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ABSTRACT

Preschool equipment designed for use in rooms and facilities that are also used for other purposes is described and specifications given. The equipment is portable, inexpensive to make, provides its own storage, adds color to the room, and is durable. Detailed plans and pictures are given for an easel, water table, work bench, appliances in a housekeeping corner, housekeeping storage cabinet, puppet theater, playhouse, store, climbing bars, storage cabinets, desk, tumbling rugs, lock box, blocks, and rocking boat. Woodworking and finishing suggestions are also given, with emphasis on the functional, safe, and attractive aspects of furniture production. In pages added since the first printing, additional directions are presented for a teepee, more appliances, and outdoor play equipment such as slides. (LH)

PRE-SCHOOL EQUIPMENT

FOR A MULTI-USE CENTER

Prepared by:

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Roaring Brook Farm
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Contents

New Equipment Design

Child care centers are often operated in rooms that are also used for other purposes. This multiple usage of facilities means that the children's equipment must be moved fairly often. The equipment described in this booklet meets the needs for such usage. It is portable, inexpensive to make, provides its own storage, adds color to the room and is extremely durable.

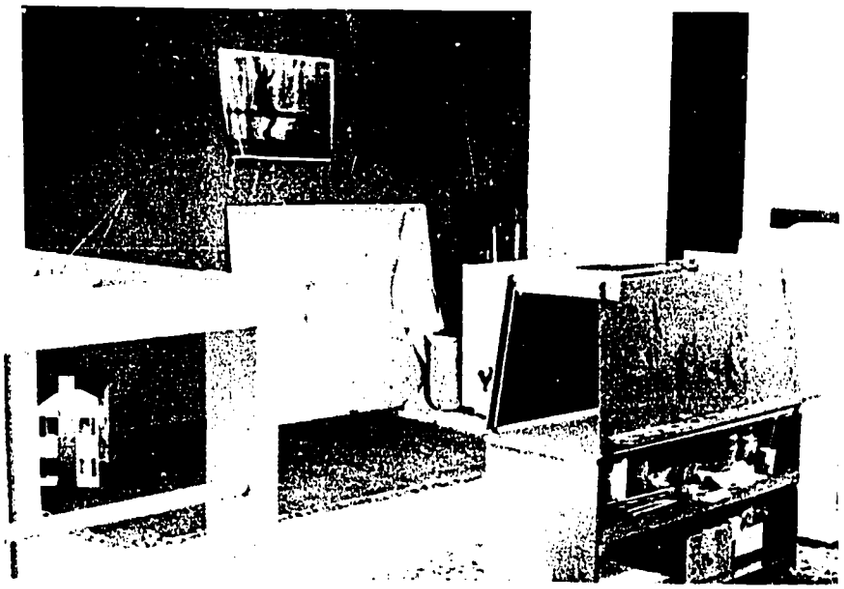
We hope that the detailed plans and pictures provided here would lead to the involvement of parents and community people in the construction of the equipment. In the event that there are no woodworking facilities available for a center to use, these plans could be given to a local trade or vocational school which would probably produce the article needed for the cost of the materials.

We have not copyrighted any of the enclosed material since we wish to share our ideas and make them freely available to anyone working with children. Suggestions for improvement and new ideas for equipment would be welcomed, and we would appreciate hearing from readers about the ideas contained here.

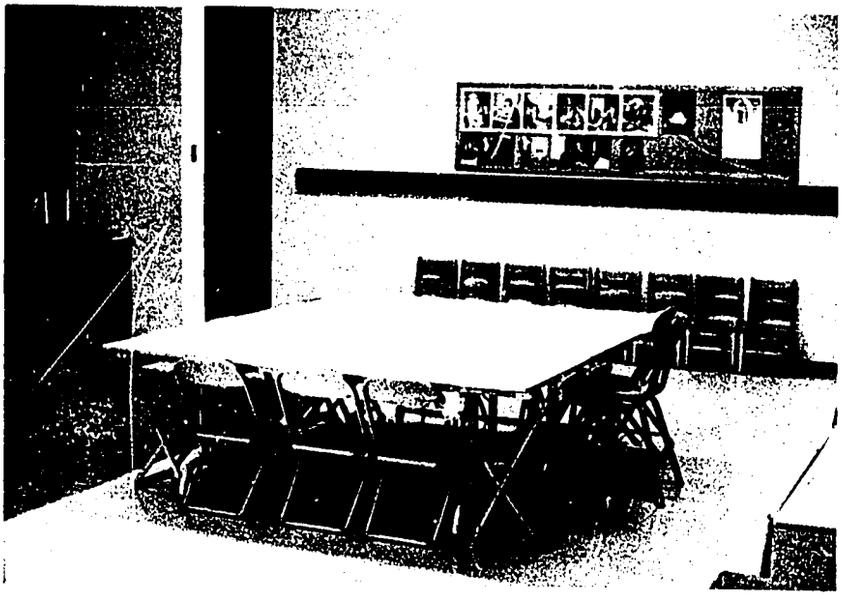
Stone Mountain

Stone Mountain Educational Projects Incorporated is a private, non-profit, educational group whose beginning was in the national headstart program and whose purpose is to implement the headstart philosophy in areas not covered by the national program. This booklet is a result of our experiences in headstart and at the center in St. John's Church in Westfield, Massachusetts. The price of the booklet covers the cost of production, handling and postage.

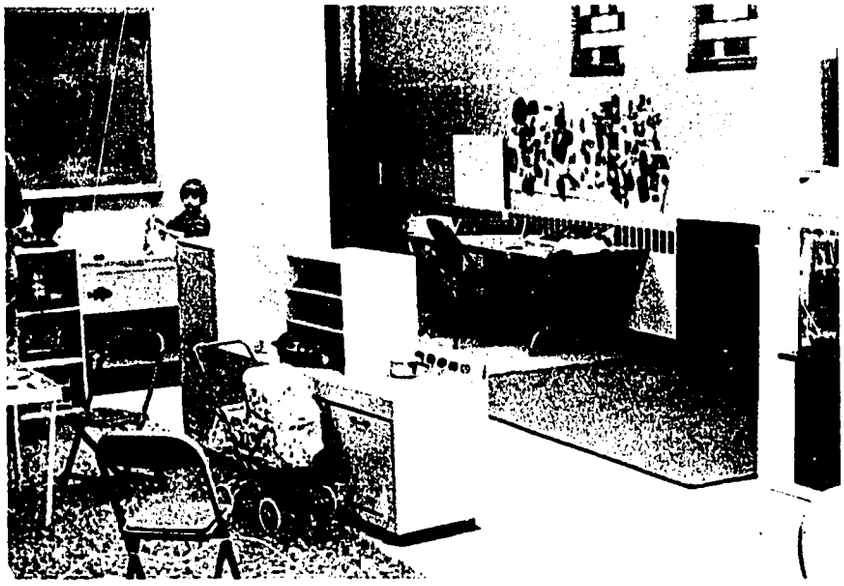
A Room Arranged for Pre-school Use
(Room #9)



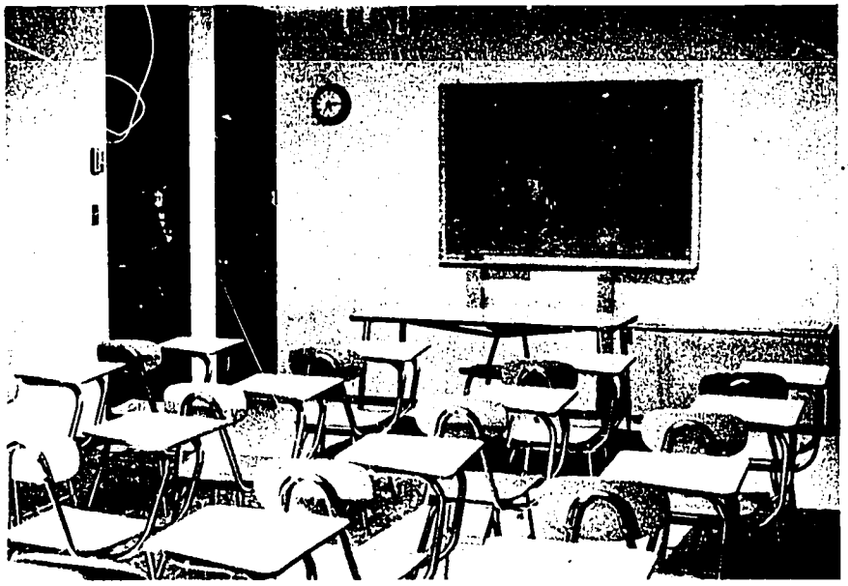
The Same Room Arranged for Church Use



A Room Arranged for Pre-school Use
(Room #10)



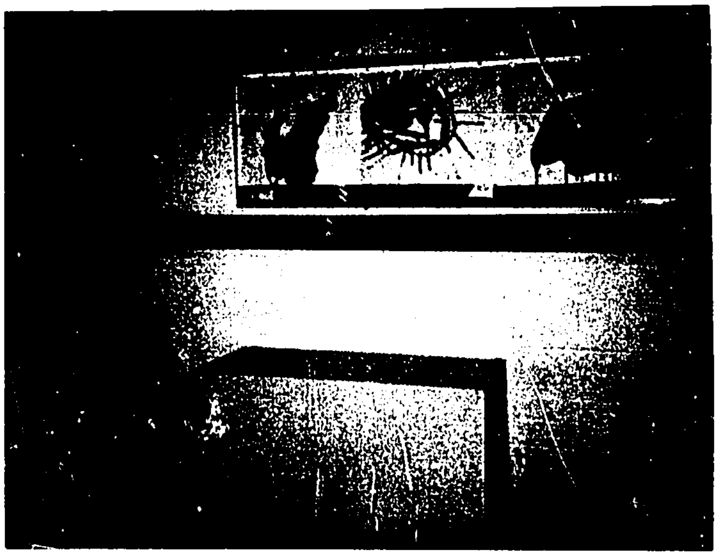
The Same Room Arranged for Church Use



The Easel

The picture below shows the easel in use.

The picture below shows the easel folded.



This design has proven extremely practical in use.

There are four painting stations which replace two traditional easels.

The trays hold disposable paint cups and catch paint runs.

