

1 Story Flat Roof
Yard and Garden Buildings
Compatible with Garden Railroads
or a delight for any child's collection

Overall Dimensions

Foundation: 10" x 15"

Building: 10" x 10-1/2"

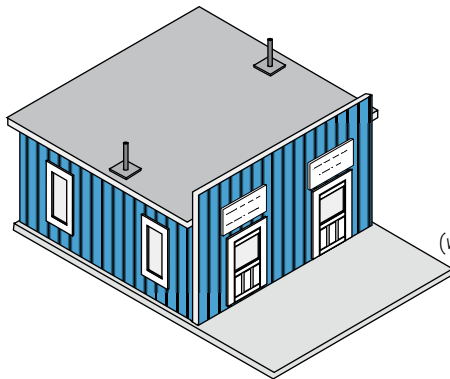
Walls: 5-1/2" high with 7-1/2" Front

Scaled and easy to read
patterns and instructions.

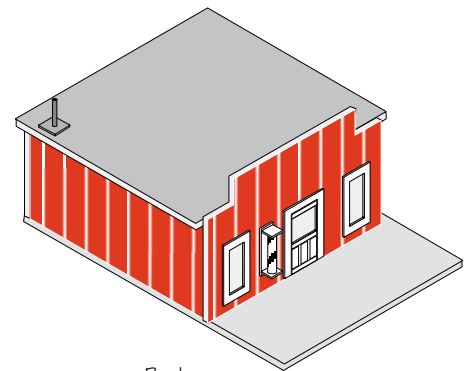
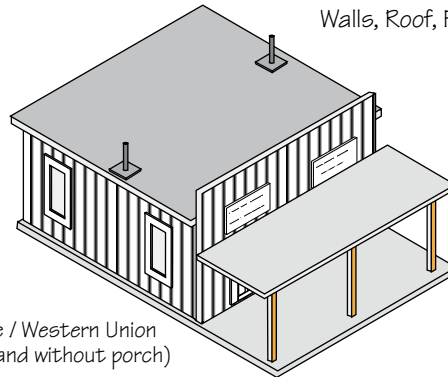
- Build your buildings from 1/4" Plywood
- Decorate with purchased trims or make your own trims
- Add commercial windows and doors or build your own from 1/8" thick hardwood or balsa. Garden Towns Doors and Windows patterns sold separately.
- Optional: Add lights, using manufacturers instructions

Patterns Include
Building:

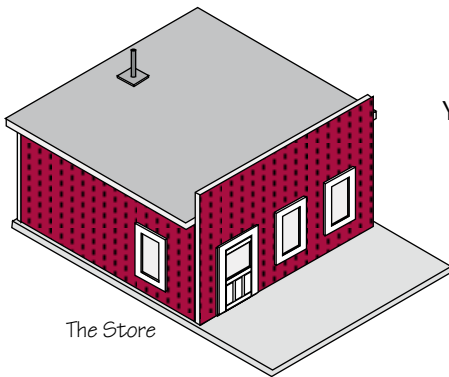
Walls, Roof, Foundation, Porch, Signs and Barber Pole



Shoe / Western Union
(with and without porch)

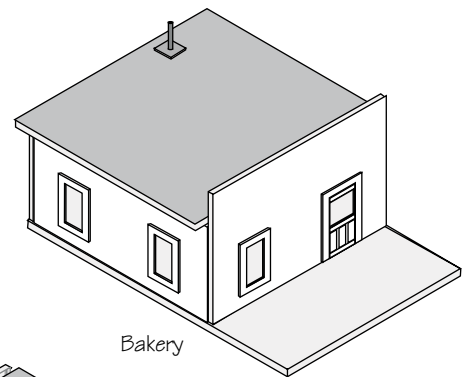


Barber



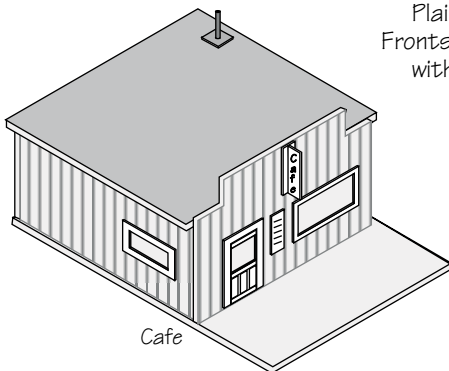
The Store

There are five buildings illustrated
with specific walls.
Walls shown are not inclusive.
You can also "mix and match" the wall
arrangements to design your
own building.
Foundation provides space for a
plain sidewalk or porch addition.

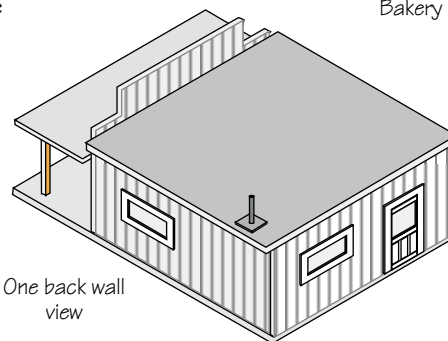


Bakery

Choose between two
types of fronts:
Plain or Stepped Top.
Fronts are interchangeable
with door and window
placements.



Cafe



One back wall
view

Introduction

Thank you for purchasing the Garden Town pattern. As a background, the Garden Town houses and buildings were inspired by the Garden Scale Railroads. We wanted to build small towns as backdrops for the trains. After building several prototypes, we discovered that they are actually fun to make. They don't even have to have a railroad to accompany. Depending on your choices, each of the houses can be different. They can be an addition to your flower garden. Or a backdrop toy for a child. If you are building yours for outside display, do keep in mind the elements. Houses will have to be sealed with polyurethane or varnish to minimize weather damage.

Please take a few minutes and go over the Steps to Building Your Building before you begin.

We hope you enjoy your project!

Table of Contents

Before You Begin	
Steps to Building Your Building	3
Tools and Supplies	
General	4
Door and Window Requirements	5
Working With Small Items	6
Building and Porch Layout	7
2 Signs to Make	
Frame	8
Planning the Building	
Buildings to Choose From	9
Planning the Walls	
Front Walls	12
Side Walls and Back Walls	13
Porches - Patterns and Assembly	14
House Patterns	17
Assembly	
Walls	18
Building	20

Planning the Building - Decide which building you will build. If you use one of the buildings we have illustrated, we have indicated which walls to use.

Planning the Walls section is to be used as a guide for placement of doors and windows. Although our illustrations show the dimensions for Garden Town Doors and Windows, you can use the illustrations as guides, adjust your measurements and install purchased doors and windows.

Porches - Optional

Three or four post porches to choose from, depending on where the door is placed.

Doors and Windows

Opening Type Doors -If you use commercially purchased doors, you will have to cut into the building frame. Our illustrations show how to make the opening. The size of the opening will depend upon the doors and windows you purchase and the instructions which come with them.

Non-Opening Doors-Such as Kiva Design Garden Town Doors and Windows, which you build yourself, you can build a simple "box frame" for the building. The window openings will be above the frame and the 1/8" thick doors will fit into the 1/4" walls.

Keep in mind:

A building should have a minimum of 2 exits (doors). If the set up is duplex, each unit should have 2 doors. An example is the Shoe/Western Union Building. Door and window openings will need to be at least 1" from the sides and 1" from the roofline so they don't interfere with the building frame behind the walls.

Before You Begin **Tools and Supplies -**

Layout

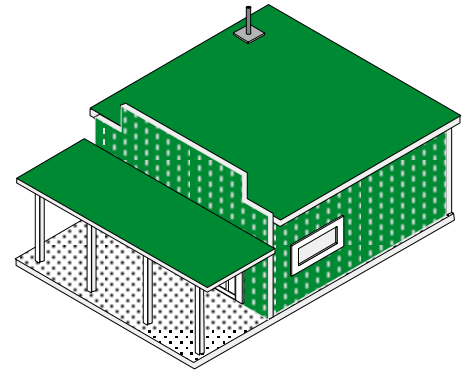
Record how much 1/4" Plywood you will need to build the building you want.

Frame

Record how many feet of 1" Furring Strip you will need

Door and Window Requirements"

Record how many you will need. Decide if you want to purchase or build. Record supplies you will need.



Optional - Items to consider from the hobby store:

Lights - Add Lights according to manufacturers instructions. We suggest that you use screws instead of nails when attaching the roof to allow future access to the wiring and bulb.

You can buy scaled wood shingles for your roof as well as assorted other detailed items. You can make your own signs with help from a stencil or the stick-on letters and numbers available.

Ready to Build

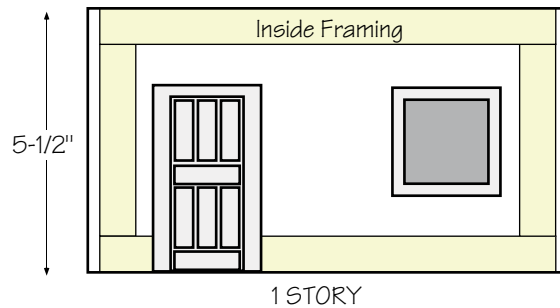
Determine which patterns you will need:

- 1- Building Front (Straight or Stepped)
- 2- Side Walls
- 1- End Wall
- 1 - Roof
- Porch, as required

- Cut out all wood, according to Pattern dimensions.
- Cut Furring Strips for frame -
see Tools and Supplies-Frame
- Measure and cut out door and window openings from the walls, as needed (see Assembly - Walls).
- Sand off any rough edges.
- Optional: Paint or stain the walls. Dings can be touched up later. You may prefer to do this step after assembly is completed.
- If used, assemble the Porch, per individual instructions.
- Assemble the building (see Assembly - Building).

If you are placing your house outside, be sure to protect it with a good seal of polyurethane or varnish.

Window and Door Placement



- Buildings and porches are constructed from 1/4" thick plywood
- Framing for the walls is made from 1" Furring strips (nominally 3/4" thick)
- Garden Town Doors and Windows are made from 1/8" thick Balsa wood or Hardwood and plastic glazing for the window panes
- Windows and doors have to be at least 1" from sides and top (to clear inside building frame)
- Doors are placed at floorline
- Windows are placed with tops level with doors (some exceptions)

For a few hints to experiment with on the wall finishes, see "Simulated Patterns in our free **Food for Thought** brochure.

Tools Needed for Building

- Saw (for cutting small wood pieces, a jig saw or coping saw)
- Hammer or Stapler or Air Gun
- Clamps
- T-Square
- Level
- Ruler and Pencil (We prefer see-thru rulers with grids for the small pieces)

If you are making Doors & Windows from Balsa wood

- X-ACTO knife and metal ruler for guide
- Optional:**
- Ruler - the plastic see-thru kind with 1/8" grid is a plus.
- Balsa stripper - This little gizmo is used for making various widths of uniform strips from balsa wood. You can set it to cut small widths, (1/8", 1/4", 1/2" etc.) It saves a lot of time if you prefer to cut your own strips. Of course you can buy the strips "ready made" at a higher price.
- Clamps (small) - The X-ACTO clamps for small pieces are very handy.

Supplies Needed - General

- 5/8" Staples or Brads
 - 2" Finishing Nails
 - Wood Glue
 - Paint or Stain -
- We suggest the water based Acrylic Paints found in a multitude of colors in arts and crafts stores.
- Sealer - Water Base Varnish found with the acrylic paints or a sealer such as polyurethane.
 - Optional: Caulking for sealing porches, roofs, etc.

