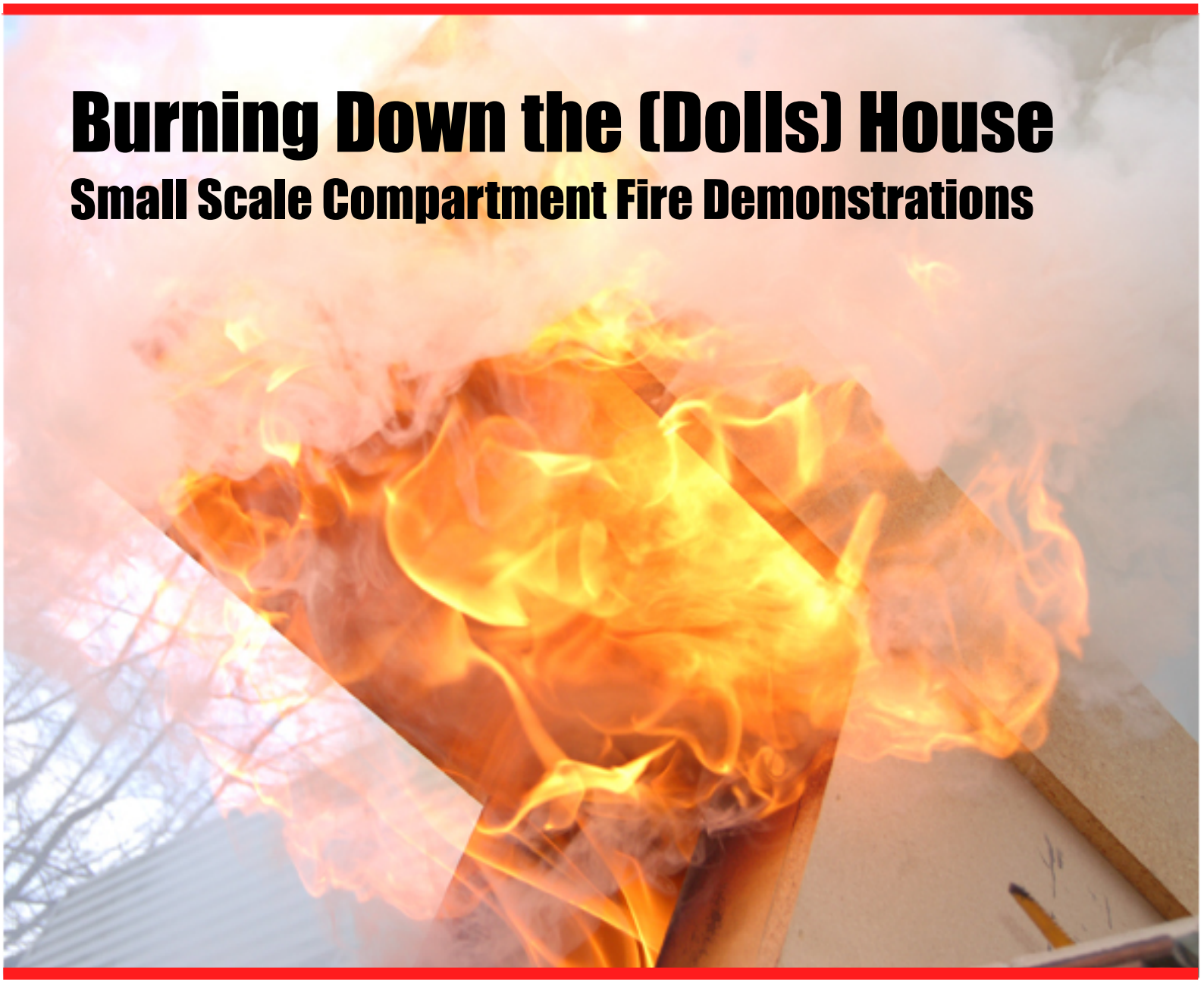
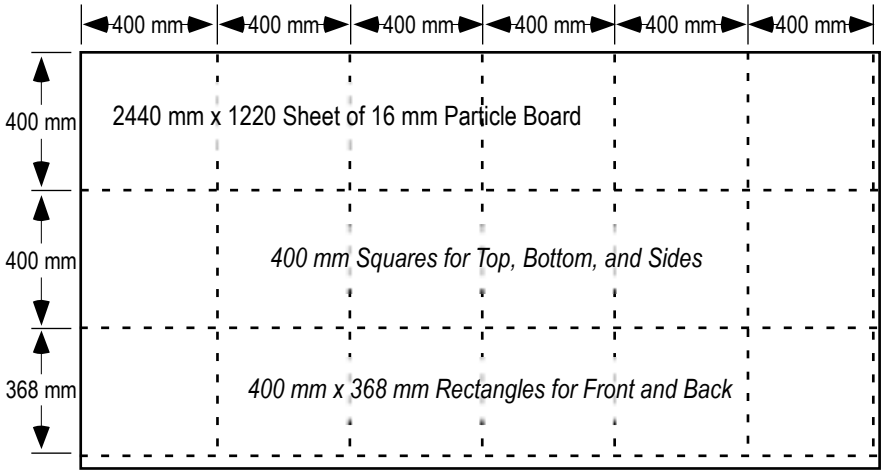
Burning Down the (Dolls) House

