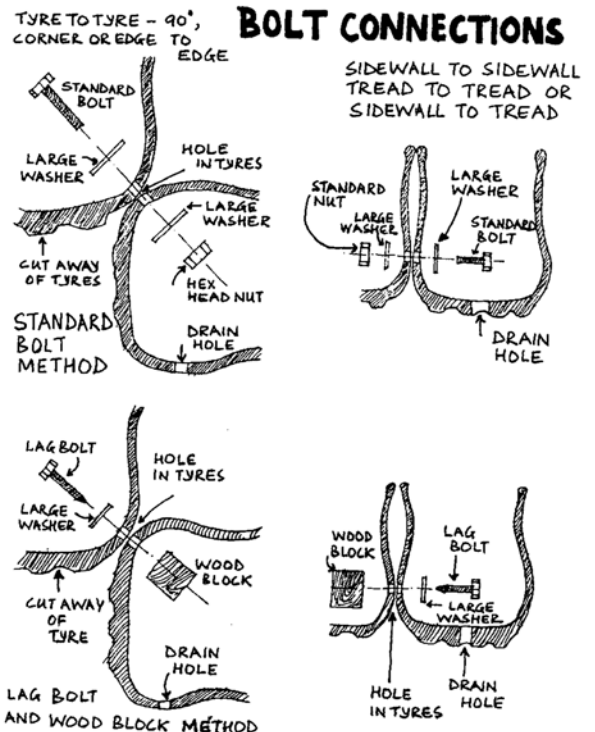
Material List	9 Truck tires
	15 -10" bolts with nuts
	3" washers



Top view (not for construction purposes)



Side view (not for construction purposes)



## RESOURCE

Jolley, James A. "Entyrelly Fun Playgrounds"  
<https://playgroundideas.org/designs/pyramid-truck-tire/>





**PLANT LIST** 

# TREES

Common Name / Botanical Name

- 1- Red Maple / *Acer rubrum*
- 2- Sugar Maple / *Acer saccharum*
- 3- River Birch / *Betula nigra*
- 4- Weeping Flowering Cherry / *Prunus subhirtella*
- 5- Fringe Tree / *Chionanthus virginicus*

- 6- Mimosa Silk Tree / *Albizzia julibrissin*
- 7- Pagoda Dogwood / *Cornus alternifolia*
- 8- Thornless Honeylocust / *Gleditsia triacanthos*
- 9- Saucer Magnolia / *Magnolia soulangeana*
- 10- Eastern redbud / *Cercis canadensis*
- 11- Eastern White Pine / *Pinus strobus*
- 12- Staghorn Sumac / *Rhus typhina*



# BUTTERFLY GARDEN PERENNIALS

## FULL SUN PERENNIALS

Common Name / Botanical Name

- 1- Butterfly Bush / *Buddleia davidii* 'Royal Red'
- 2- Coneflower / *Echinacea purpurea* 'Magnus'
- 3- Butterfly Weed / *Asclepias tuberosa*
- 4- Moonbeam Coreopsis / *Coreopsis* 'Moonbeam'
- 5- Blazing Star / *Liatris Spicata*
- 6- Catmint 'Walker's Low' / *Nepeta racemosa* 'Walkers Low'
- 7- Daylilly / *Hemerocallis*
- 8- Goldenrod 'Little Lemon' / *Solidago* 'Little Lemon'



# SHADE GARDEN PERENNIALS

Common Name / Botanical Name

- 1- White Wood Aster / *Aster divaricatus* 'Eastern Star'
- 2- Wild Geranium / *Geranium maculatum*
- 3- Woodland Phlox / *Phlox divaricata*
- 4- Foam flower / *Tiarella cordifolia*
- 5- Lilyturf / *Liriope muscari*
- 6- Hosta / *Hosta sieboldiana*
- 7- Coralbells 'Dale's Strain' / *Heuchera americana* 'Dale's Strain'
- 8- Christmas fern / *Polystichum acrostichoides*



# SENSORY GARDEN HERBS

Common Name / Botanical Name

- 1- Lavender / *Lavandula angustifolia* 'Hidcote'
- 2- Catmint / *Nepeta x faassenii*
- 3- Rosemary / *Rosemarinus*
- 4- Spearmint / *Mentha spicata*
- 5- Sage / *Salvia officinalis*
- 6- Thyme / *Thymus vulgaris*
- 7- Lemon Thyme / *Thymus x. citriodorus*



# ORNAMENTAL GRASSES

Common Name / Botanical Name

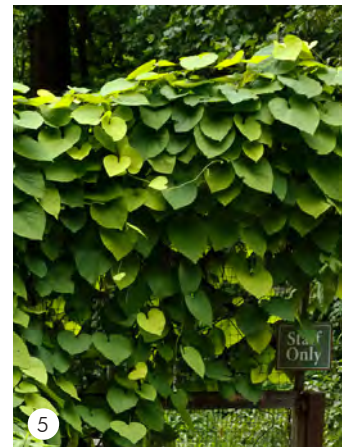
- 1- Dwarf Fountain Grass / *Pennisetum alopecuroides* 'Hameln'
- 2- Karl Foerster Grass / *Calamagrostis* × *acutiflora* 'Karl Foerster'
- 3- Variegated Hakone Grass / *Hakonechloa* 'Aureola'
- 4- 'Little Bunny' Fountain Grass / *Pennisetum alopecuroides* 'Little Bunny'
- 5- Purple Fountain Grass / *Pennisetum setaceum* 'Rubrum'
- 6- Fiber Optic Grass / *Isolepis cernua*
- 7- Oriental Fountain Grass / *Pennisetum orientale* 'Karley Rose'
- 8- Switchgrass 'Heavy Metal' / *Panicum virgatum* 'Heavy Metal'



# VINES

Common Name / Botanical Name

- 1- Concord Grape / *Vitis labrusca*
- 2- Yellow Trumpet Vine / *Campsis radicans* 'Yellow Trumpet'
- 3- 'Dropmore' Honeysuckle Vine / *Lonicera x brownii*
- 4- Boston Ivy / *Parthocissus tricuspidata*
- 5- Dutchman's Pipe / *Aristolochia macrophyllia*



# PLANTS FOR SANDY AREAS

Common Name / Botanical Name

- 1- Switchgrass 'Heavy Metal' / *Panicum virgatum* 'Heavy Metal'
- 2- Butterflyweed / *Asclepias tuberosa*
- 3- Shubby cinquefoil / *Potentilla fruticosa*
- 4- Bayberry / *Myrica pensylvanica*





**LISC** CHILD CARE  
FACILITIES FUND

studio  
**MLA**  
ARCHITECTS