1" x 1" x 8'	1	8'	96"
Furring Strips needed	2	16'	192"
	3	24'	288"
	4	32'	384"
	5	40'	480"

Specific Building Supplies Small Town Building		For Details See Page
1/4" Plywood (No. of Sheets)	48" x 16-1/2" (1) 4' x 4'	7
1" x 1" Furring Strips (nominally 3/4" x 3/4")		
Total	88"	8
Purchased Doors & Windows or 1/8" Balsa or Hardwood (4" x 36" Boards)		5
Doors & Windows Depends on building	1 or 2	5
Clear Plastic Glazing for Windows 8" x 10" Sheet	1	5
1/8" Wood Dowel For Rooftop Pipe	1"	20
Optional Small Parts Frame - Page 6		
1/4" Plywood - No extra needed		
1" x 1" Furring Strips - Add 52"		

Doors and Windows

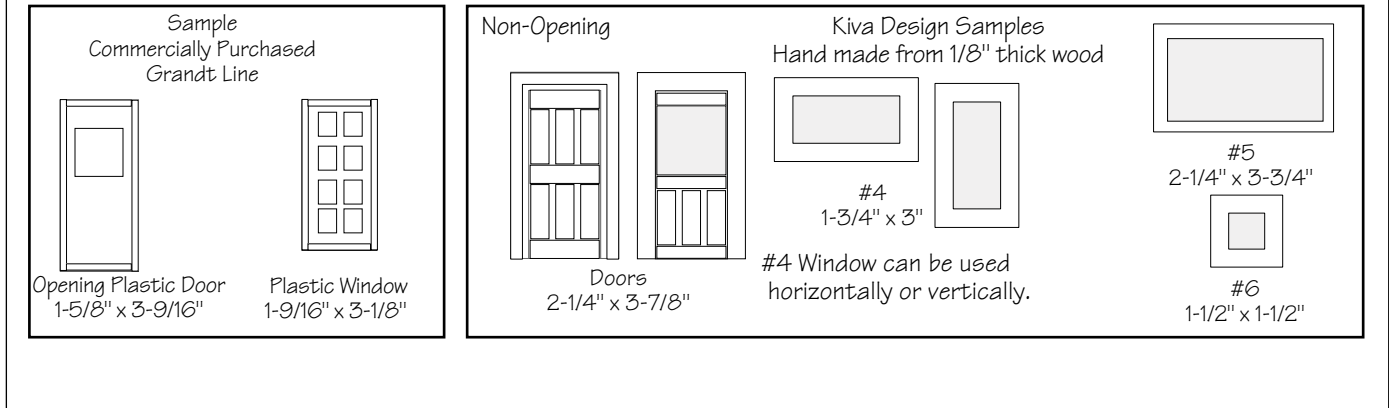
Option: You can purchase ready-made doors and windows which actually open. For example, Grandt Line carries a well made and ready to paint plastic selection for Scale 1:24.

or

you can make your own (Garden Towns Doors and Windows Patterns by Kiva Design) These doors and windows are also 1/24 scale, but are a little larger overall for ease in building. They are non-opening (no hinges).

The following are samples represented for the scaled dimensions.

Buildings are illustrated with the Kiva Design Samples. Neither of the samples are inclusive all all doors and windows available.



- Purchased Doors and Windows as required
- OR
- 1/8" Balsa Wood or Hardwood for Doors and Windows:
 4" x 36"
 (common size at hobby shops)

Building	Doors and Windows required for buildings illustrated				1/8" thick Balsa Wood or Hardwood Number of 4" x 36" boards needed for buildings shown*
	Doors	#4	#5	#6	
Shoe/ Western Union	4	4	-	-	2
The Store	2	5	-	-	1
Cafe	2	3	1	-	1
Barber	2	4	-	2	1
Bakery	2	5	-	-	1

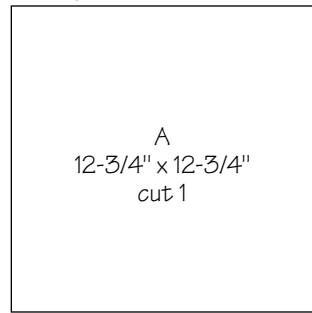
*Doors and windows shown for the building can be made from the number of boards indicated. However, "we" personally always buy one extra board in the unlikely event that we'll need it to redo our "errors". Left-overs are saved for the next project.

- Clear Plastic for Windows
 8" x 10" Sheet
 (from hobby shop framing area)

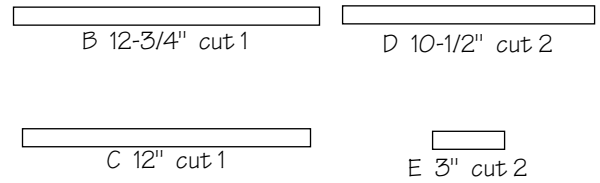
Assembly Frame for Small Items

Patterns

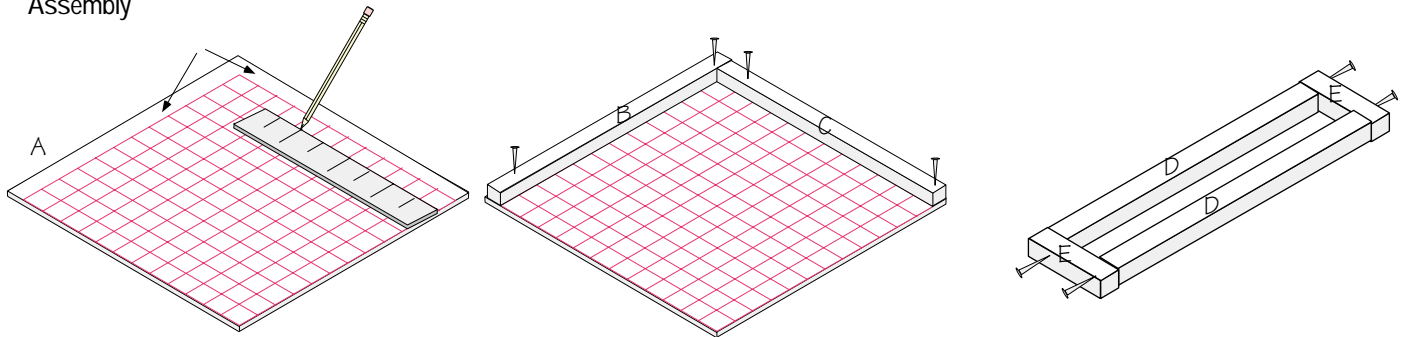
Cut from plywood -1/4" thick or any scrap



Cut from 1 x 1 Framing (nominally 3/4" x 3/4")



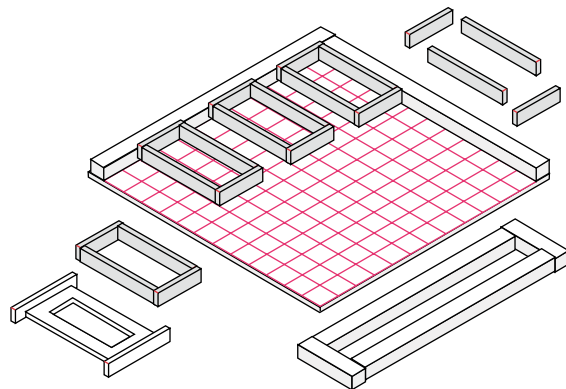
Assembly



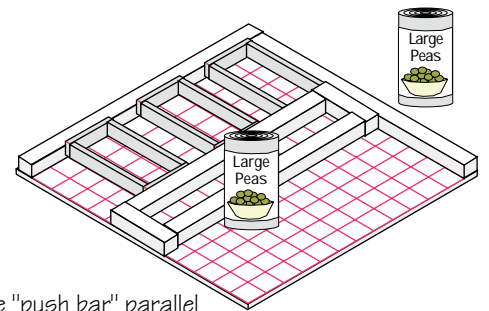
1. Using pencil or pen and ruler, draw lines 3/4" inside of 2 adjacent sides of the base. The frame will be placed in this area. From those 2 lines, draw lines at 1" intervals, forming a 1" grid.

2. Nail and glue frame parts B and C in place, as shown, maintaining a square corner.

3. Using glue and nails, assemble the frame "push bar", as shown. Again, make sure that the corners are square.

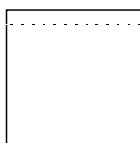


4. Glue parts and assemble inside the frame. The grid will help you keep the pieces straight. You can assemble several "like" pieces at one time.

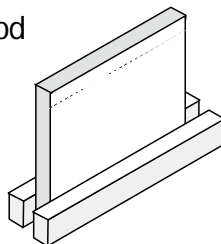


5. Keep the "push bar" parallel to side C and push it firmly against the assembled parts. Use anything with weight to hold the push bar in place until parts are dry. Canned goods you didn't want for dinner work well.

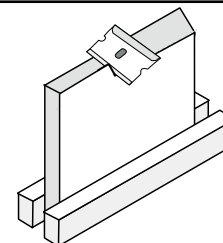
Trimming 1/8" Balsa wood or hardwood



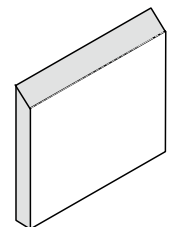
1. Using ruler and pencil make a line 1/8" from the inside edge to be mitered



2 Stabilize the piece to be mitered with a clamp or other means

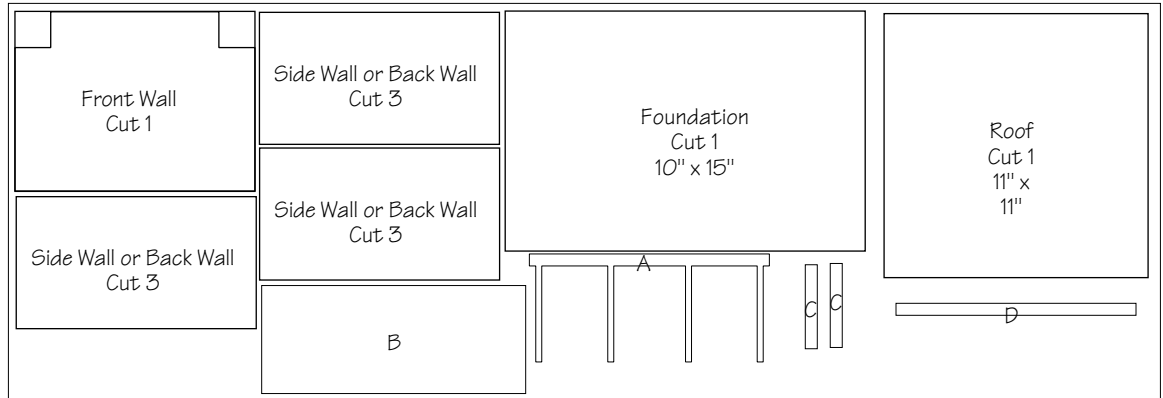


3. With blade, carefully trim from the top outside to the marked line. Alternately, the piece can be planed or sanded.



Trimmed on the inside

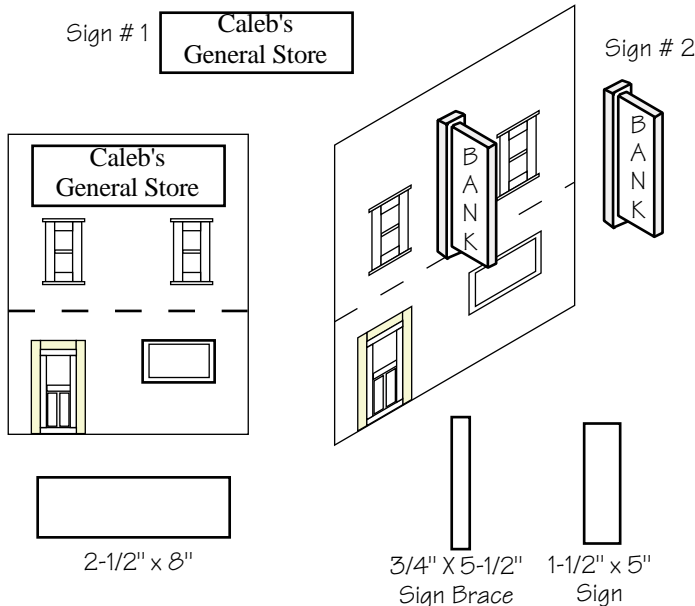
Layout for
 Building and Porch
 Cut from
 1/4" Plywood