Small Scale Compartment Fire Demonstrations



Single Compartment Dolls House



Purpose

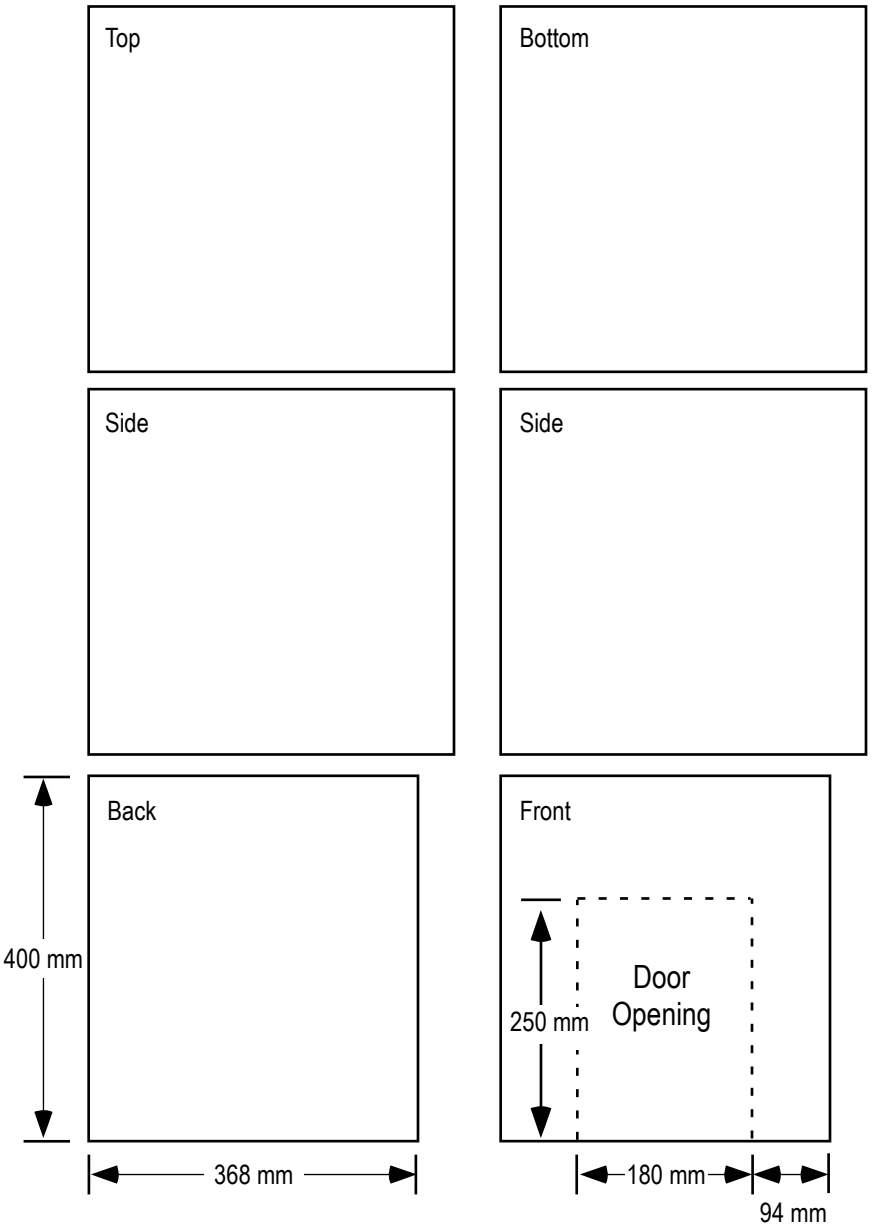
The dolls house is a simple, one compartment simulator used to demonstrate fire development and extreme fire behavior phenomenon.

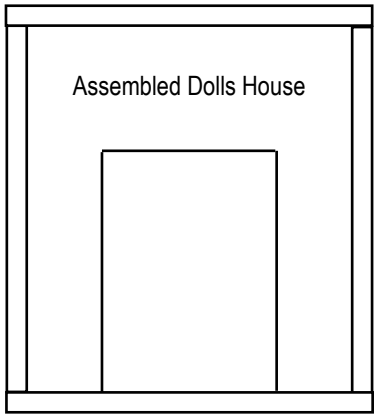
Construction

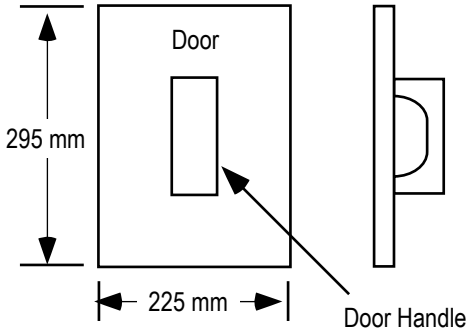
One 2240 mm x 1220 mm sheet of 16 mm particle board is sufficient to construct 3 single compartment dolls houses