The storage shelves underneath hold a large supply of paints, brushes, aprons, paint cups and paper.

The castors enable the easel to be rolled onto an absorbant rug which keeps paint spills from being tracked about. The easel can be easily rolled aside when the cots are put out for sleeping.

In its storage position the easel is a completely enclosed box which can be rolled against the wall and even serve as a bench in that position. There are rubber tack bumpers to keep the walls from being scratched.

Material list and approximate cost:

1 - 4'x8'x3/8" AC plywood	$5.19
1 - 4'x4'x3/8" AC plywood	2.80
1 - 8'x1"x3" #2 pine	.40
1 - 8'x1"x4" #2 pine	.56
1 - 38"x1"x2" #2 pine	.20
1 - set 1½" castors	2.30
1 - quart enamel paint	3.00
2 - ounces glue	.30
2 - pairs 2" strap hinges	.70
1 - pound 6d box nails	.30
2 - dozen 3/4"x#8 wood screws	.40
	$ 16.15

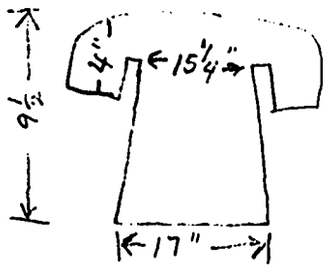
Tools needed:

hammer
cross cut saw
screwdriver
2" paintbrush
sandpaper
brush cleaner

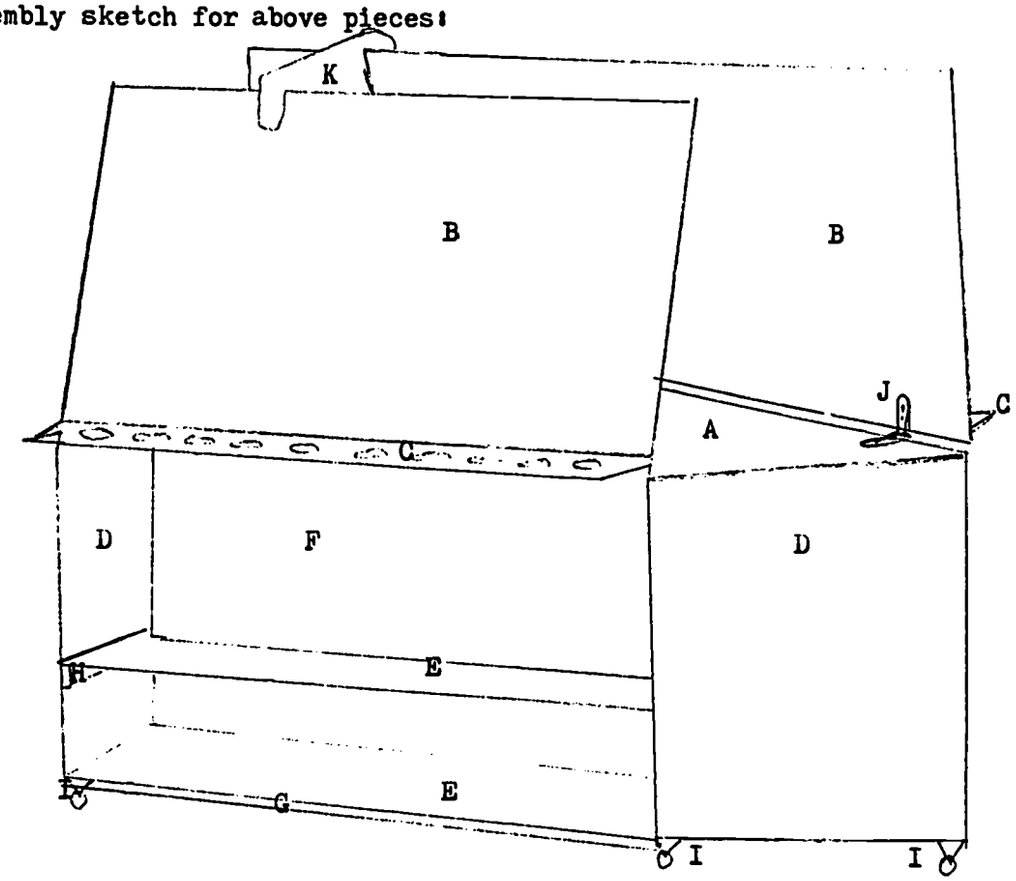
Pieces to be cut from above material:

1 - 19"x48"x3/8" plywood for top	A
2 - 22½"x48"x3/8" plywood painting surfaces	B
2 - 1"x4"x3/8" paint holder with ten 23/8" holes	C
2 - 19½"x22" high end pieces	D
2 - 19"x463/4"x3/8" plywood for shelves	E
1 - 11¼"x46 3/4"x3/8" plywood inner divider	F
2 - 1"x3" bottom supports	G
2 - 1"x2"x19" shelf cleats	H
1 - set of castors	I
2 - pairs 2" strap hinges	J
1 - holding brace for painting boards	K

PART K

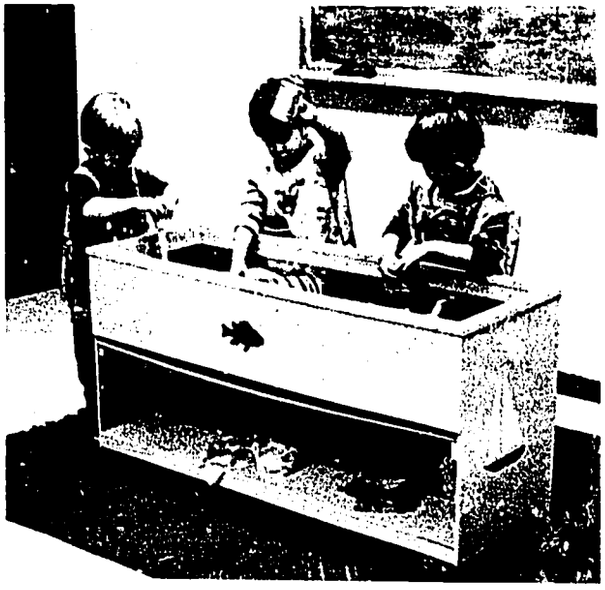


Assembly sketch for above pieces:



The Water Table

The Water Table in use:

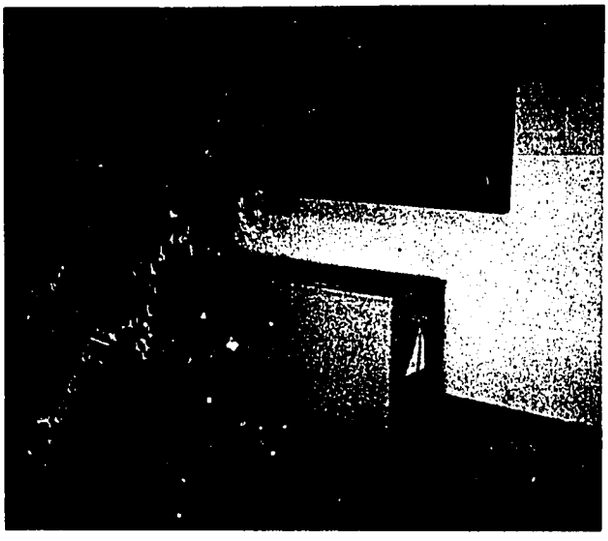


The water table (sand table, or bean table) is another good example of what we have been attempting with our new equipment designs.

This table is mobile due to its castors. You can fill it at a sink and then roll it to a rug so that spills are soaked up. The bottom provides storage for play items and for the cover. It can be siphoned with a hose by rolling it to the nearest lavatory.

The inner rail of wooden strips keeps many waves from spilling over as well as providing structural strength.

Water Table in Storage Position:



Aquatic designs; the duck, fish, swan and sailboat were added for color and for the usage symbolism that the tool pictures served on the work bench.

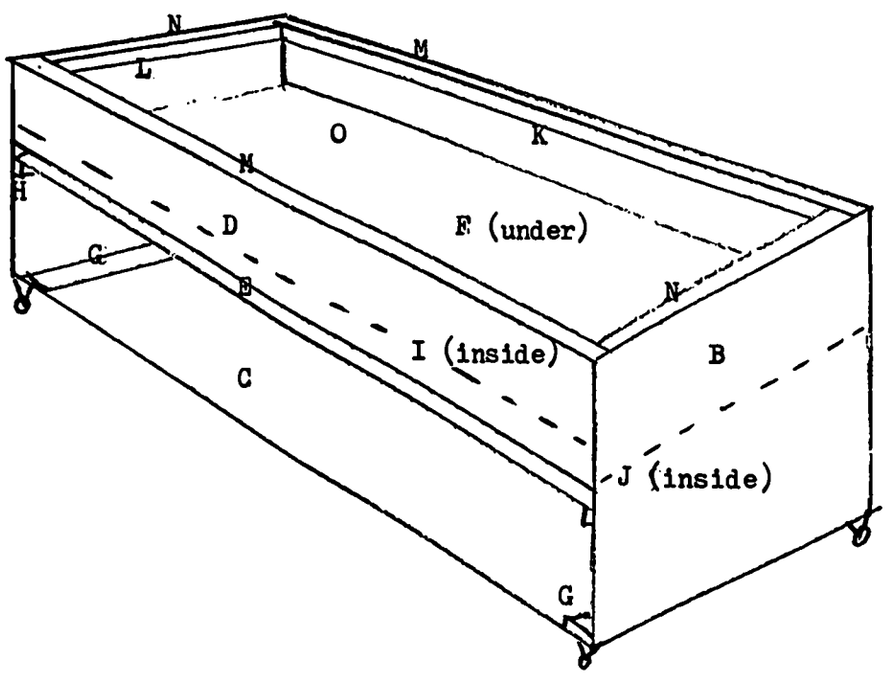
The plastic aprons shown in use here are the same ones that are used with the paint activities and for messy lunches (spaghetti.) About twelve of these aprons can be made from one piece of shower curtain. The edges are made from bias binding (3/4 pack per apron.) They are easily washed in a washing machine or by sponging. Make sure that the head opening is made large enough. About an eight inch opening is right. The aprons cost about 25¢ each for material, and you will appreciate having them as much as we have.