16-1/2" x 48"

2 Signs you can make from scrap wood.
 Make from 1/4" Plywood or 1/8"
 Hardwood

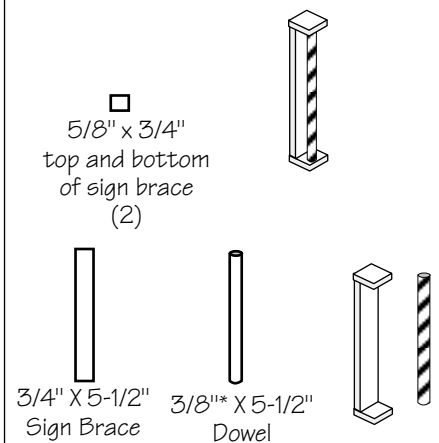
We suggest purchasing the
 stick-on letters found at
 hobby store.



Paint sign and let dry.
 Add letters and seal entire sign
 with polyurethane.
 Lightly nail and glue in place.

Attach sign to brace with glue. Let dry.
 Paint sign and brace and let dry.
 Add letters to sign.
 Seal entire sign with polyurethane.
 Lightly nail and glue through brace into wall.

Barber Pole



For Barber Pole:
 Use 1/8" thick balsa or hardwood for the
 brace.
 Add top and bottom braces to sign brace.
 Replace sign with 3/8" x 5-1/2" Dowel.
 Paint stripes on dowel and glue into brace,
 as shown.

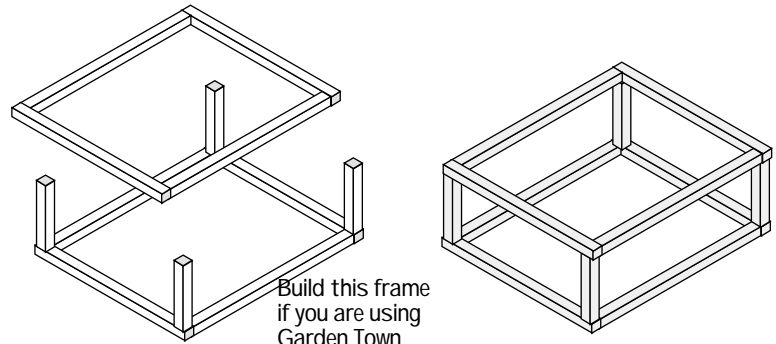
*3/8" Dowel can be substituted with 1/4"

The Frame

You will need to build a frame for which to attach the walls.

Non - Opening Doors

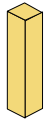
If your building will have doors which do not physically open, you can build a simple box for your wall braces. The windows and doors will fit into the walls.



Build this frame if you are using Garden Town Doors and Windows

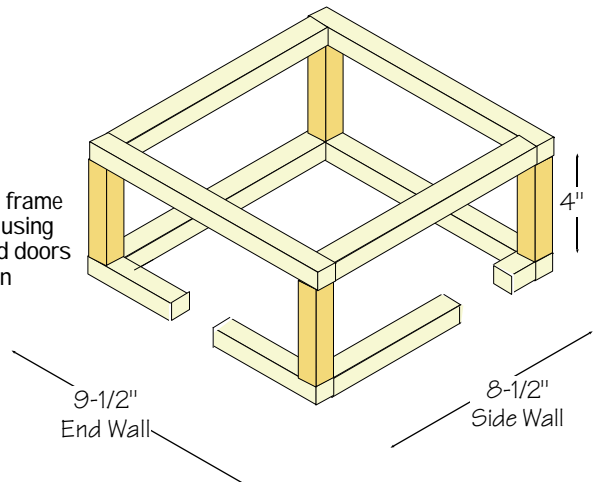
Opening Doors

If you are installing doors which do physically open, you will be cutting openings in the bottom frame.



Vertical Braces for: 1 Story Houses are 4" High

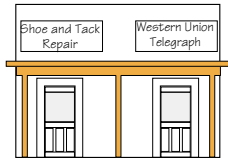
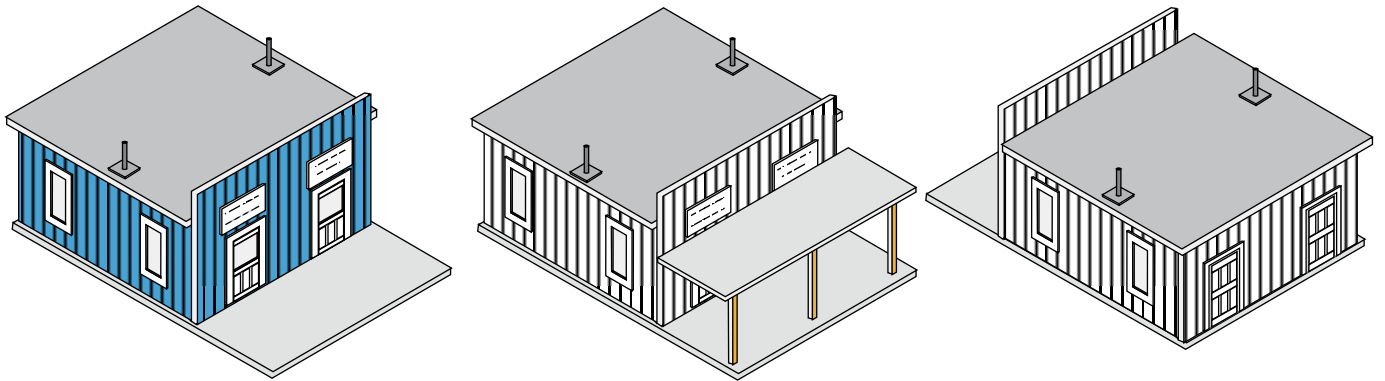
Build this frame if you are using purchased doors which open



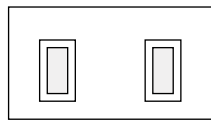
•1" Furring Strips for Framing 1 Story	
4 @ 9-1/2"	38"
4 @ 8-1/2"	34"
4 @ 4"	16"
Total	88"

Conversion Inches = Feet	
12"	1'
24"	2'
36"	3'
48"	4'
60"	5'
72"	6'
84"	7'
96"	8'
108"	9'
120"	10'
132"	11'
144"	12'
156"	13'
168"	14'
180"	15'
192"	16'
204"	17'
216"	18'
228"	19'
240"	20'

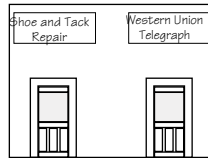
SHOE/ WESTERN UNION



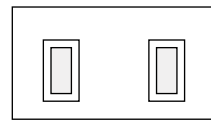
Walls shown for
Shoe/ Western Union



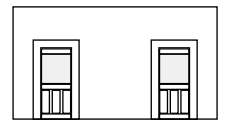
S1



F1

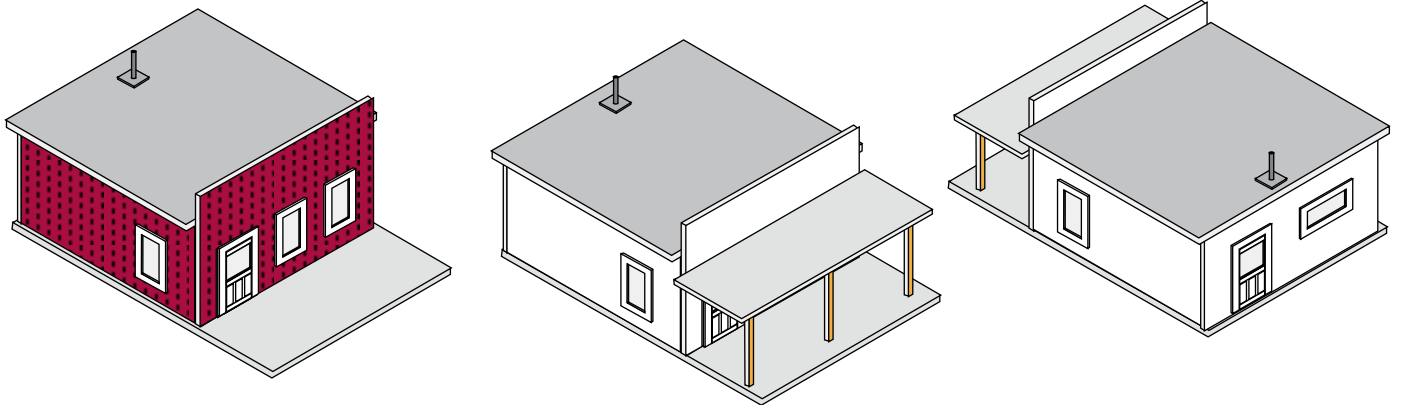


S1

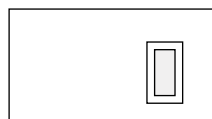


B1

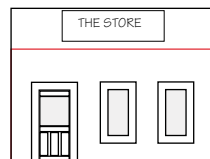
THE STORE



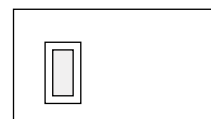
Walls shown for the Store



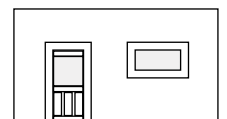
S3



F7

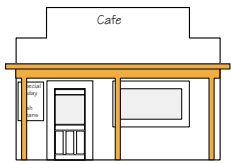
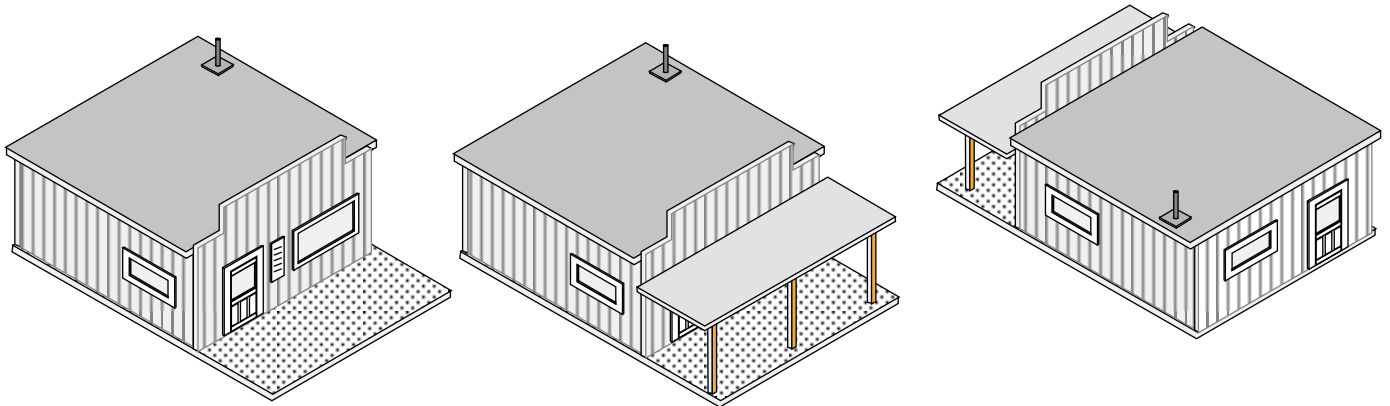