Cut components as indicated on this cut sheet. Glue and staple (or nail) the panels together in the following order to assemble the dolls house:

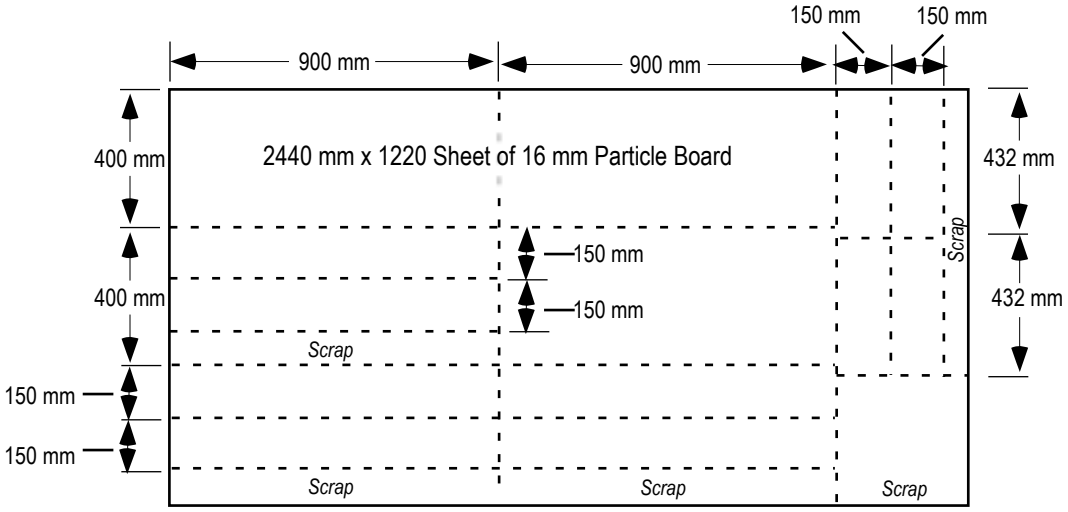
1. Top, Bottom, and Sides
2. Back (No Door)
3. Front (Doorway)
4. Door and Handle