Material list and approximate cost:		Tools needed:
1 - 4' x 8' x 3/8" AC plywood	$5.19	hammer
1 - 18" x 4' x ¼" AC plywood	1.00	cross cut saw
1 - 1" x 3" x 3' - #2 pine	.24	screwdriver
3 - 1" x 2" x 8' - #2 pine	1.44	metal shears
1 - 1" x 2" x 12' - #2 pine	.72	2" paint brush
1 - 28" x 5' aluminum flashing	3.00	brush cleaner
1 - pound 8d box nails	.30	sandpaper
5 dozen 1" x #8 wood screws	.75	ruler
6 ounces wood glue	.60	
1 set 1-½" castors	2.30	
1 quart enamel paint	3.00	
	$18.54	

Parts to be cut from above materials:

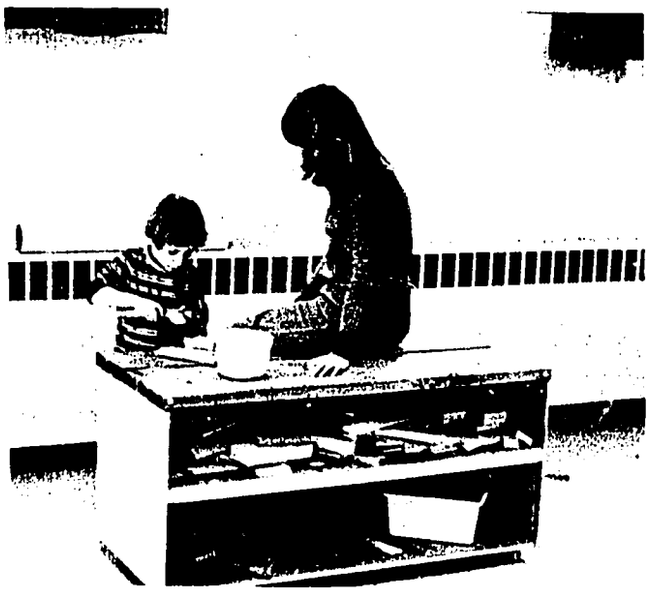
1 - 4' x 20" x 3/8" plywood back	A
2 - 18¼" x 195/8" x 3/8" plywood sides	B
1 - 4' x 18¼" x 3/8" bottom	C
1 - 4' x 9" x 3/8" front panel	D
1 - 18¼" x 47" x 3/8" cover	E
1 - 18" x 47" x ¼" water tank bottom	F
2 - 1" x 3" x 18" bottom side nailers	G
2 - 1" x 2" x 18¼" cover holder for inside storage	H
2 - 1" x 2" x 47" supports for ¼" tank support	I
2 - 1" x 2" x 16½" supports for ¼" tank support	J
2 - 1" x 2" x 47" inner rails to cover water tray edges	K
2 - 1" x 2" x 16-3/4" inner rails as above	L
2 - 1" x 2" x 48" top rails for long sides	M
2 - 1" x 2" x 15¼" top rails short sides	N
1 - flashing folded to fit inside box - 18" x 47"	O

Assembly sketch for above parts:

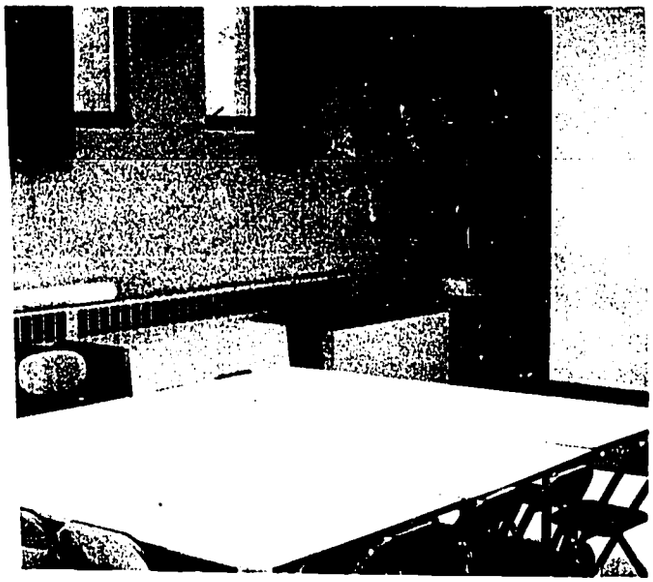


The Work Bench

The Work Bench in use



The Work Bench stored



This is a good piece to begin with since it is the easiest and fastest to build.

The 2" top boards should be stained because paint would chip very quickly.

The sides can be painted for room brightening, and they can have pictures of tools painted on them.

A small plastic dust pan and counter brush can be stored on the shelf, and children should be encouraged to clean after themselves.

Any lumber scraps can be used. Homosote, a pressed wood product is good since it saws and nails easily.

One inch roofing nails have worked best for us. They don't usually penetrate the table top and are easy to drive.

Removable clamp on vises are easily stored and work well.

We believe in using real tools; 12 to 14 ounce hammers, and small carpenter saws that really cut. Under adequate supervision these tools cause less frustration and fewer accidents.

The work bench shelves carry all the materials and tools.

The Work Bench (continued)

Material list and approximate costs:

8 feet of 2" x 12" spruce	$ 2.88
43" of 1" x 4" #2 pine	.36
18 feet 1" x 2" #2 pine	1.08
1 sheet plywood 3/8" x 4' x 8'AC	5.19
½ lb. 8d box nails	.15
½ lb. 4d box nails	.15
2 ounces glue	.30
1 set castors 1½"	2.30
1 pint enamel paint	1.80
½ pint wood stain	.90
	$15.11

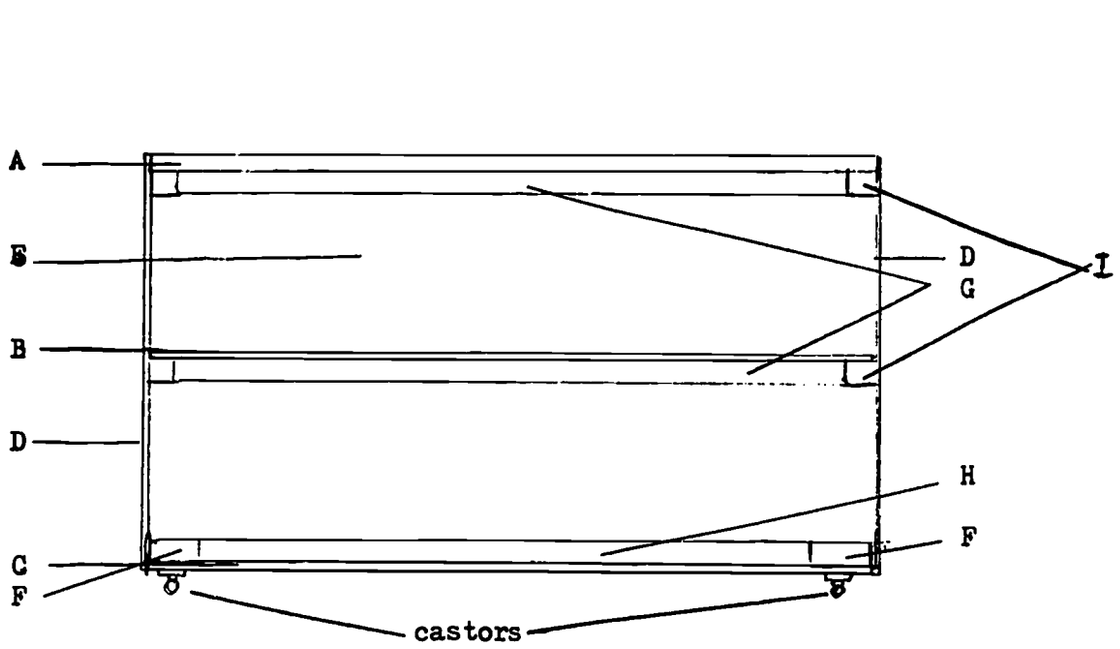
Tools needed:

hammer
cross cut saw
2" paint brush
screwdriver
ruler
brush cleaner

Parts list to be cut from above material:

2- 2" x 12" x 48" top of workbench	A
1- 22" x 47¼" shelf from 3/8" plywood	B
1- 22" x 48" bottom from 3/8" plywood	C
2- 20" x 22" sides from 3/8" plywood	D
1- 20" x 48" back from 3/8" plywood	E
2- 1" x 4" x 21½" cleats for bottom	F
2- 1" x 2" x 43" cleats for back	G
1- 1" x 2" x 42" cleat for bottom	H
4- 1" x 2" x 21½" cleats for shelf and top	I

Assembly sketch:



The Housekeeping Corner - Appliances

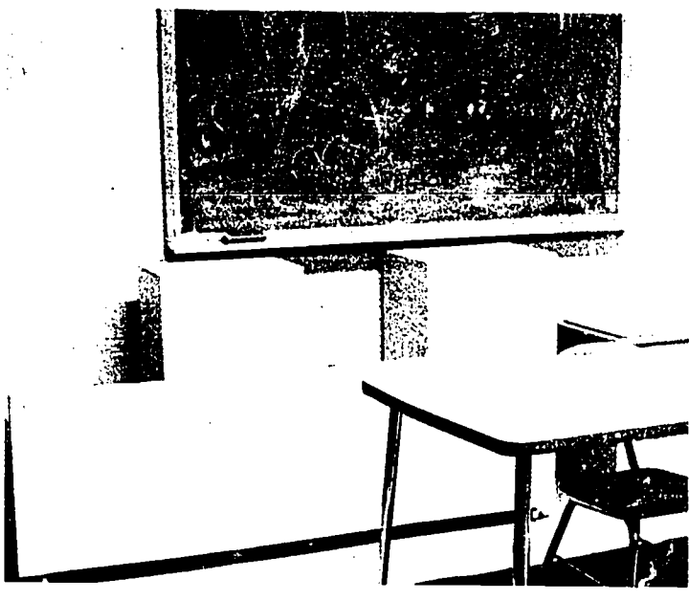
The Housekeeping corner in use:

It is unusual to have these pieces in one section, but the ease of movement of the castors and the non-tip element makes up for the length. As one unit they make a good room or area divider.

The refrigerator unit has an inside shelf to keep children from climbing in.