S2

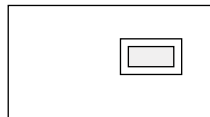


B3

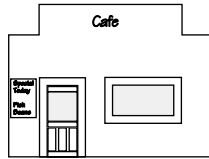
CAFE



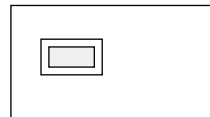
Walls shown for the Cafe



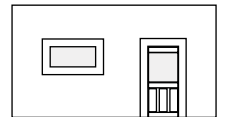
S5



F5

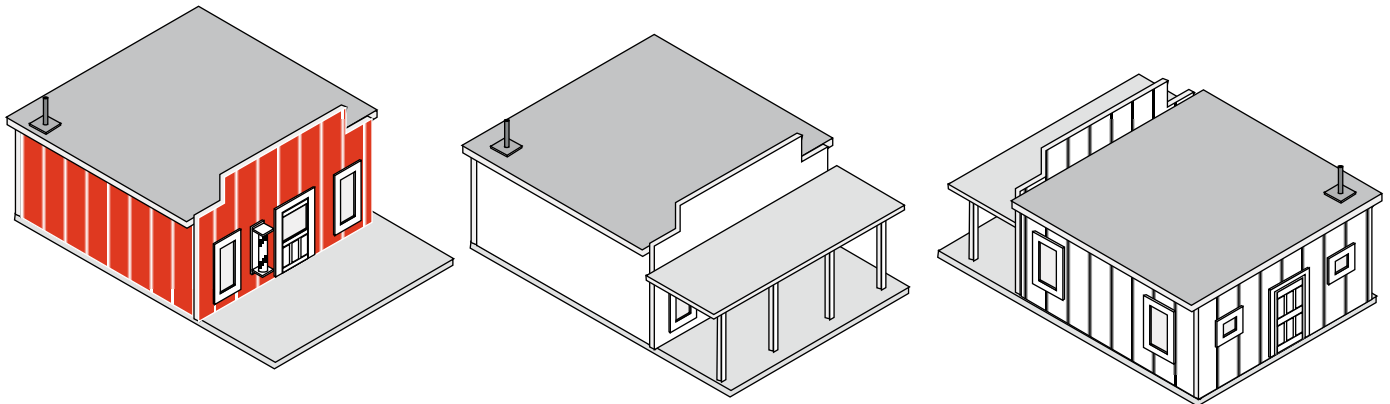


S4

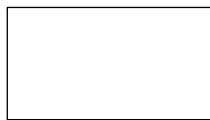


B2

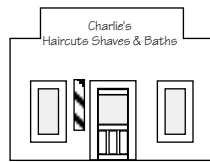
BARBER



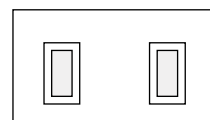
Walls shown for the Barber



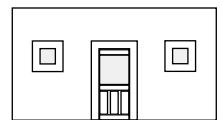
S6



F6

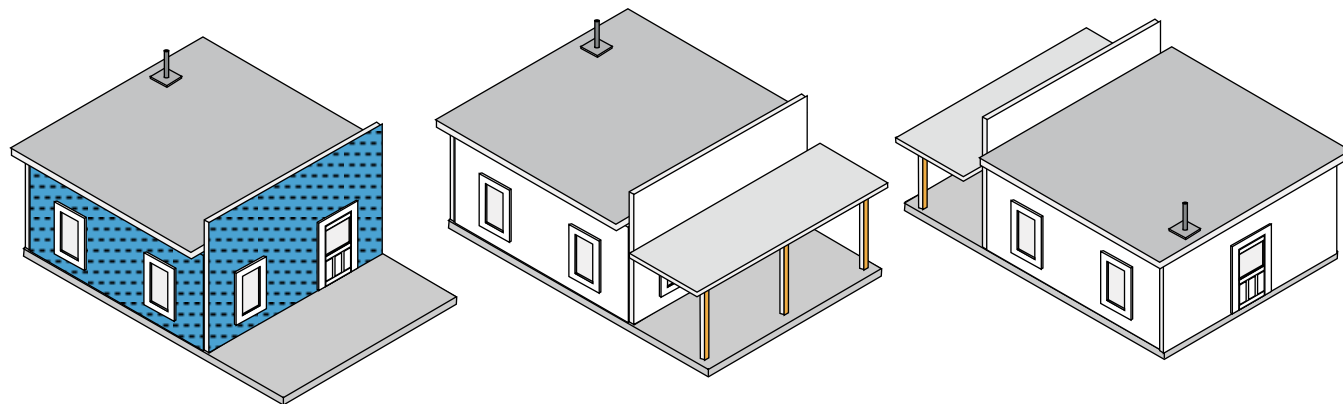


S1

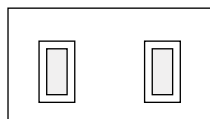


B5

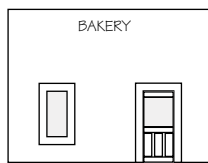
BAKERY



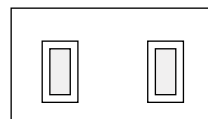
Walls shown for the Bakery



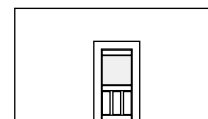
S1



F2



S1

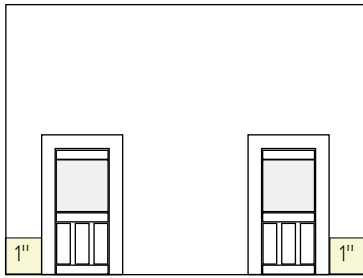


B4

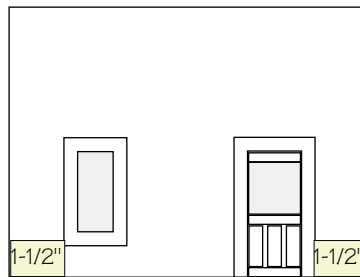
Front Walls

Choose between the two types of fronts (Plain or Stepped)
 Both are the same overall size. The door and window placements will be the same.

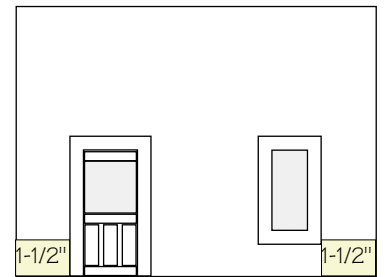
Spacers indicate measurement between building sides and door or window frames. (or between windows)
 (Use window and door templates for determining openings in walls)



F1

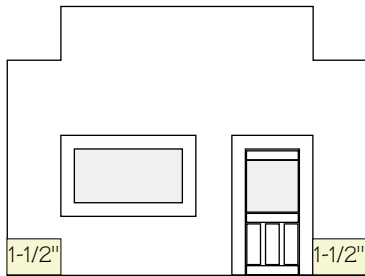


F2

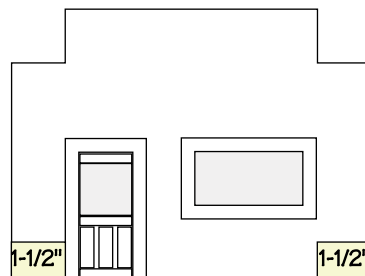


F3

Window #4

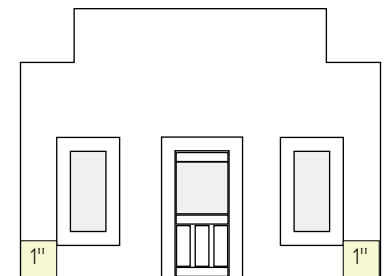


F4



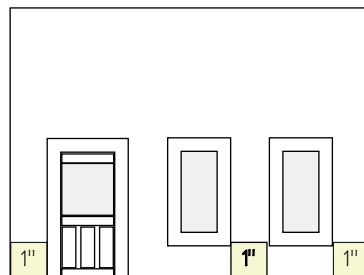
F5

Shown: Window #5
 Can use #4 if smaller window desired



F6

Window #4

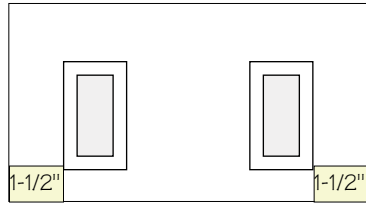


F7

Window #4

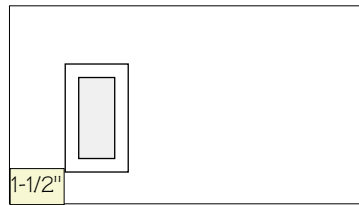
Side walls and Back Walls are interchangeable

Side Walls



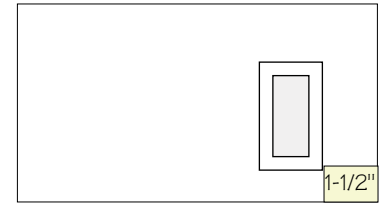
S1

Window #4

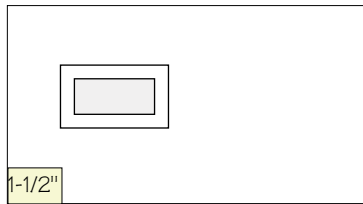


S2

Window #4

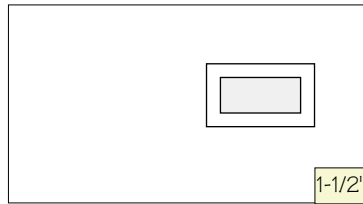


S3



S4

Shown: Window #4
 Can Use # 5 if larger window is desired



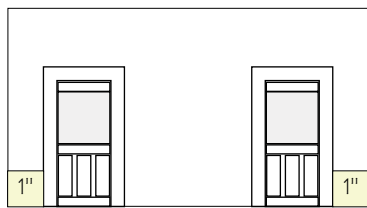
S5



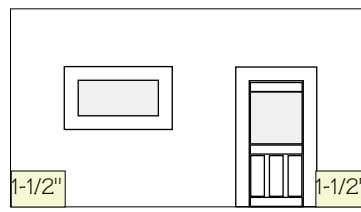
S6

Use blank wall if you want to place against another building;