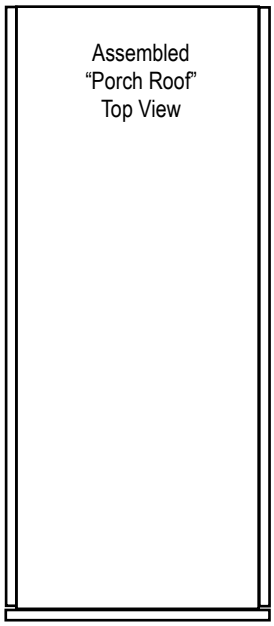


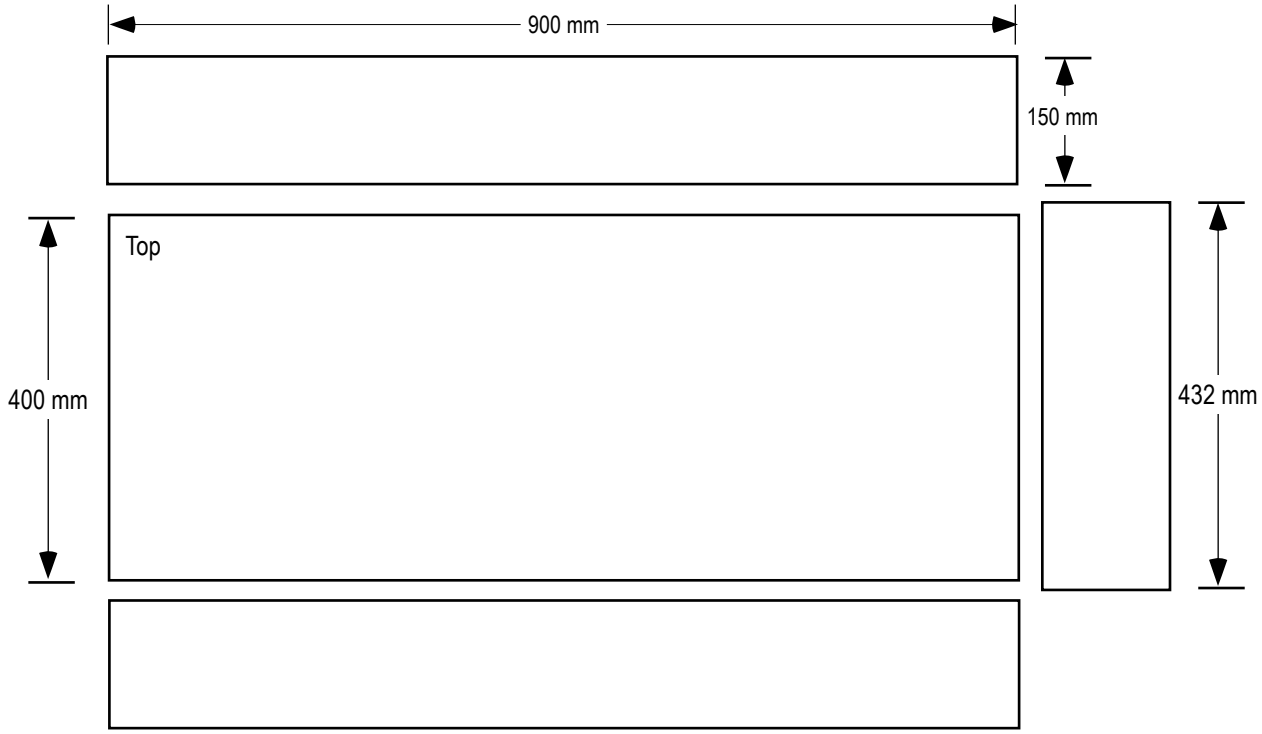




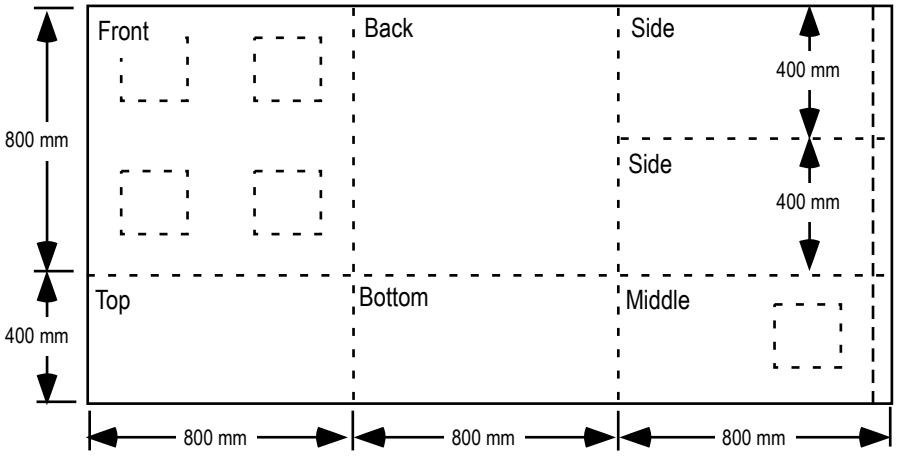
Single Compartment Dolls House-“Porch Roof”







Four Compartment Dolls House



Purpose

The four compartment dolls house is a simple, simulator used to demonstrate fire development, heat transfer and extreme fire behavior phenomenon.

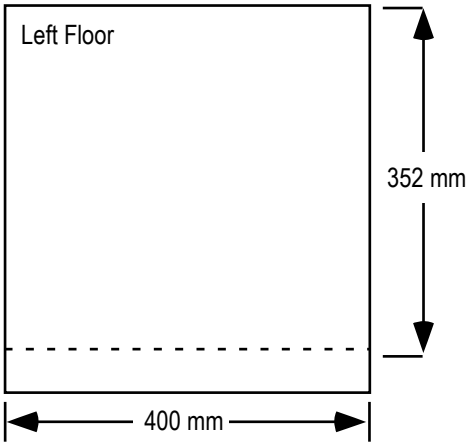
Construction

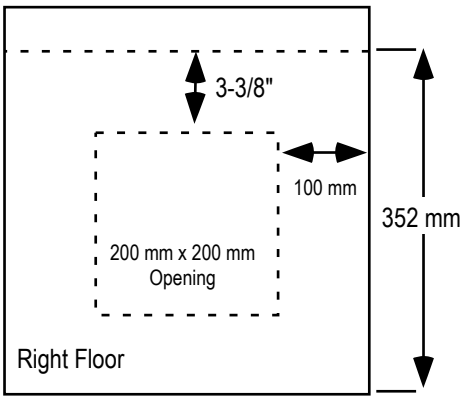
Four 2240 mm x 1220 mm sheets of 16 mm particle board is sufficient to construct 3 four compartment dolls houses

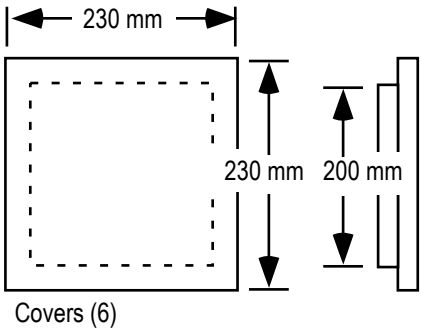
Cut components as indicated on this cut sheet. Glue and staple (or nail) the panels together in the following order to assemble the dolls house:

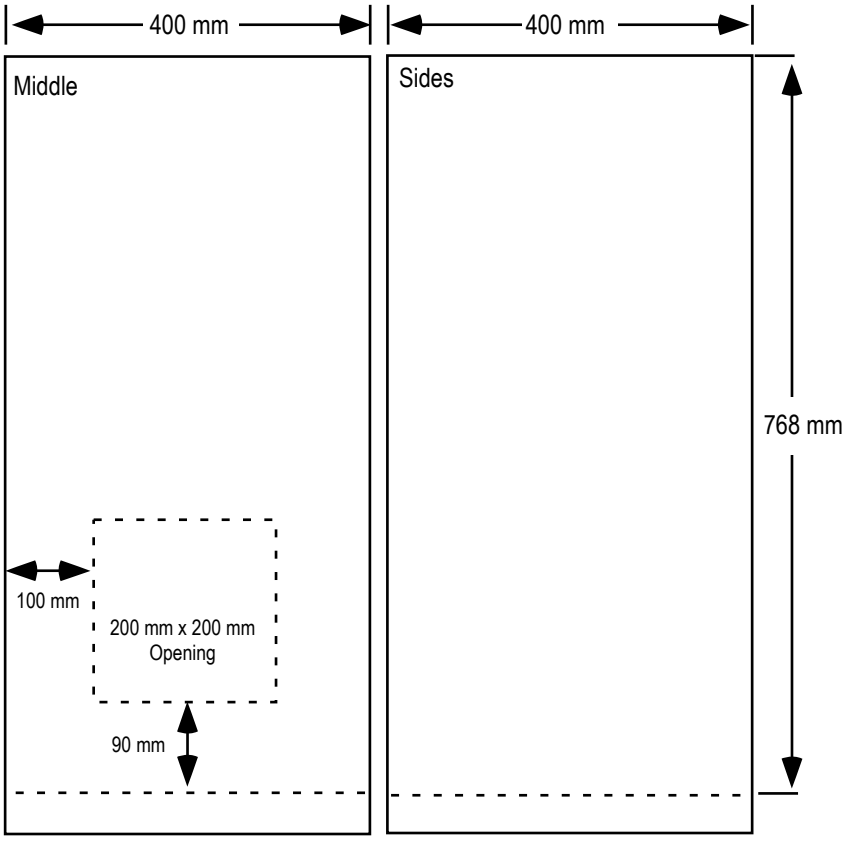
1. Top, Bottom, and Sides
2. Back (No Door)
3. Middle
4. Left and Right Floor
3. Front (Doorway)
4. Covers

Continued on Page 3

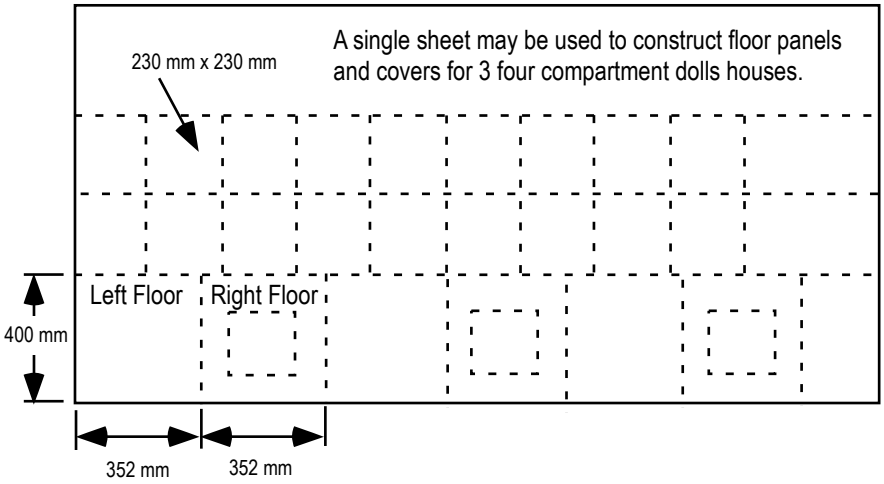








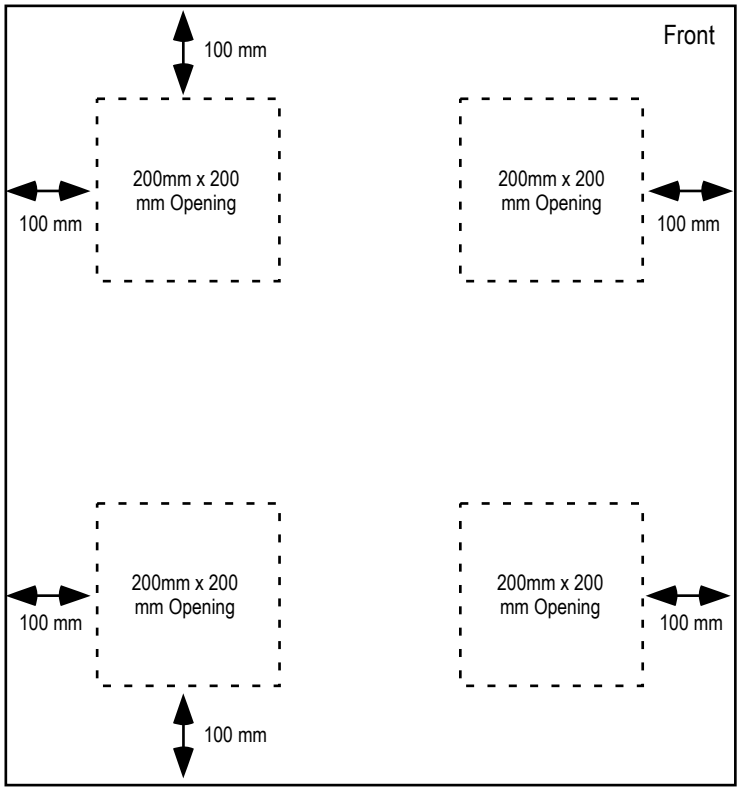
Four Compartment Dolls House (continued)