The oven door, which opens downward, reaches the floor so that if it is stepped on the hinges won't loosen.

Housekeeping Appliances in storage:



There are magnetic catches on all doors which are holding up well.

The unit has a large inside area which we utilize for the weekend storage of our other equipment such as the record player and records.

The sink is a removeable plastic basin which makes cleaning easy.

We purchased metal pots and pans that wouldn't break, but the paint peeled.

The dishes are a heavy weight plastic which has held up well.

Material list and approximate costs:

1 - 8'x2"x4" spruce	$ .96
2 - 4'x8'x3/8" AC plywood	10.38
1 - 10'x1"x2" #2 pine	.50
1 - 8'x1"x3" #2 pine	.56
1 - 1'x1 3/8" round closet rod	.30
1 - set castors 1½"	2.30
1 - pound 6d box nails	.30
1 - 6 ounces wood glue	.60
4 - pairs 2" strap hinges	1.40
4 - magnetic catches	4.00
4 - cabinet pulls	3.20
1 - quart enamel paint	3.00
1 - quarter pint enamel paint	.80
	$ 28.30

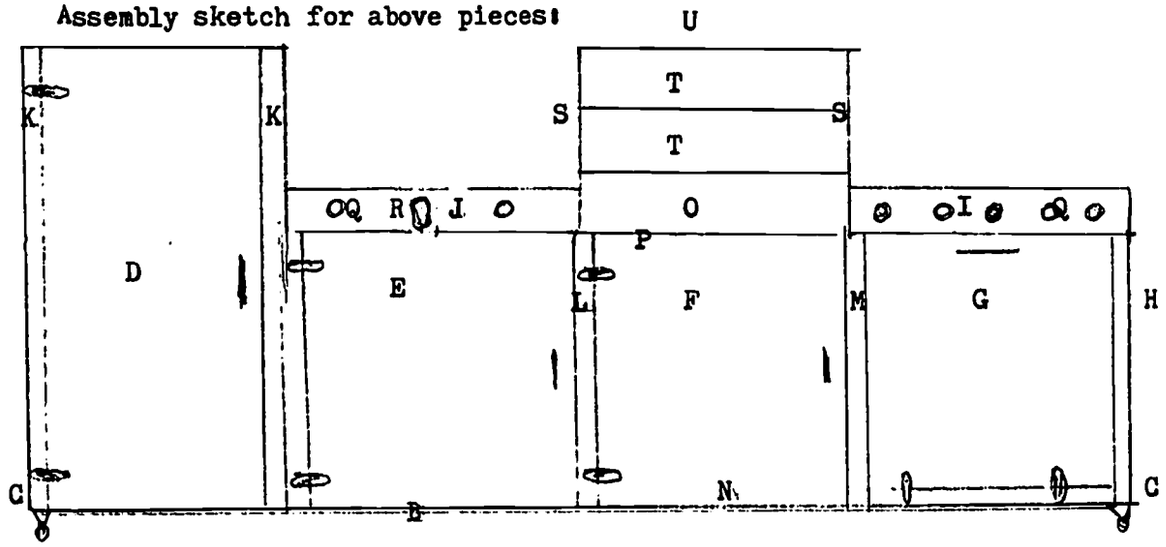
Tools needed:

hammer
cross cut saw
screwdriver
hole saw
2" paintbrush
brush cleaner
ruler
small artist's brush
sandpaper

Pieces to be cut from above material:

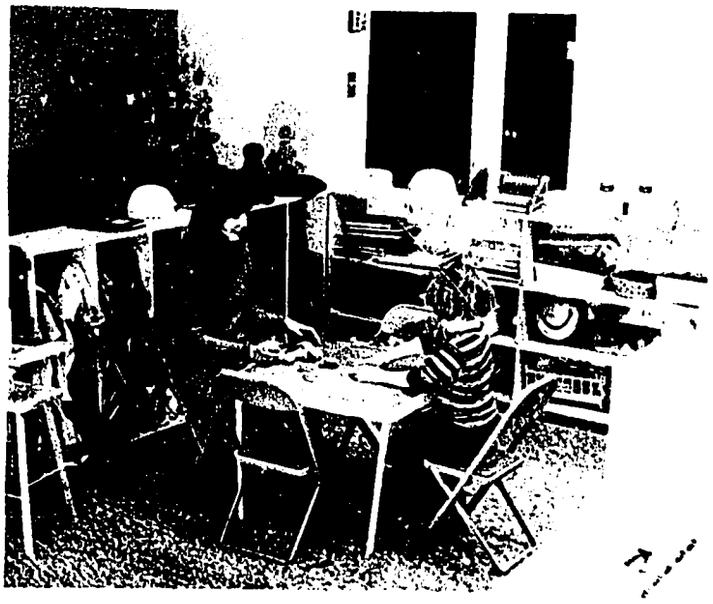
1- 6'x3/8"x stove and sink 22", cupboard and frig. 35", each 18" wide	A
2- 6'x2"x2" for bottom frame	B
2- 10"x2"x2" bottom frame	C
1- 15½"x32"x3/8" refrigerator door	D
1- 16 3/4"x13 ½" sink cabinet door	E
1- 15"x13 ¼" cupboard lower door	F
1- 16"x13 ¼" stove (oven) door	G
1- 15½"x18" oven end piece	H
1- 4"x17½"x3/8" upper stove back for knobs	I
1- 4"x17½"x3/8" upper sink back for faucets and spout	J
2- 1"x2"x32½" frames for refrigerator door	K
1- 1"x3"x14" door frame between sink and cupboard	L
1- 1"x3"x16" oven door frame	M
1- 15½"X6'X3/8" bottom	N
1- 4' 5 3/4"X15¼"X3/8" surface for sink and stove, 10-3/4" sink hole	O
1- 1"X3X4'-5 3/4" front support	P
7- 1"x1 3/8" closet rod for stove knobs and faucets	Q
1- 1-3/8"x4½" sink spout	R
2- 17 5/8"x12"x3/8" sides for cupboard top	S
2- 12"x17"x3/8" shelves for cupboard	T
1- 18"x12"x3/8" top for cupboard	U

Assembly sketch for above pieces:



The Housekeeping Storage Cabinet

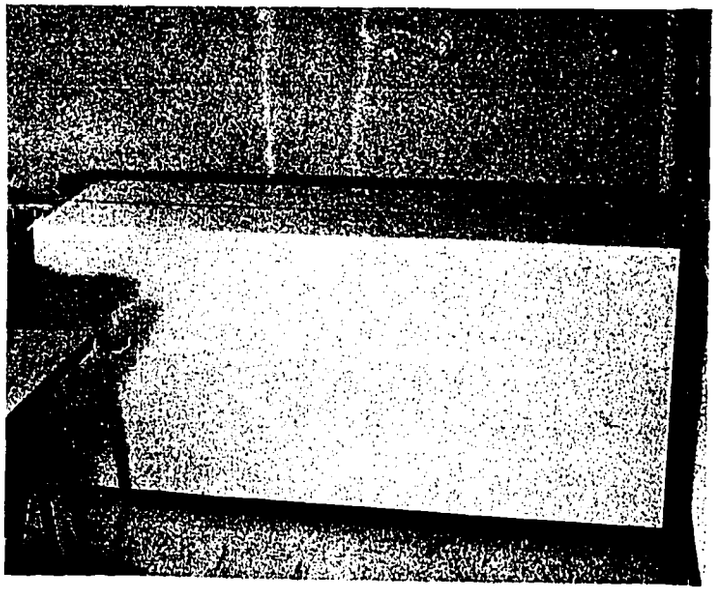
Storage cabinet in use



This is a storage unit that is designed to hold a particular type of material. The lockers and shelves are made vertical on one side for hanging dress up clothes. The shelves on the other side are designed to hold the smaller items of the housekeeping corner.

This divider is hinged so that the angle of openness is adjustable. Since this unit opens at an angle it is almost impossible to tip over. That non-tip design allows for the use of shelving that is much narrower than the shelving on other storage cabinets.

Storage Cabinet closed



This unit is very simple in design and easy to make. The shelf material is twelve inch wide pine boards which hold nails well, are attractive if finished clear, and are easy to work with.

The storage area of this piece is about thirty cubic feet, yet when folded it hardly seems a very large piece of furniture.

Material list and approximate cost:

2 - 4'x8'x¼" AC plywood	$ 8.00
4 - 1"x12" x 12' #2 pine	12.48
1 - 1"x12" x 14' #2 pine	3.64
1 pair 3" loose pin butts	2.00
1 pair trunk latches	1.00
6 ounces glue	.60
1 pound 8d box nails	.30
screws for hardware	.30
1 quart enamel paint	3.00
2 sets 1½" castors	4.60
	$35.92

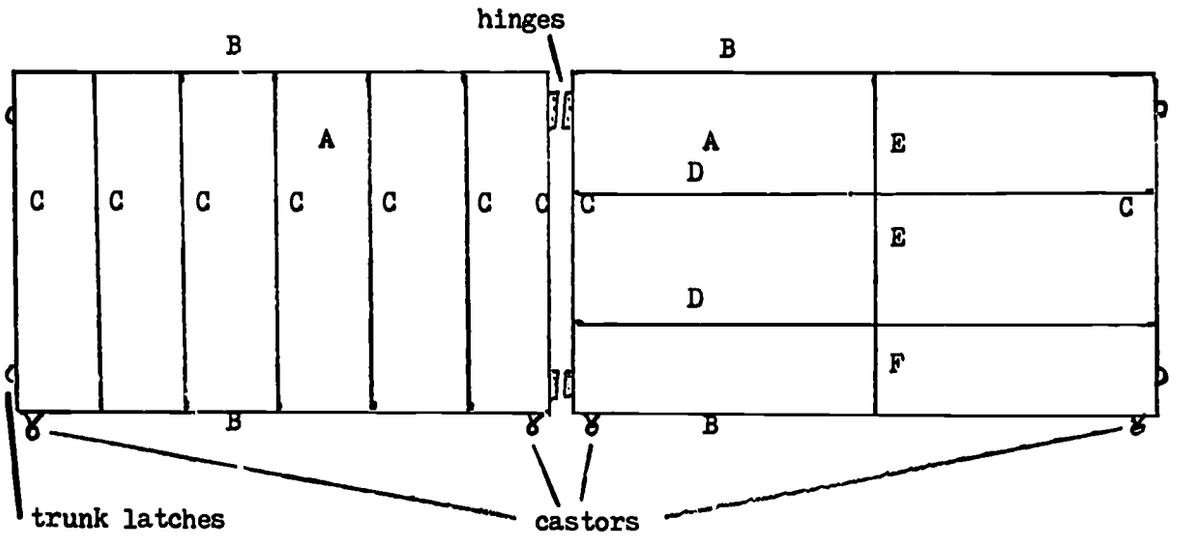
Tools needed:

hammer
cross cut saw
screwdriver
2" paint brush
brush cleaner
sandpaper

Parts list to be cut from above material:

2 - 6' x 32" x ¼" plywood	A
4 - 6' x 1" x 12" pine	B
9 - 30½" x 1" x 12" pine	C
2 - 70½" x 1" x 12" pine	D
2 - 10" x 1" x 12" pine	E
1 - 9" x 1" x 12" pine	F

Assembly sketch for above parts:



The Puppet Theater

Puppet Theater in use:

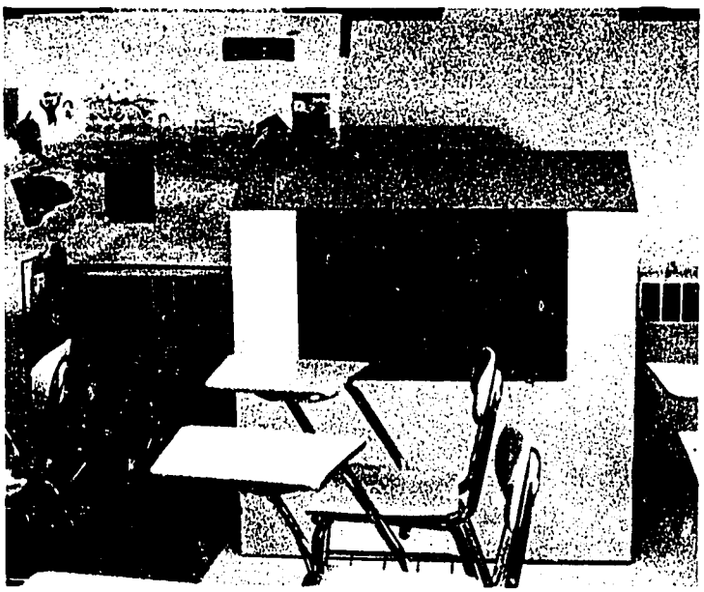
There isn't much new to say about the desirability of dramatic play and the ways of setting scenes for it.

Adults can describe this as a puppet theater, store, post office or play house. The children will use it for even more things in their play.

This is a large piece of furniture. Be sure to measure the center's doorways before deciding on finished size.

"There was this fella that built a boat in his cellar....."

Theater in storage position:



The floor of the puppet theater should be carpeted with squares of rubber backed samples to control noise and for the children's comfort.

The door should be fastened with an easy opening catch. Children can panic when they feel locked in. We used a roller type cabinet latch which has worked well.

We store a large number of smaller equipment pieces in this building over weekends.

This is a very sturdy item which is easy to build and should be in every center.

Material list and approximate cost:

2 - 4'x8'x3/8" AC plywood	$10.38
1 - 4'x16"x3/8" AC plywood	1.50
5 - 8'x1"x2" #2 pine	2.00
1 - 8'x1"x4" #2 pine	.48
2 pair 2" strap hinges	.70
1 - 2" wooden door knob	.40
1 - 3" hook and eye	.15
1 - roller catch	.30
1 - 47" x3/8" curtain rod	.94
2 - pints enamel paint	3.60
1 - pound 8d box nails	.30
	$ 20.75

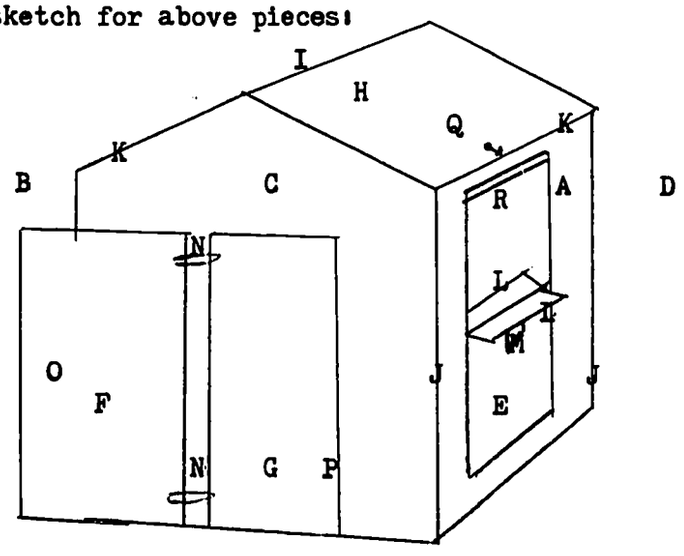
Tools needed:

Cross cut saw
hammer
screw driver
2" paintbrush
sandpaper
brush cleaner

Pieces to be cut from above material:

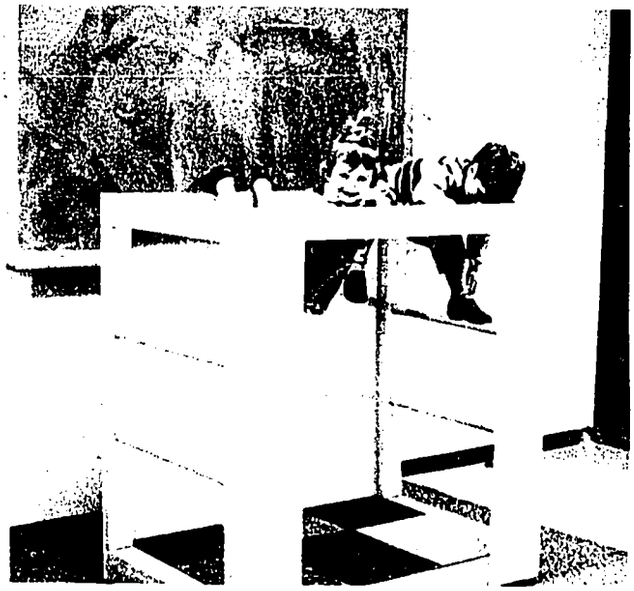
2 - 4'x42"x3/8" plywood for front and back	A and B
1 - 30"x48"x3/8" plywood for door end	C
1 - 30"x48"x3/8" plywood for back	D
1 - 32"x20" high window cut from front side A	E
1 - 15½"x35" door cut from part C	F
1 - 4'x30"x3/8" plywood for floor	G
2 - 16"x48"x3/8" plywood for roof	H
1 - 1"x2"x47¼" ridgepole	I
4 - 1"x2"x41" inner corner braces	J
2 - 1"x2"x44" nailers for roof/wall junctions	K
2 - 1"x4"x31½" window shelves, inside and out	L
2 - 1"x4"x8" tapered shelf supports	M
2 - 2" strap hinges for door and window	N
1 - 2" wooden door knob	O
1 - roller catch for door	P
1 - 3" hook and eye for window	Q
1 - 47" curtain rod for window with end brackets	R

Assembly sketch for above pieces:



The Climbing Bars

Climbing Bars in use:



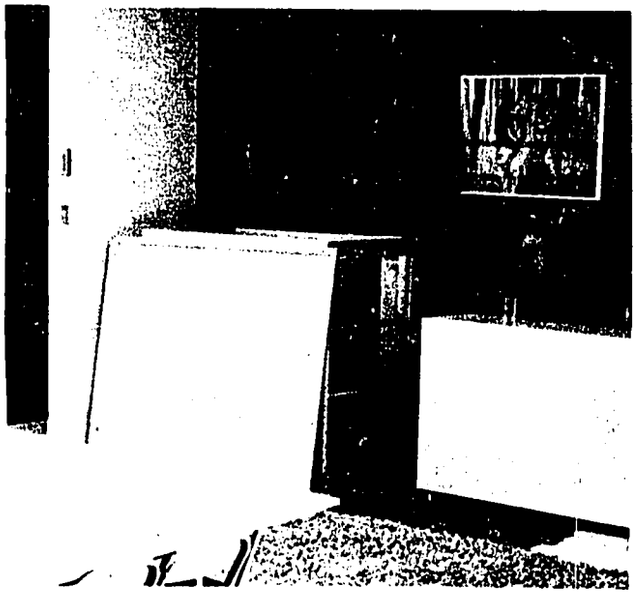
Climbing bars are a necessity for indoor physical activity.

Children seem proudest of their accomplishments on this equipment and drag their parents over to show them what they can do here.

The entire floor of this unit should be covered with a rubber backed carpeting both for noise reduction and for safety. Carpet squares can add color if they are of mixed patterns and shades.

Do not put castors on these bars. Dowels are placed into the bottom and covered with white, non-marking crutch tips.

Climbing Bars stored:



The bars should be centered on a piece of rubber backed carpeting which serves as a safety mat.

This piece of furniture cannot be designed to fold for storage and still be strong. However, the bars can be turned against the wall when not in use and filled with other, smaller pieces of equipment.