Back Walls

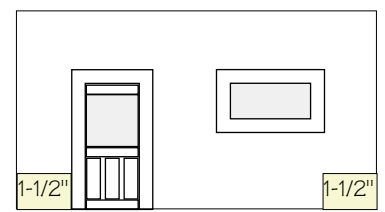


B1

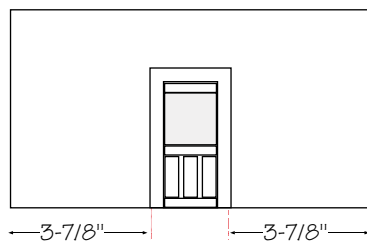


B2

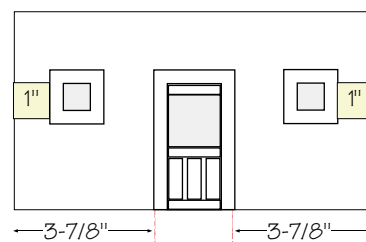
Window #4



B3



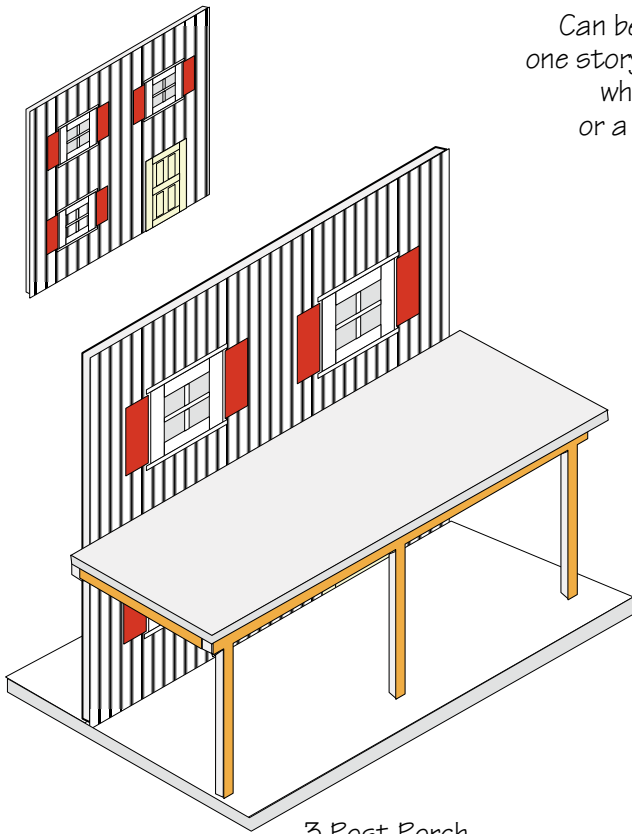
B4



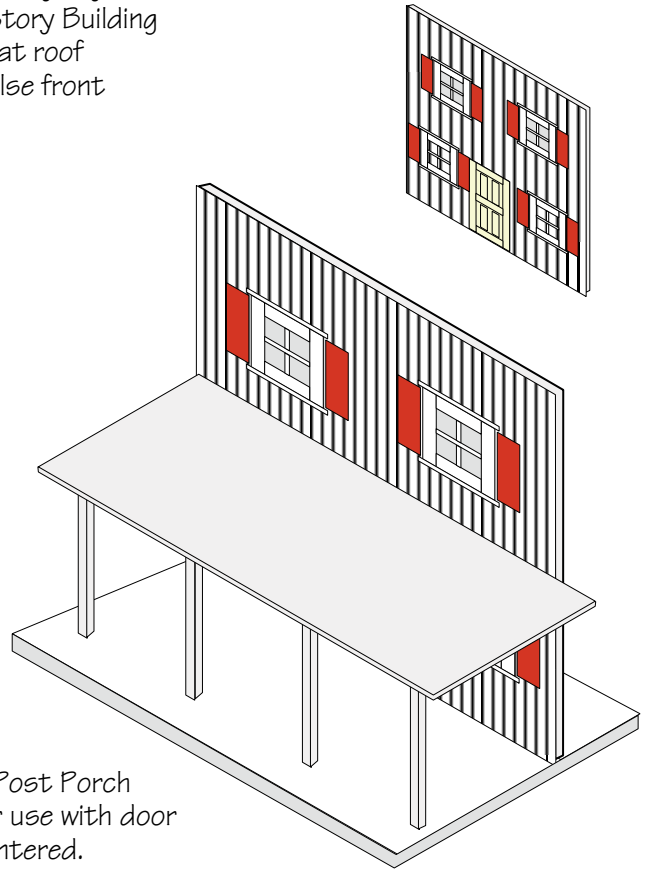
B5

Window # 6

Can be used with any style one story or multi-story Building which has a flat roof or a flat roof false front



3 Post Porch
 for use with door
 off-centered.



4 Post Porch
 for use with door
 centered.

Patterns



Back
 for 3 Post or 4 Post Porch
 1/2" High x 10" Long
 Cut 1



Sides
 for 3 Post or 4 Post Porch
 1/2" High x 3-1/2" Long
 Cut 2



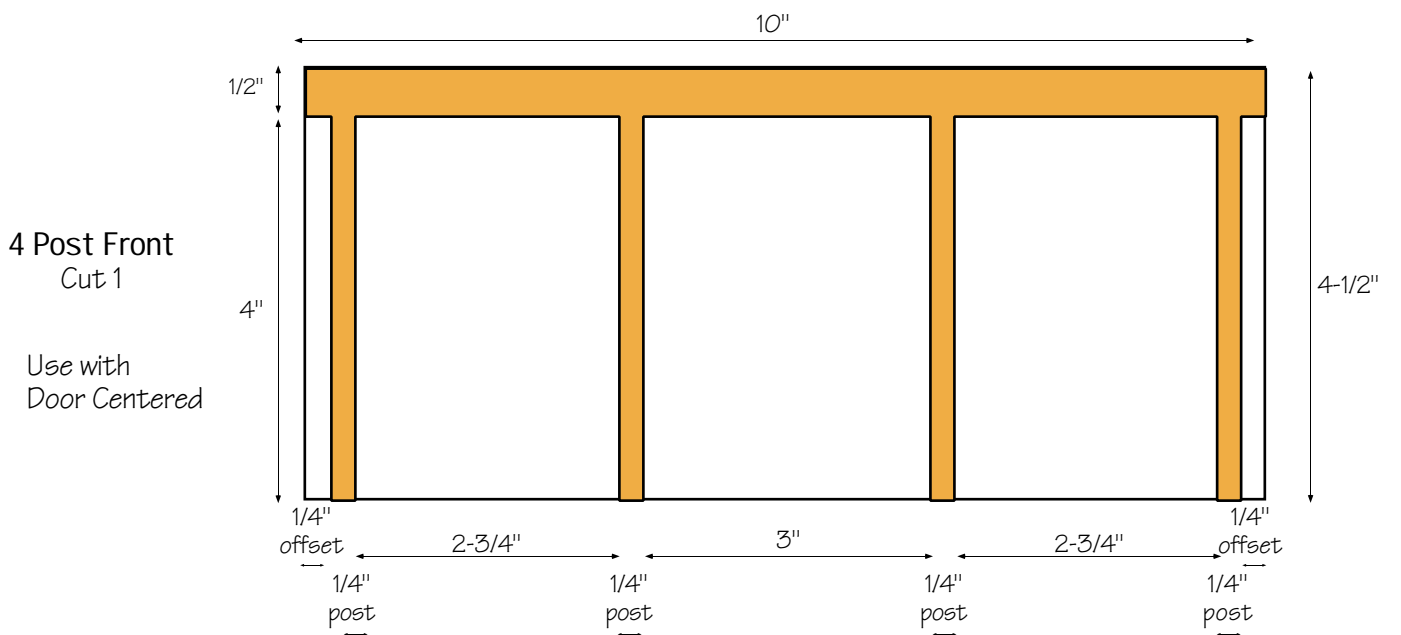
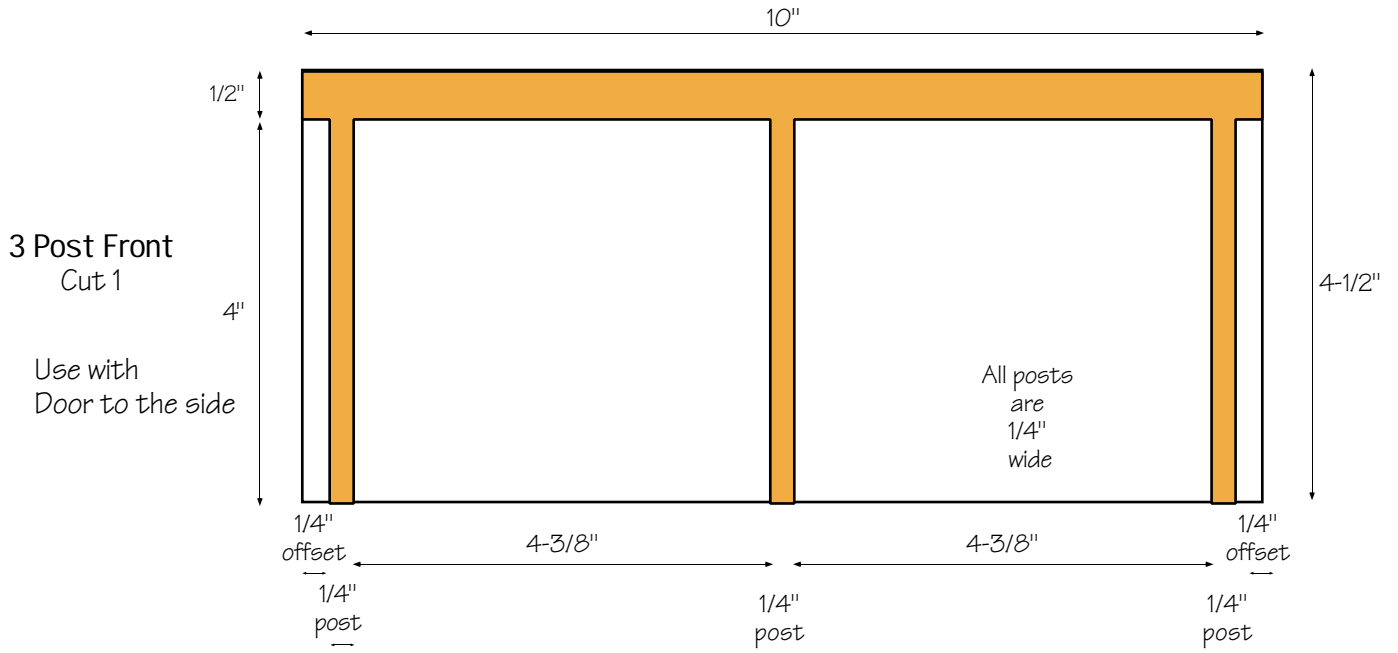
Roof
 for 3 Post or 4 Post Porch
 Cut 1