Construction (continued)

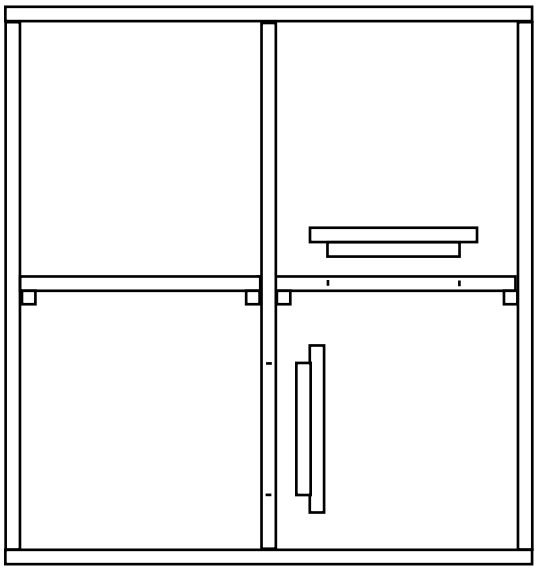
The material cut from the openings in the middle, right floor, and front panels is attached to the 9" squares to form the covers (it is important to label each cover with its location due to minor variations in the size of the openings.

Scrap from construction of four compartment dolls houses provides the material necessary for single compartment doll house doors.

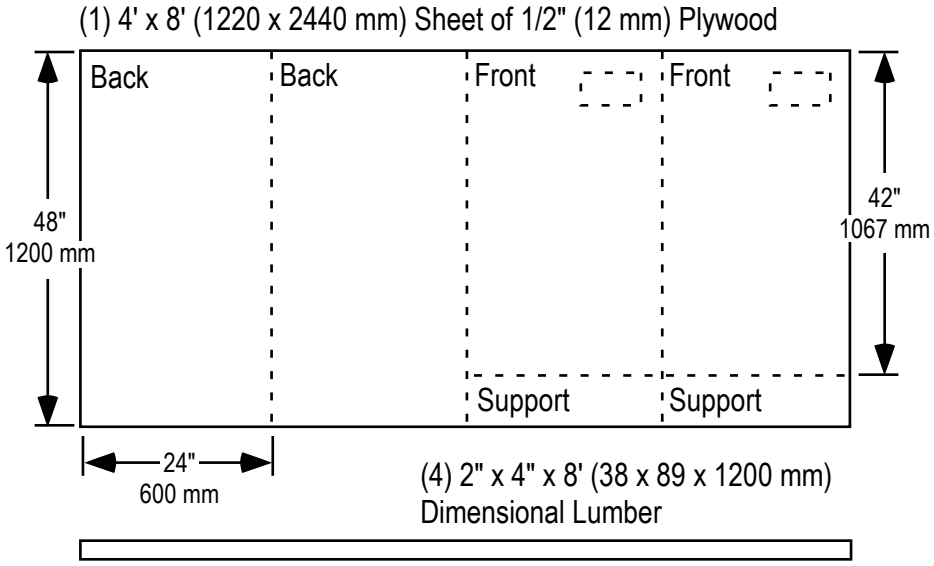


The rear panel has no openings

Assembled Dolls House
(less front panel)



Vent Wall



Cut the dimensional lumber into 4 pieces 24" (600 mm) long and 6 pieces 45" (524 mm) long.

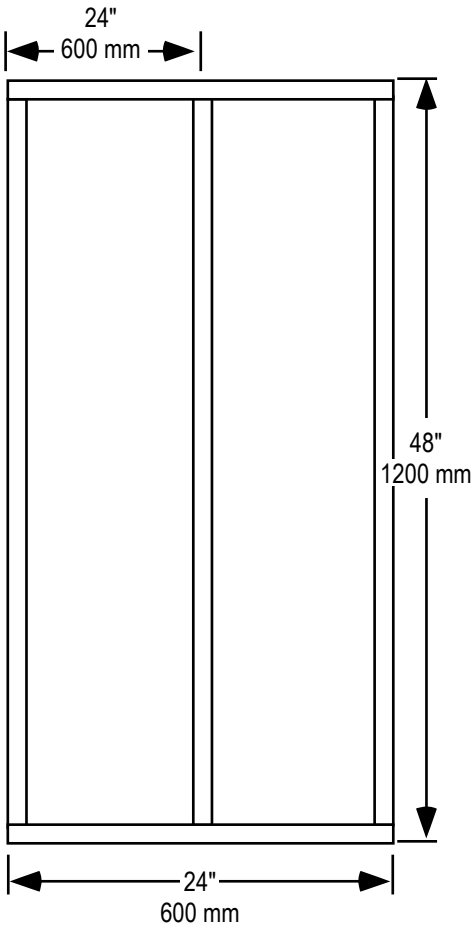
Purpose

The vent wall is a simple prop used to illustrate the influence of ventilation profile and draft influence fire behavior.