Material list and approximate cost:

1 - 4' x 8' x 3/8" AC plywood	$ 5.19
1 - 10' x 2" x 4" spruce	1.56
2 - 14' x 2" x 4" spruce	3.64
15' x 1-3/8" round closet rod	3.00
1 - 3/4" x 3' dowel	.17
6 - 3/4" crutch tips	.60
1 - pound 8d box nails	.30
6 - ounces glue	.60
1 - quart enamel	3.00
	$18.06

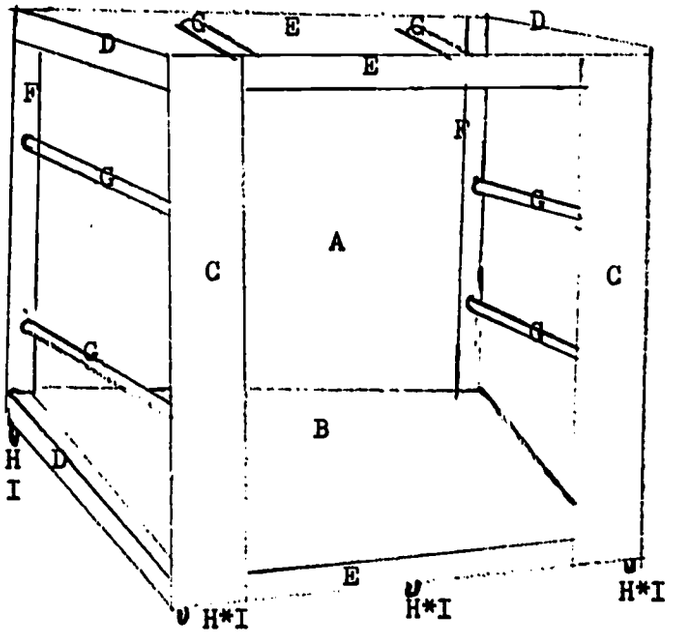
Tools needed:

hammer
cross cut saw
keyhole or electric
saber saw
3/4" drill bit
hand brace or
electric drill
2" paint brush
brush cleaner
ruler

Pieces to be cut from above materials:

1 - 4' x 4' x 3/8" back piece	A
1 - 30" x 4' x 3/8" bottom	B
2 - 9" x 4' x 3/8" front pieces	C
4 - 2" x 4" x 30" front to back rails	D
4 - 2" x 4" x 41" lateral rails	E
4 - 2" x 4" x 40-3/8" corner uprights	F
6 - 1-3/8" x 30" round climbing bars	G
6 - 3" x 3/4" dowels for legs	H
6 - 3/4" cruch tips over dowel projections	I

Assembly sketch for above pieces:



Storage Cabinets

Storage Cabinet in use:

The storage cabinets described here have some general things in common which make them functional. The inner arrangement of the shelves will depend upon the materials you wish to store.

These cabinets are 16" deep. That is deeper than most commercially available cabinets and is decided by their having castors and still being stable, and 16" is a way to divide plywood sheets with less waste.

These pieces are easy to make, are portable due to the castors, can be painted to brighten the room and c serve as room dividers in new area arrangements.

Storage Cabinet against wall:

Rubber headed tack bumpers should be placed on these pieces so that they will not scratch the walls.

The sixteen inch depth of these cabinets allows them to hold large books and those plastic storage boxes for toy sets.

Material list and approximate cost:

1 - sheet 4' x 8' x ½" AC plywood	$ 6.71
1 - sheet 4' x 4' x ½" AC plywood	3.50
1 - set 1½" castors	2.30
screws for castors	.30
1 - quart enamel paint	3.00
1 - pound 8d box nails	.30
2 - ounces wood glue	.30
	$16.71

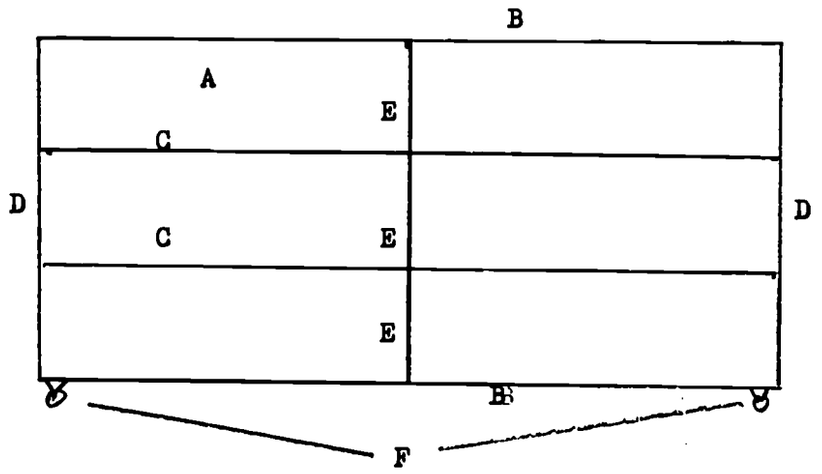
Tools needed:

hammer
cross cut saw
screwdriver
2" paintbrush
brush cleaner
ruler

Parts to be cut from above materials:

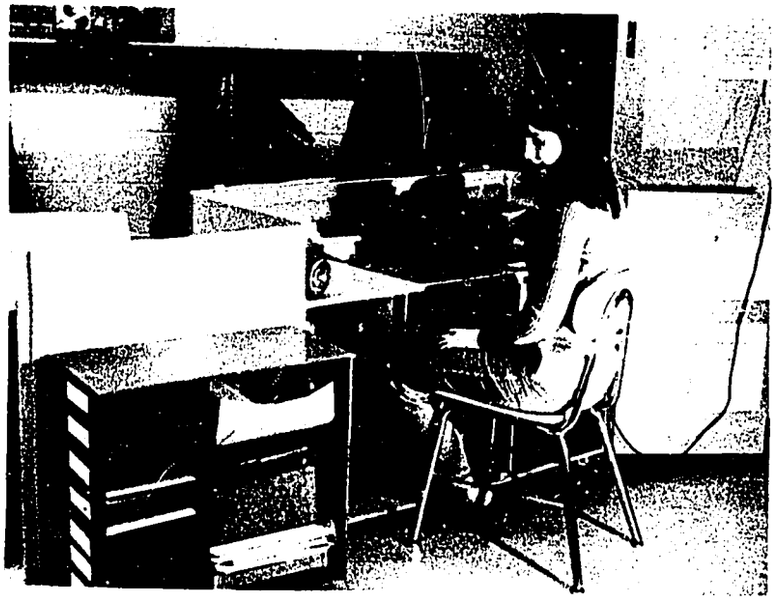
1 - 4' x 31" x ½" plywood	A
2 - 4' x 16½" x ½" plywood	B
2 - 47" x 16" x ½" plywood	C
2 - 16" x 31" x ½" plywood	D
3 - 10" x 16" x ½" plywood	E
1 - set castors	F

Assembly sketch for above parts:

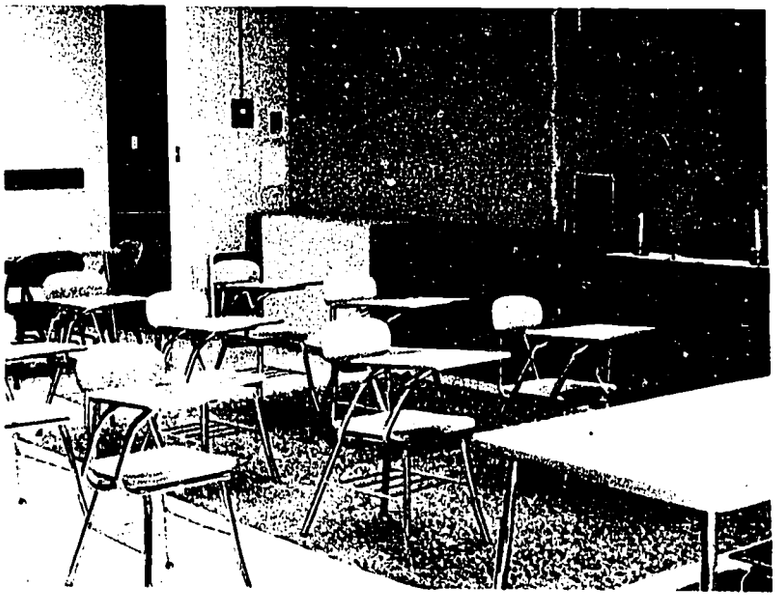


The Office Desk

Desk open and in use:



Desk closed and locked:



The desk is a necessary piece of furniture for any center. This one has features, described below, that make it very useful. However, this is a complicated job to complete and should be done by someone who has some skill with tools.

This desk embodies all the elements of storage and self-containment that we have discussed thruought our booklet. The desk is locked at night as well as over the weekend to insure privacy of the records for parents and children. The telephone is on a jack so that it too can be unplugged to stop unauthorized use.

Staff mail boxes are on the inside of one drawer.

The first aid kit is also kept in the desk so that everyone knows where to locate it quickly and to keep it away from the children.

The desk faces the classroom and has wing-like sides which form an off-limits area from the children (the coffee pot is on a shelf behind it.) The coffee pot, first aid kit, telephone and personal records are thus kept from being a hazard to the children or from unauthorized use.

Material list and approximate cost:

2- 4'x8'x3/8" AC plywood	$10.39
1-4'x8'x3/8" AC plywood	2.75
2- 4'x8'x½" AC plywood	13.42
1- 10'x1"x2" #2 pine	.50
1- 3'x1"x3" #2 pine	.24
3- pairs 6" strap hinges	1.35
1- 4" hasp	.55
1- set 1-½" castors	2.30
24-3/4"x10/32 round head bolts	.40
1- pound 8d box nails	.30
6- ounces glue	.60
1- quart enamel paint	3.00
	$ 35.80

Tools needed:

hammer
cross cut saw
1/8" drill
screwdriver
2" paintbrush
sandpaper
brush cleaner
ruler

Pieces to be cut from above material:

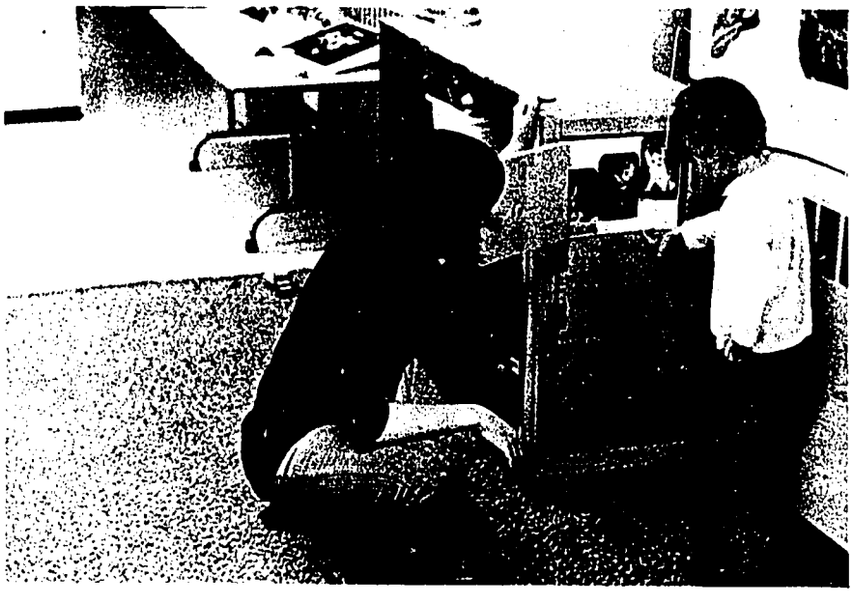
1 - 4'x20-3/4"x3/8" plywood cover
2 - 20"x323/4"x½" plywood sides
1 - 4'x32-3/4"x3/8" front panel
1 - 20"x47"x½" desk top (8" down)
1 - 27½"x32 3/4"x3/8" left door
1 - 20"x32 3/4"x3/8" right door
1 - 20"x47"x3/8" bottom panel
2 - nailing cleats front corners
    1"x2"x32"
1 - 45½"x1"x2" cleat for top
1 - 23½"x20"x3/8" top and drawer support
4 - 16"x5"x3/8" drawer sides (front and back)
4 - 20"x5"x½" drawer sides
2 - 16"x20"x3/8" drawer bottoms
2 - 10"x15"x3/8" file drawer ends
2 - 10"x19"x½" front and back file drawer
1 - 19"x14"x½" file drawer bottom
4 - 1"x1"x20" drawer runners
1 - 25"x12"x½" top left shelf
2 - 20½"x12"x½" sides for left door drawers
1 - 25"x12"x½" bottom for left door shelves
1 - 12"x24"x3/8" vertical divider
7 - 9"x12"x3/8" mail shelves 3" apart
1 - 14"x12"x½" right hand shelf 6 ½" down
    Entire left door unit is 9" down from top
    of door.
1 - 1"x3"x32 ½" door stop mounted outside left door

A Tumbling Mat

A good two inch thick mat with plenty of spring and cushioning for safe tumbling can be made by stacking two rugs. The carpet that is used under our painting easels is a heavy shag. When it is covered by the rug from the story corner it makes a fine tumbling mat. The rugs require no storage, and the activity is great for bad weather days.

The Lock Box

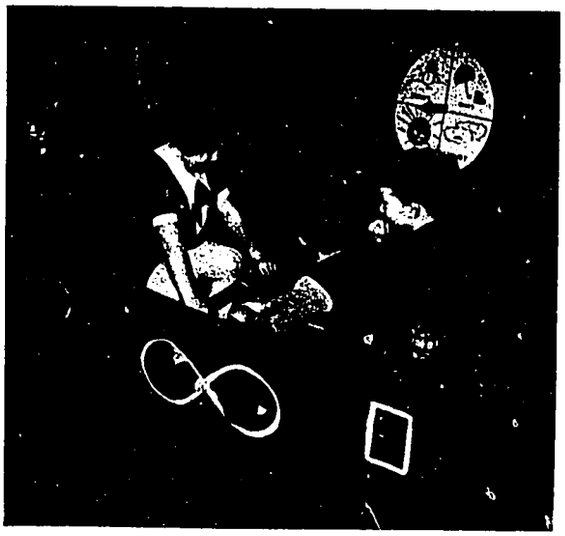
Different latches, catches and hinges can be displayed for use by mounting small working doors on the ends of a storage cabinet as shown in the picture below. There is no room taken up in this way. Interest in the doors can be sustained by mounting pictures behind each and changing the pictures fairly often.



Blocks

Blocks are essential for a pre-school center and can be made fairly cheaply. Two by four inch lumber can be purchased in manageable lengths and cut in multiples of the width. That is, current 2"x4" lumber is actually 3 and 5/8" wide. Cut some blocks square 3 and 5/8 by 3 and 5/8. Cut some twice that, 3 and 5/8 by 7 and ¼, then some 10 and 7/8 inches and so on. Sanding is important. Manufacturers state that their blocks won't cause splinters because they are hardwood, well sanded and varnished. They are also expensive. Cutting with a sharp blade and sanding well can eliminate most splinters. These homemade blocks can be made very colorful by dying them in a fabric dye. Mix the dye in hot water in an enamel pan and boil the blocks a few at a time. The colors will be vivid and quite attractive. Use the same color for the same length of block. Store them in a cabinet with all colors together.

The Rocking Boat



The rocking boat is a popular piece of pre-school equipment which need not be expensive. The one pictured here is easy to make, colorful, and light in weight.
The weight has been reduced by cut outs on the sides which were done in the shape of geometric figures to add interest.

Tools Needed

hammer
cross cut saw
keyhole saw or electric saber saw
screwdriver
2" paint brush
sandpaper, coarse and medium

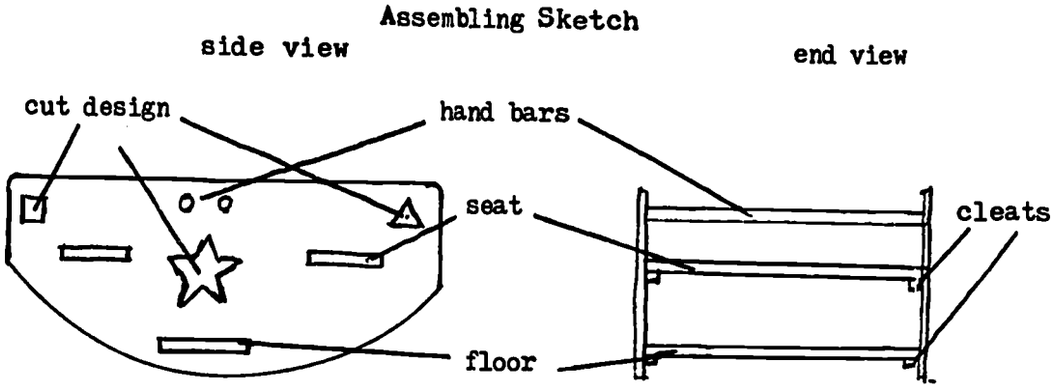
Material list and costs

4' - 1 3/8" closet rod	$ .80
8' -1" x6" #2 pine	1.02
40" -1"x2" #2 pine	.48
24"x48" -$\frac{1}{2}$" AC plywood	2.18
16-1$\frac{1}{4}$"x#8 screws	.24
$\frac{1}{2}$ lb 8d box nails	.15
2 ounces wood glue	.30
1 pint enamel paint	1.80
	$ 6.97

Parts to be cut

2-24"x13/8 closet rod
4-24" -1"x6" number 2 pine
4-5" -1"x2" pine nailers
2-10" - 1"x2" pine nailers
2-12" x 48" x$\frac{1}{2}$" plywood rockers

Assembling Sketch



Woodworking Suggestions

Lumber sizes are nominal except in the case of plywood which is exact. Nominal means what they are called but not what they actually measure. For example; a nominal two by four board actually measures an inch and five-eighths by three and five-eighth inches. Now there are new standards being set by the lumber industry which will reduce those actual sizes further. In general, lumber will measure smaller than the nominal size. That is important to remember when you purchase fasteners. Nails and screws are exactly the size named.

It is a good practice to sandpaper rough edges on all wood pieces before they are fastened together. That eliminates the chance of splinters in hands and makes painting much easier.

Each piece of wood should be glued in addition to nailing. This should be done on all areas that meet as you assemble the parts. Any good woodworking glue can be used.

Non-toxic paint should be used. There isn't much danger of a child eating paint in a well supervised center, but it's so easy to get the lead free paint that the ease of mind is worth the difference.

Use a liquid detergent full strength for cleaning brushes when the paint is still wet. Detergent is not flammable, and the odor isn't objectionable.

The use of a cement coated box nail is recommended. Drive the heads flush and they will take paint well. The holding power and reduced wood splitting makes them worth using even though they require a bit more care in driving.

When bolts are used (as in hinges) don't let the ends project. Either get exact sizes or cut the excess and then tap the ends smooth. That eliminates the danger of people being injured and keeps the nuts from working off.

When cutting plywood with a hand saw, cut down on the good side so that splinters and roughness show on the poor side which will be on the inside of the finished furniture. Electric saber saws cut in the up direction, so use them with the poor side of the plywood on top.

Most plywood will show hollow spots when cut. Place the piece with the hollow edge up and run some glue into the places where the laminations are missing. That may not fill the holes completely, but it will strengthen the other layers and hold fasteners better.

You can do a very good job with simple hand tools, but the more power tools you have the easier and faster you can finish.

Plywood sheets are large and awkward to handle. Most of these designs use four foot sections and the lumber yard will usually be agreeable to cutting the sheets in half for you.

When cutting large sheets of plywood with hand tools you should have help in holding it. Supports are needed; tables, or boxes.

The plans call for the use of pine for one inch stock instead of spruce since the pine nails and saws much easier and will be strong enough in all cases.

Select a straight piece of one by two about four and one half feet long to use for marking across sheets.

Use a gloss enamel or semi-gloss paint to provide a hard and washable finish.

Paint dealers often have colors that were either discontinued or mixed in error. The quality is unimpaired, but it is usually a dead item for them and they are usually willing to sell for reduced prices. If you can locate the type of paint in a color you like, you can save by getting that.

Carpeting for the climbing bars and the puppet theater can be the rubber backed type. Samples of discontinued colors can be gotten free or at reduced prices. Cement them in place for safety and to reduce noise.

Form follows function:

A functional, safe and attractive article of furniture can be produced by an amateur woodworker using basic hand tools. Remove all sharp edges from boards with sandpaper. Drive all nails flush and watch for points going through. Work slowly and carefully, measuring twice and cutting once. Enjoy the experience and produce an honest article for use in your center.

Best wishes from Stone Mountain.

President: Vivian E. Mars.