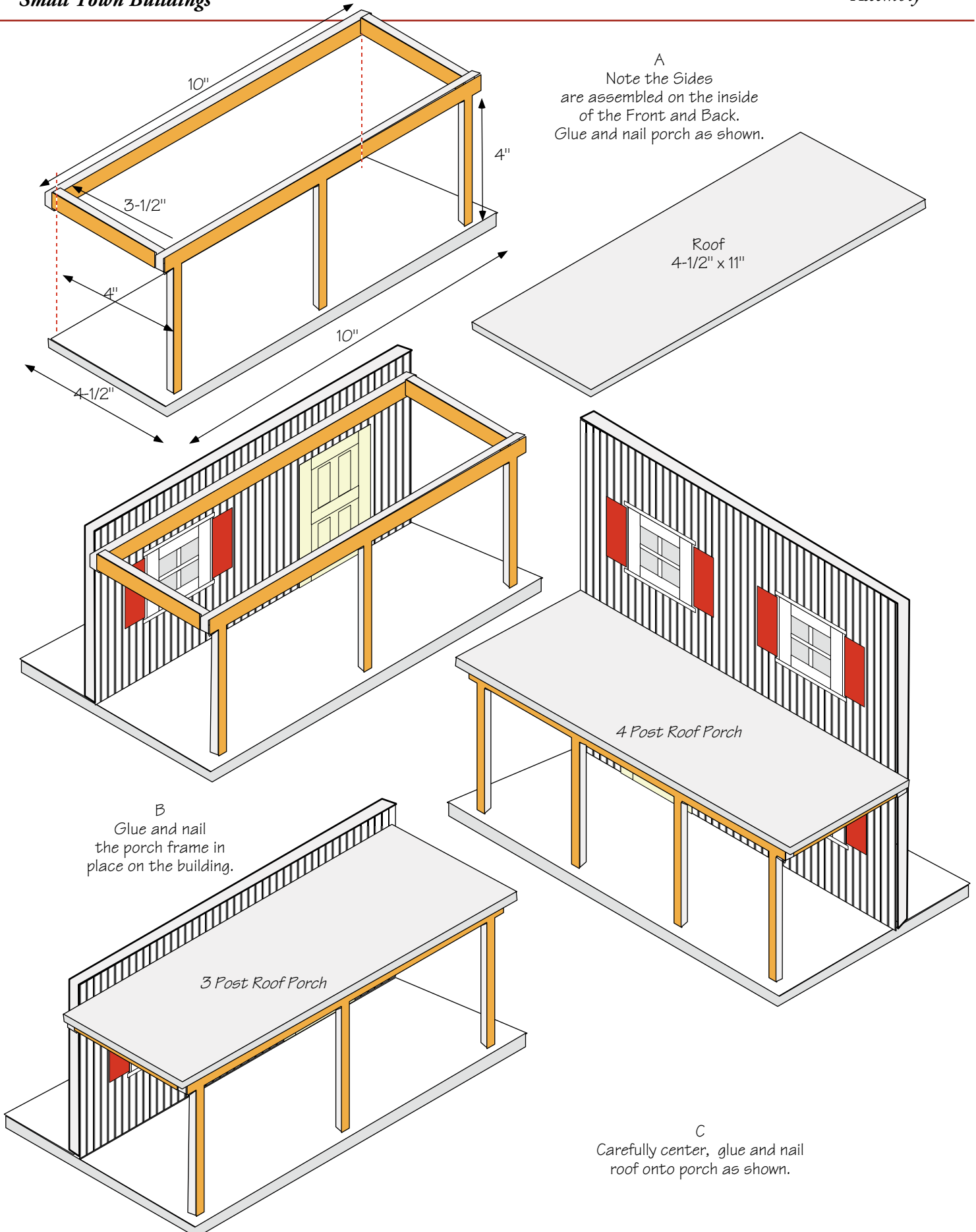
4-1/2"

11"

Patterns - continued

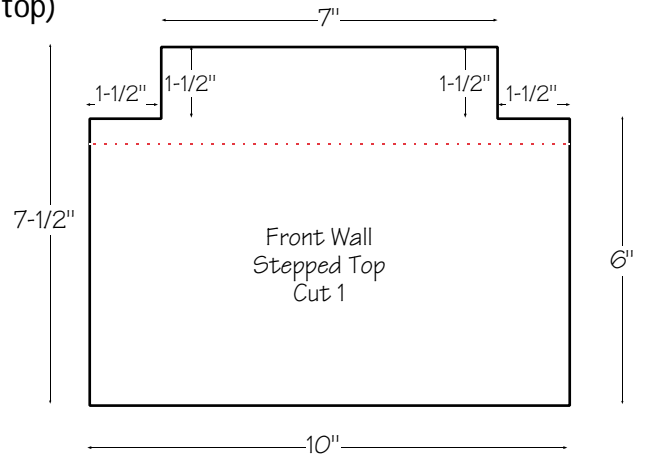
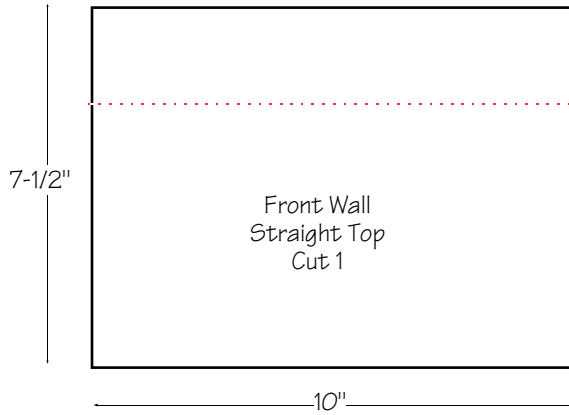
Choose a 3 Post or 4 Post Front according to door placement:



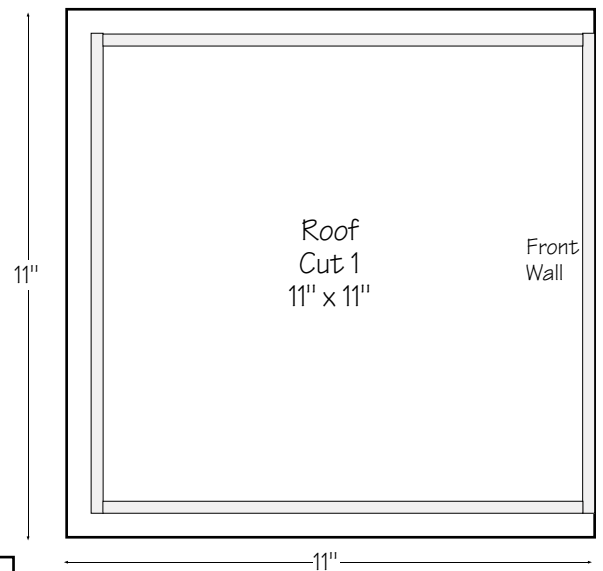
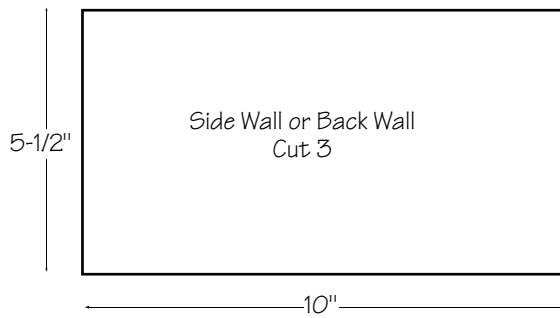


Cut from 1/4" Plywood

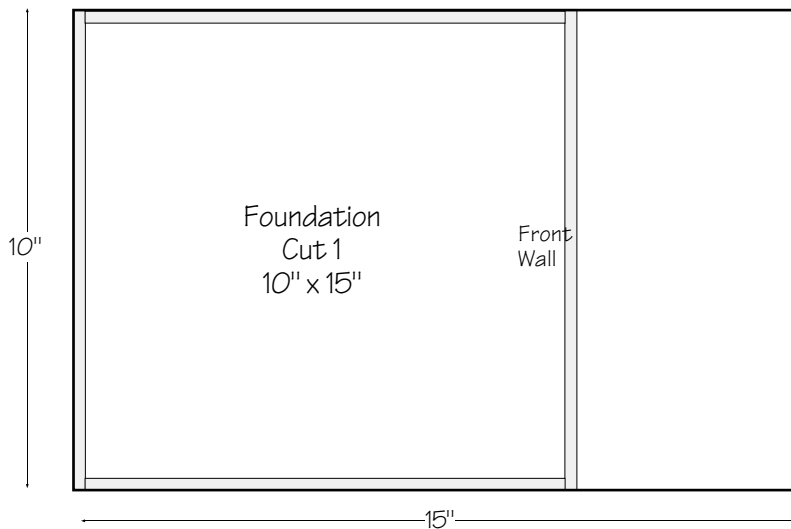
Front Wall (Choose between straight top or stepped top)



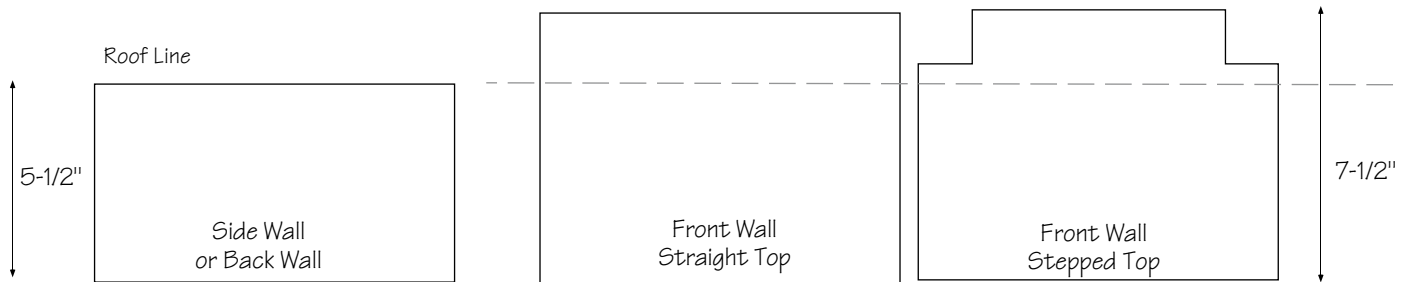
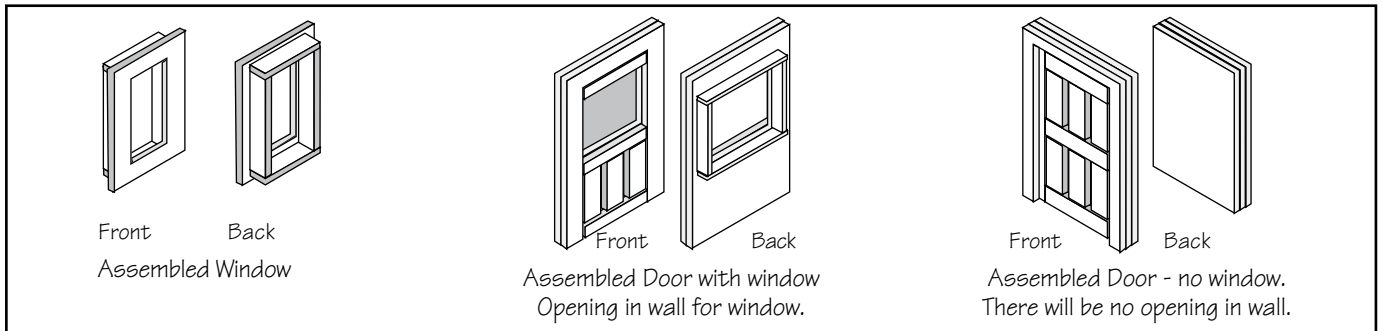
Side walls and Back Walls are interchangeable



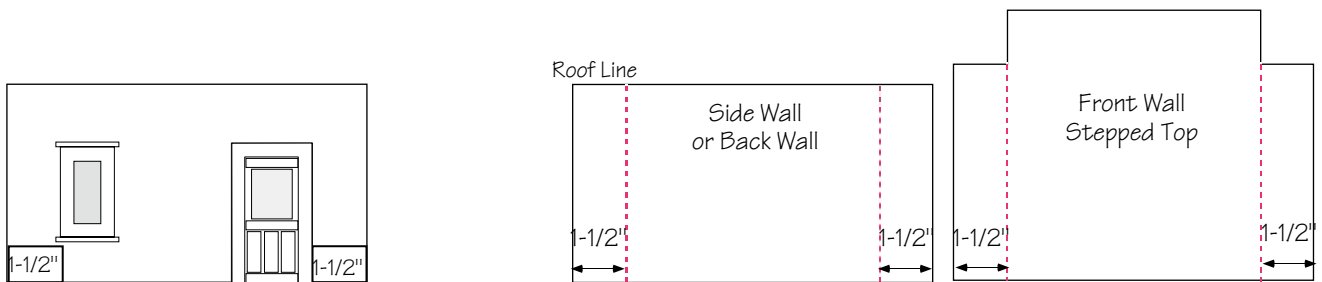
Roof has a 1/2" overhang on sides and back only.
 Wall placement is indicated for reference.