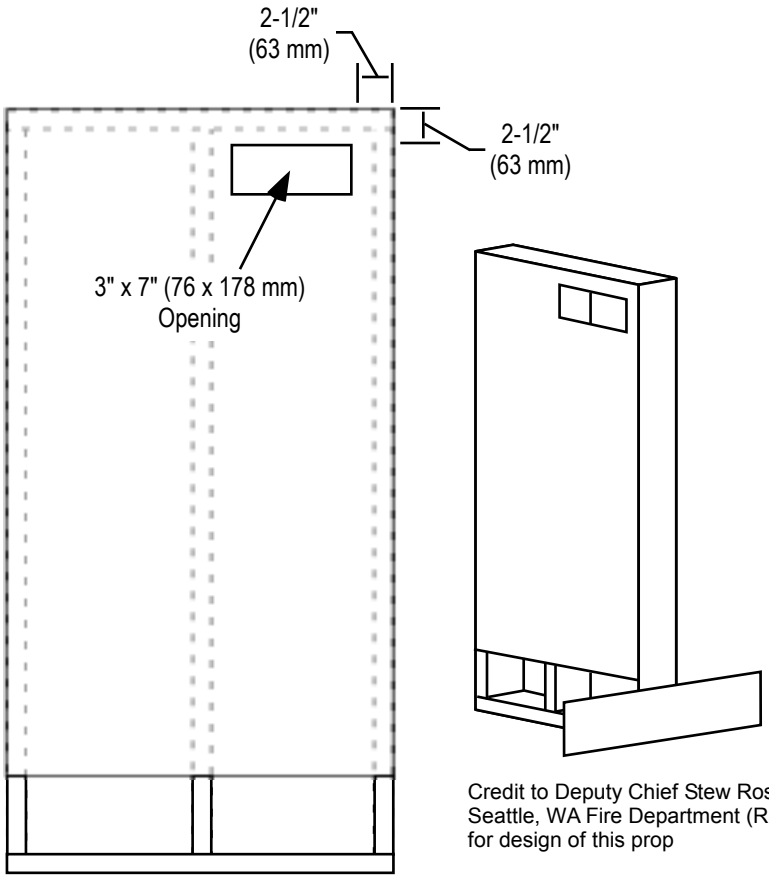
Construction

One sheet of 4‘ x 8’ (1200 x 2400 mm) Sheet of 1/2" (12 mm) plywood and four 2" x 4" x 8‘ (38 x 89 x 1200 mm) pieces of dimensional lumber are sufficient to build two walls

Cut components as indicated on this cut sheet, assemble the dimensional lumber frame with 16d (4.1 x 88.9 mm) nails and attach the plywood sheathing and support with #8 x 1-1/4" (4.2 x 31.8 mm) construction screws. Use of screws permits easy removal of the front of the wall to illustrate fire travel.



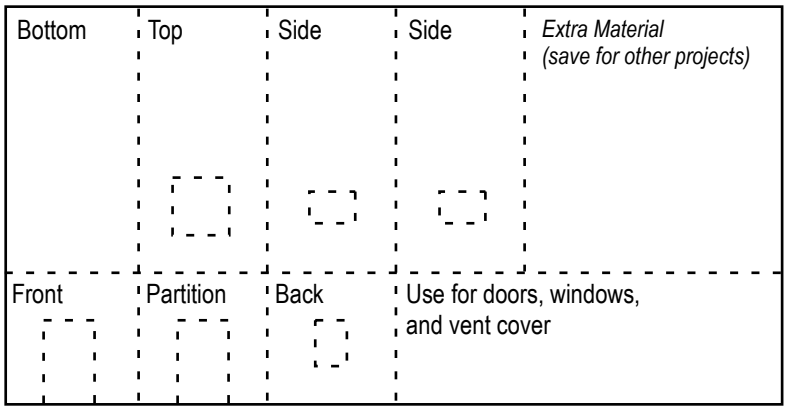
Attach the 24" (600 mm) x 48" (1200 mm) piece of plywood to the back of the frame. After cutting the 3" x 7" (76 x 178 mm) vent opening as illustrated, attach the 24" x 42" (600 x 1067 mm) piece of plywood to the front of the frame. Attach the support to the completed wall as illustrated below.



Credit to Deputy Chief Stew Rose Seattle, WA Fire Department (Ret.) for design of this prop