Vice-president: Ellen J. Castaldini Jackie Spelter

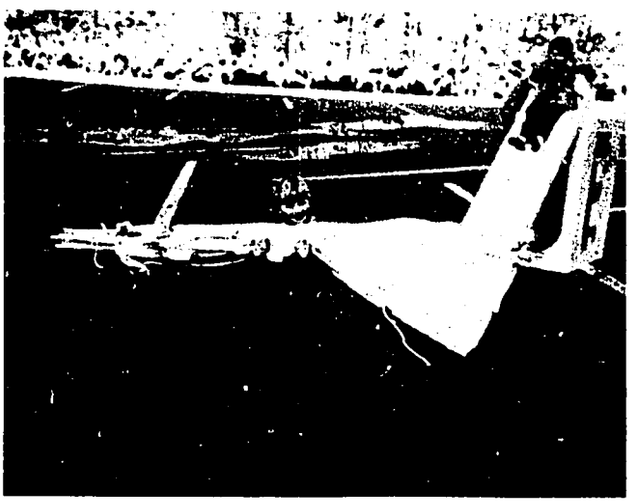
Secretary: Mary Lamb Jerry Winter

Treasurer: Roger K. Cobb Bettye Crawford

The Teepee

The Teepee set up:

The Teepee folded:



This is a popular piece of play equipment which is easy to make and inexpensive.

The teepee is light and can be carried with little effort.

The size and portability of the teepee make it useable indoors and out.

When folded the teepee easily fits in an average height closet.

The muslin material takes magic marker and poster paint well and can be easily decorated with bright colors and indian themes.

Approximate cost: $4.63

PLEASE NOTE

This page and the following five pages have been added to our booklet since the first printing.

Plans for this new equipment shown on pages 27 through 32 are available but at extra cost.

The price of the complete set is two dollars from:

Stone Mountain
60 Broad Street
Westfield, Mass. 01085

The Washer - Dryer

The Washer - Dryer in use:

This is a very easy piece of furniture to build, and the cost for material is low.

This article does not fold for storage, but it has castors for rolling and has space inside for the storage of other things. The ironing board fits inside it.

The washer - dryer set is another good piece of equipment for imaginative play. The design is simply that of a box with two doors and some decorations.

The Ironing Board in Abuse:

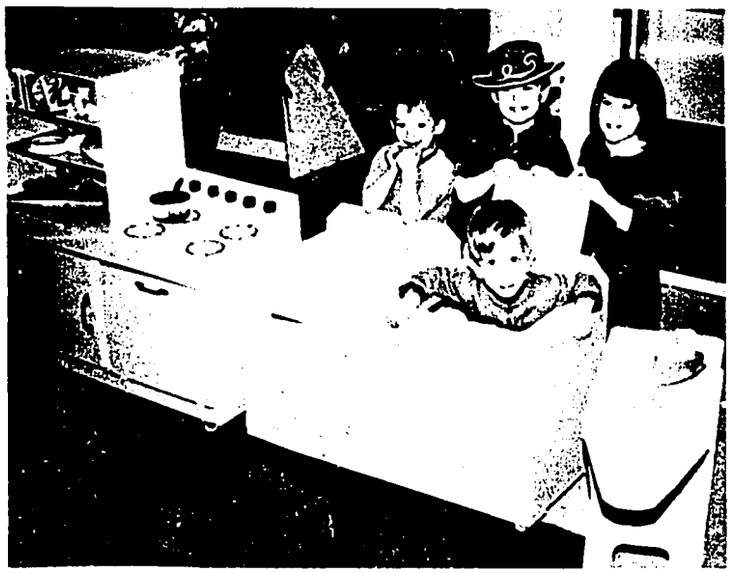
The ironing board is made from material left over from the washer - dryer set. There is no additional cost for its production.

We posed these three children on the board to demonstrate its strength.

Material cost: $18.06

The Ironing Board

The Ironing Board in use:



A good strong ironing board is really necessary in a center. This is a a popular play activity, possibly because the children can't be allowed to use a real iron.

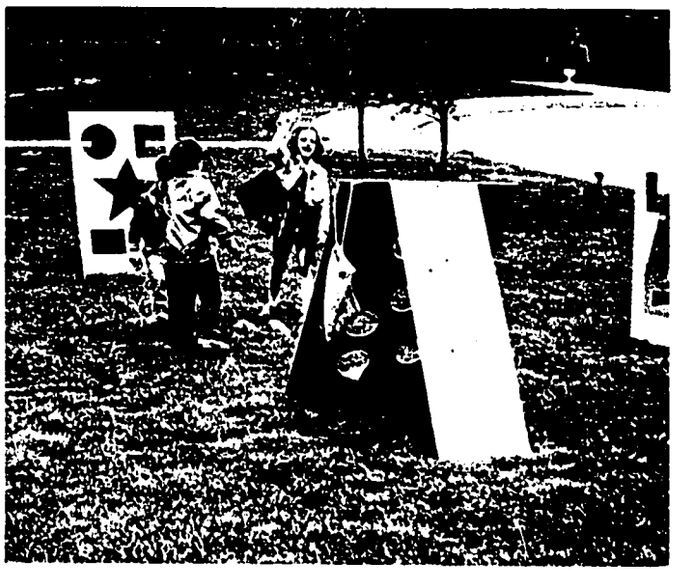
We feel that the ironing board is a common applianc and should be made in the commercial form.

After discarding several commercial models which broke, we decided to try to design a strong one that could be made easily and cheaply.

The Ironing Board apart:

This ironing board is made from the left-over material from the washer-dryer set. It costs nothing but the labor to build.

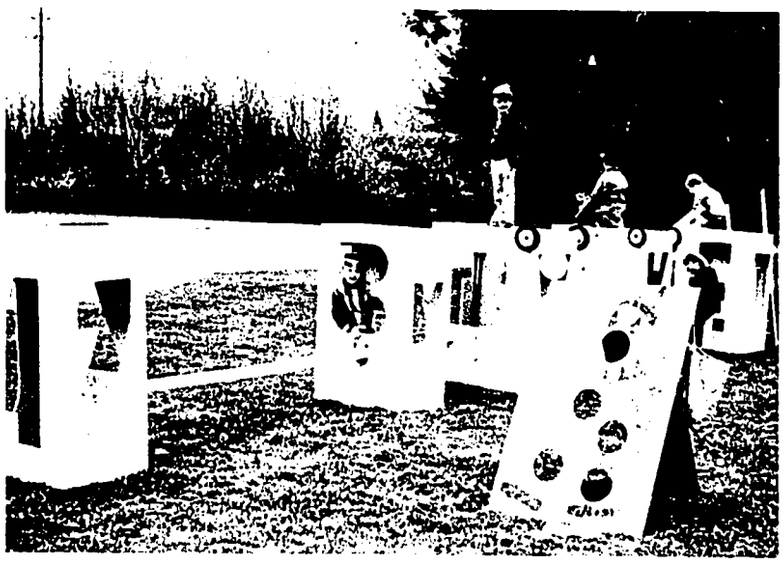
The Bean Bag Boards



The bean bag boards are a good active outdoor activity. The children can learn to throw without having to chase a ball.

Cooperative play is encouraged by taking turns. One child stands at each board and throws the bags back to the other.

This is a very portable set since the total weight including bean bags is under fifteen pounds.



Any figures can be used for the cut outs. Make the openings large to unsure success in the throwing and to keep the wind from blowing the boards over.

The boards can be used as tents by simply placing a sheet or blanket over them.

These pieces should not be climbed on unless you go to a heavier plywood and metal hinges.

This is a good beginning piece because it is so easy to construct, and the materials are inexpensive.

Material cost: $7.98

The Outdoor Equipment

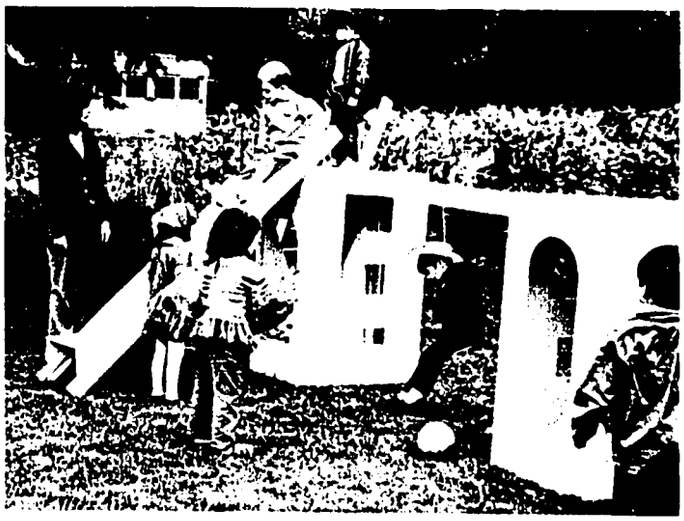
Playground in a Box

This consists of equipment for at least eight activities which revolve around sliding, climbing, balancing and swinging. There is enough play area to accomodate fifteen children who can be easily supervised by two adults.

All parts can be stored in two boxes which have wheels and handles. The set can then be easily rolled to storage. Set up time is ten to fifteen minutes by one person depending on their familiarity with the equipment.

Connections for the play pieces are our own design which you can easily make with basic tools.

The storage boxes are utilized for climbing in and out (developing body awareness.) They are also used as bases for the slides, ladders, balance beam and seesaw.



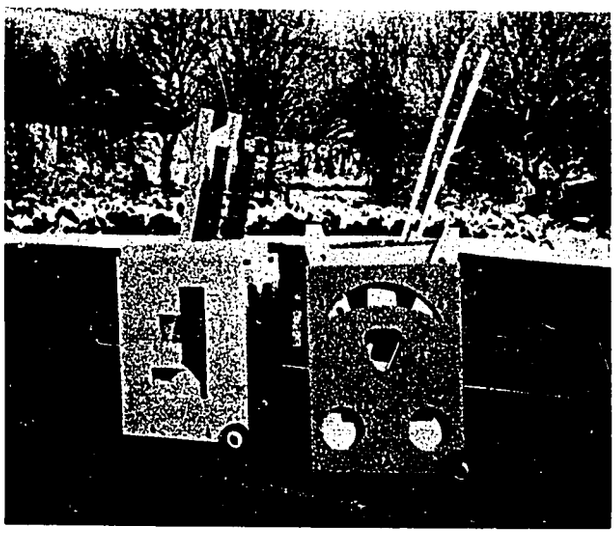
At our center we take the outdoor equipment in at night and don't find it too much of a chore. If you had a fenced yard it could be left up all season.

The boxes are four feet high which is the most efficient use of plywood panels.

Overall length is thirty-five feet.

The material list and plans are in two parts so that the first two boxes could be made without the others.

All work can be done with basic tools.



This shows the boxes inside each other and ladders and slides inside them also. They can now be tipped back and rolled to storage.

Material cost under $150