Foundation includes sidewalk or porch foundation.
 Wall placement is indicated for reference.

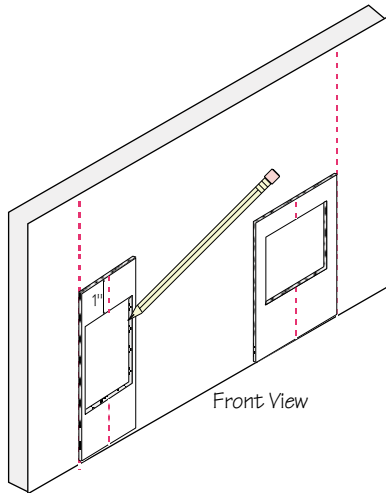


Note: Front Walls on the 1 Story Town Walls are 2" taller than the Side Walls and Back Walls.



1. Decide where you want to place door and windows on the cut-out wall.
 The openings must be inside of the building frame behind the wall.

2. All Walls:
 •With pencil and ruler, lightly draw vertical guide lines on the wall sides. Minimum guide is 1" for frame clearance.



Template for Window Opening in Wall

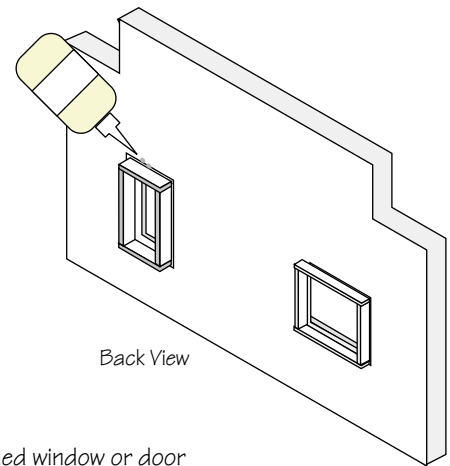
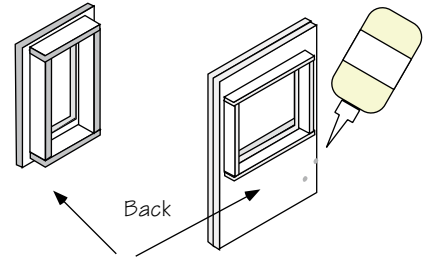
5. Using your side guide lines, place the template as follows.
Ground floor:
 Bottom of template will be on bottom of wall

Using template and pencil, mark the window opening on the building. Cut out opening on building. The opening is now ready for the finished window.

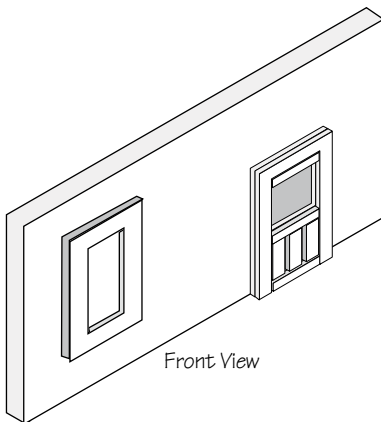
Door should be painted or stained before you actually insert and secure it into the building.

6. Before gluing windows, check to see that they will easily fit the wall openings. Trim openings if necessary.

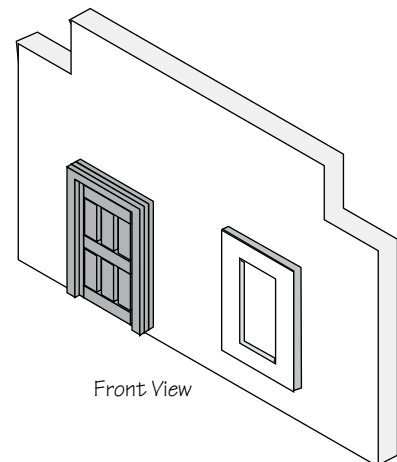
Place some wood glue on the flat backs of the finished window and door with window. (around the frame) This will adhere to the front of the wall.



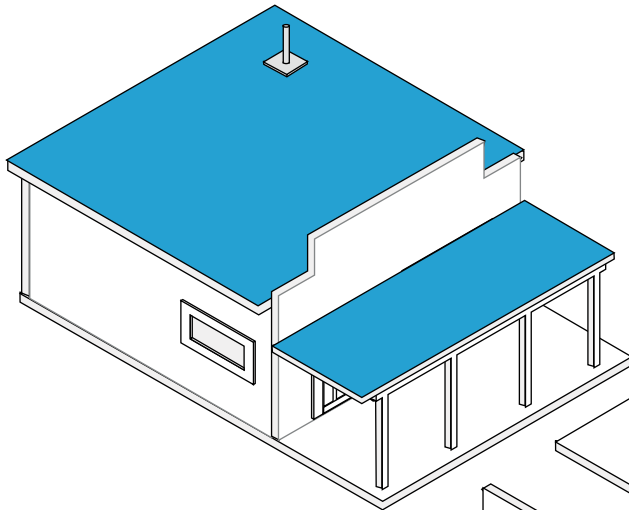
7. Insert the glued window or door with window into the appropriate wall opening. Look at the front side and using a level, make sure the window is straight. Run a bead of wood glue around the window brace. Allow the glue to dry.



Doors and windows can be installed before building is assembled or after the walls are assembled before adding the roof.

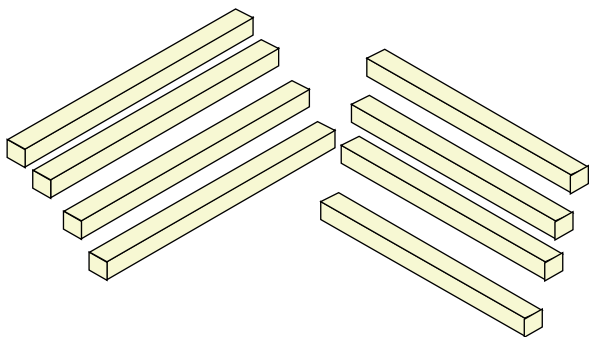
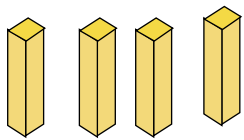
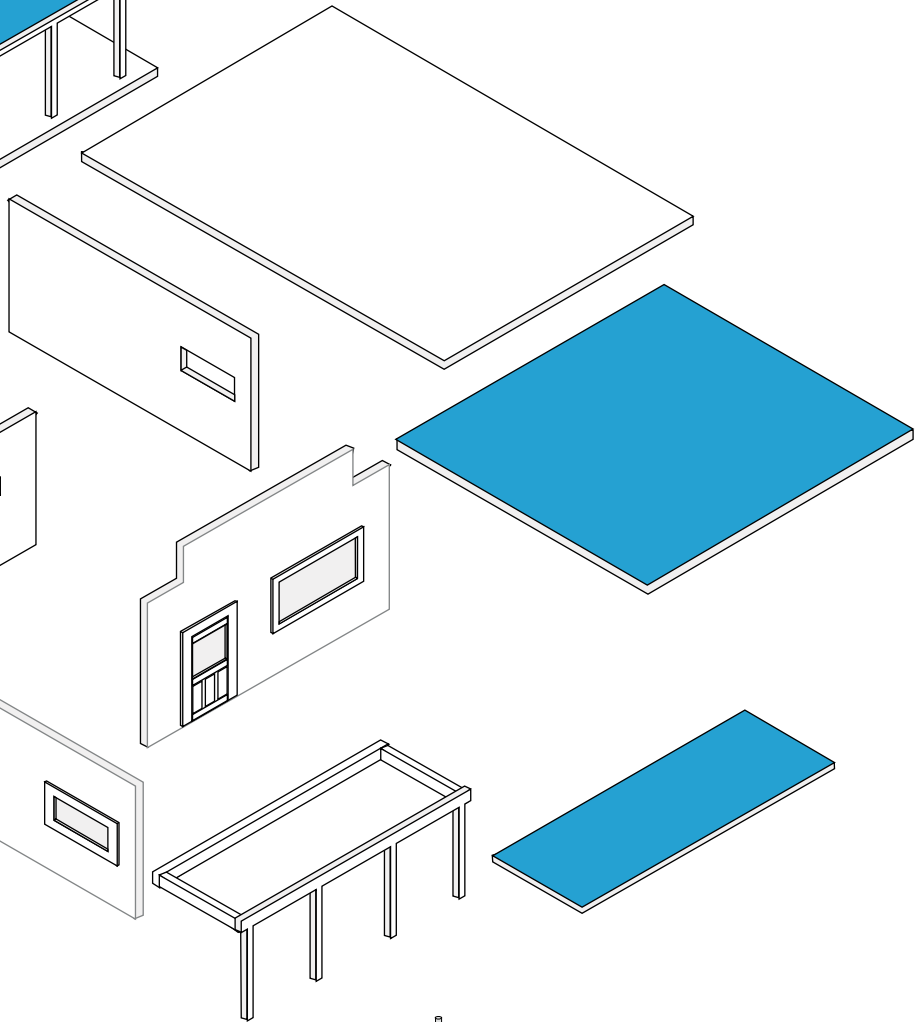


Door with no window does not have a wall opening. Lightly nail and glue door in place.



1. Cut out all pieces needed to assemble your building

The Walls - See Assembly - Walls.
 Cut out windows and doors.

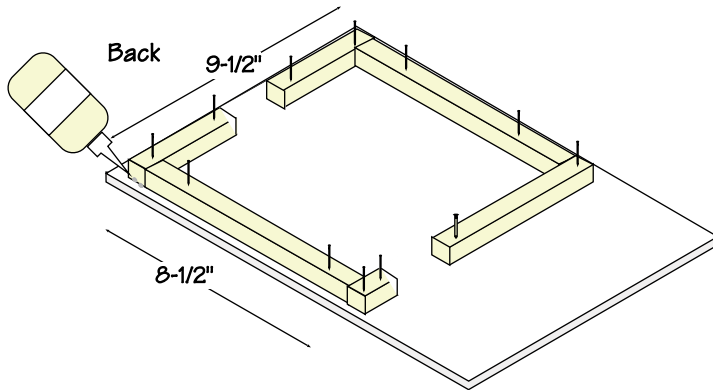


See the Framing
 Instructions to determine size and
 number of braces you will need.