Two Compartment Dolls House

4' x 8' (1200 x 2400 mm) Sheet of 1/2" (16 mm) Particle Board



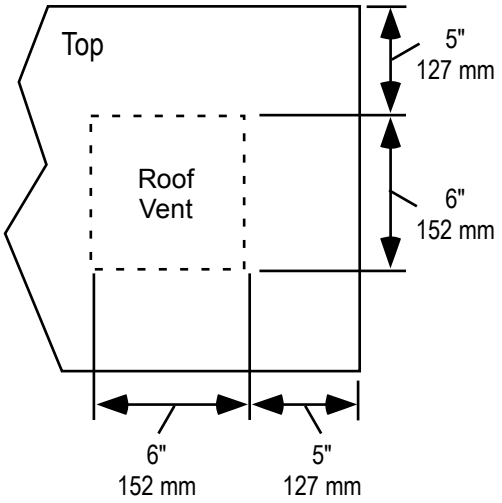
Purpose

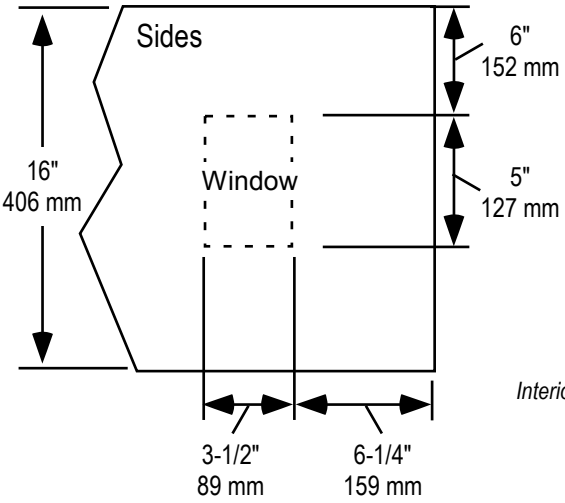
The two compartment dolls house is used to demonstrate the effect of ventilation on fire behavior and tactical ventilation principles.

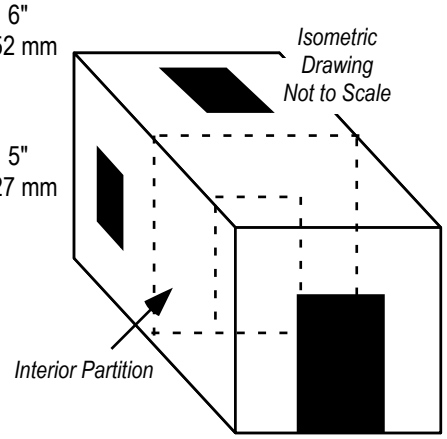
Construction

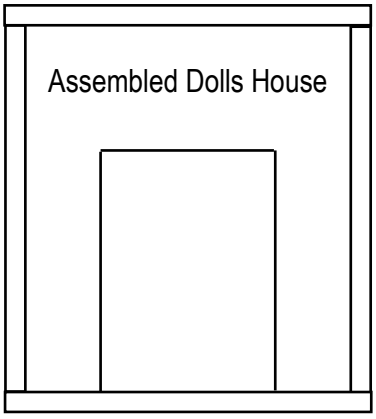
One sheet of 4‘ x 8’ (1200 x 2400 mm) Sheet of 3/4" (16 mm) particle board is used to build the two compartment dolls house

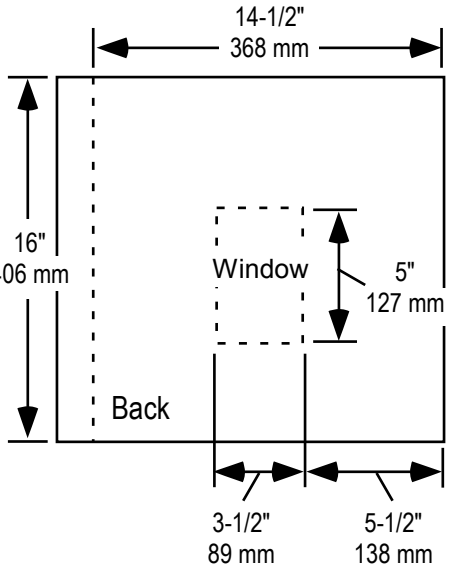
Cut components as indicated on this cut sheet and assemble with 6d common nails and liquid nails (construction glue)

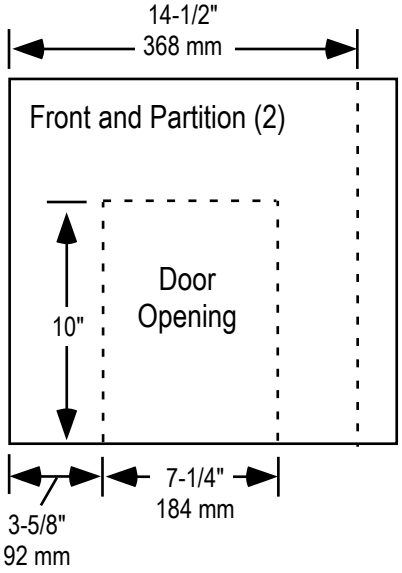


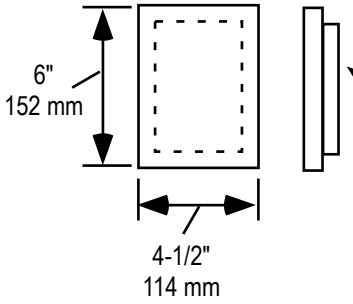




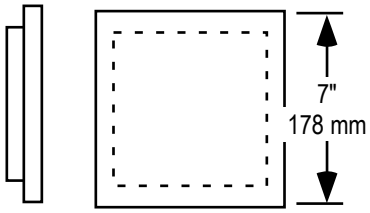








Use cutouts from windows and roof vent



For front door, use the door design from Single Compartment Dolls House (see page 1)