Detail of Rooftop Pipe (Enlarged)

<p>1/8" x 1" Dowel (Can use 1/4")</p>	<p>3/4" x 3/4" Scrap wood 1/8" to 1/4" thick</p>
<p>Drill hole in center of pipe base (1/8" for 1/8" dowel)</p>	<p>Glue dowel in hole.</p>
<p>Paint black and attach to roof</p>	



Note the longer braces are for the front and back of the building. Side wall braces are assembled inside the front and back wall braces.

2. Bottom Brace (1" Furring Strips)

- Measure 1/4" inside the foundation. (For depth of the walls)
- Lay the Brace pieces out on the foundation.

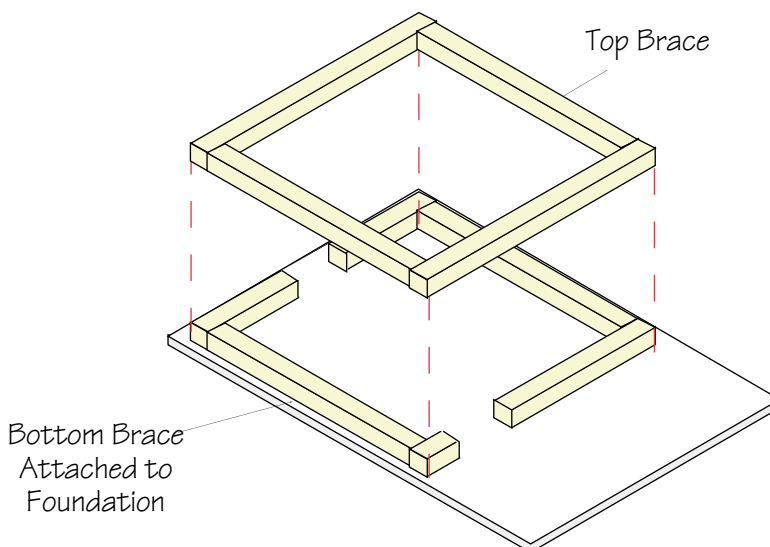
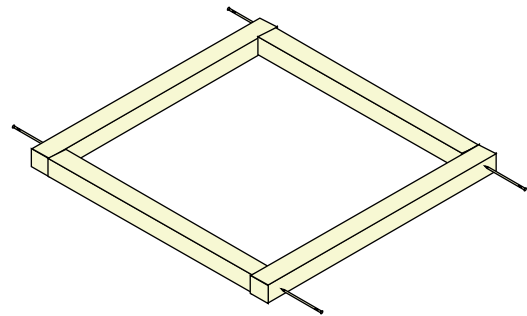
If you are using opening doors, cut out appropriate spaces wherever you wish to place the doors. For non-opening doors, do not cut openings.

- Glue and nail or staple the bottom house brace together, maintaining right angles at corners.

3. Top Brace (1" Furring Strips)

- Lay the pieces out on a flat surface, using continuous pieces. (No openings for doors.) The overall dimensions will be the same as the bottom brace.

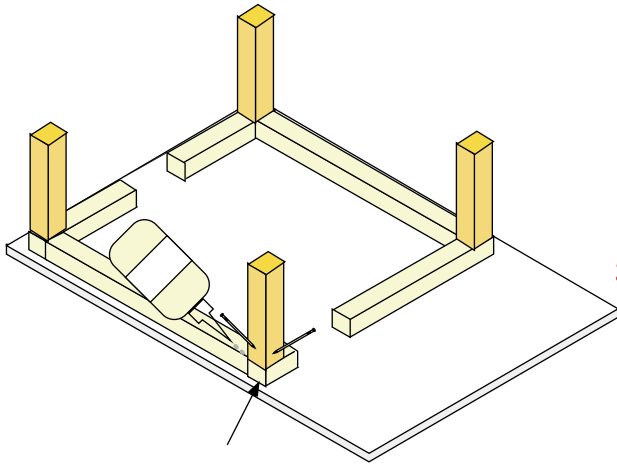
- Glue and Nail or staple the bottom brace together, again maintaining corner angles.



4. Check Alignment of Horizontal Braces

- Position the Top Brace over the Bottom Brace to ensure that the two pieces are in alignment.
- The two braces should line up vertically and be the same dimensions on all sides. If they don't line up, double check your work and make adjustments. (Favorite thing to do)

- Then lay the Top Brace aside.

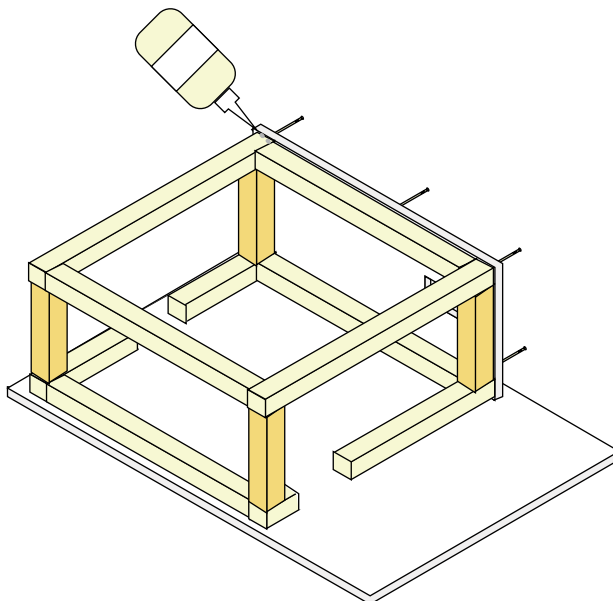
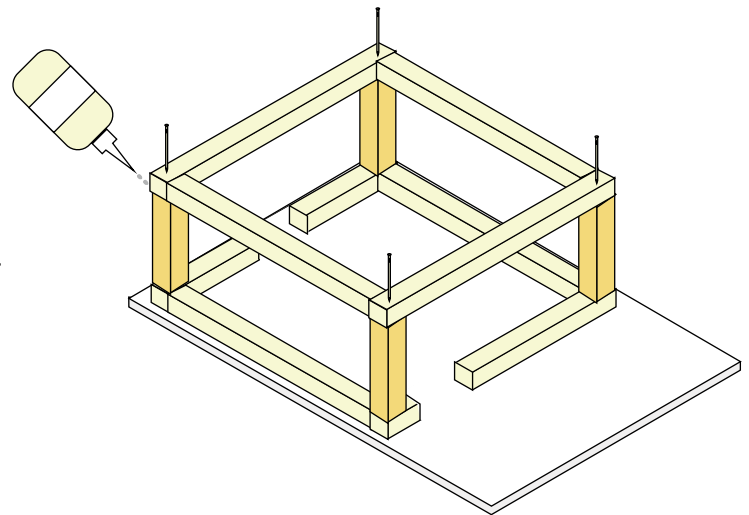


5. Vertical Studs

Each wall needs a vertical stud on each end. Lightly glue and nail or staple a vertical stud at each corner for the walls to be attached to.

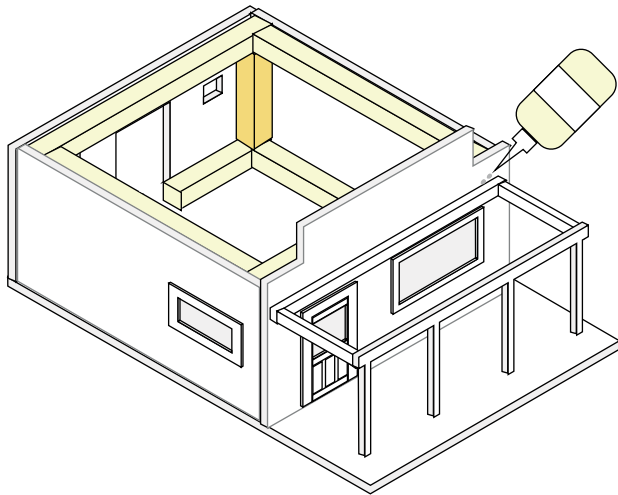
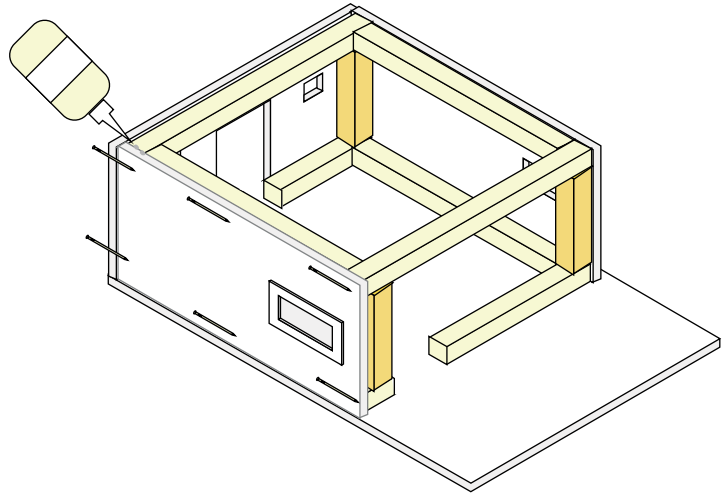
Note: Nailing the studs in place will be much easier if you begin with drilling a small pilot hole for the nail.

6. Lightly glue the tops of the vertical studs. Place the assembled top brace on top of the vertical studs, matching up with the bottom brace. Nail or staple the top brace to all vertical studs.



7. Start at one end of building and nail or staple walls in place to the frame. Work walls together in a clockwise or counterclockwise direction. Direction doesn't matter. Just fit the adjacent walls and keep going in the same direction.

8. Continue adding walls until all walls are in place. Always nail or staple into the frame. Check that each wall is sturdily attached and that there are no "floppy" walls.



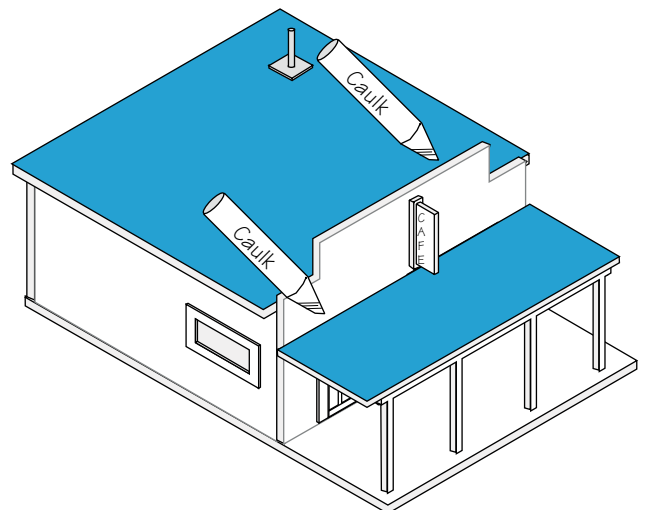
9. Position and attach the porch frame to the house wall. (Staples and glue) Be sure to secure the posts to the foundation. When dry, carefully center and attach the porch roof.

10. If you haven't already installed the doors and windows, do so before adding the roof.

11. Note: If you are adding lights to your house use screws to attach the roof. This will enable you to have future access to the wiring.

OR

Run a bead of glue around the exposed wood that the roof will sit on. Carefully center the main roof in place. Glue and nail or staple to the building, nailing into the frame.



12. Caulk seams as needed for example porch roof and the back side of the front wall where it joins the roof.

Building is ready to paint or stain and seal.
Optional: Make a sign with the name of your choice of business.