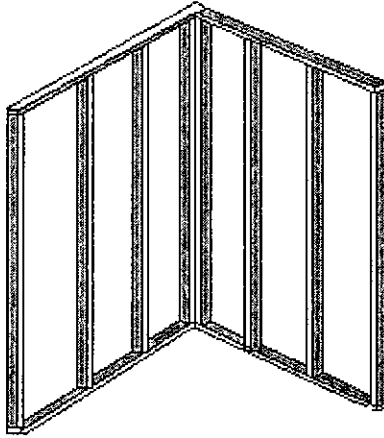
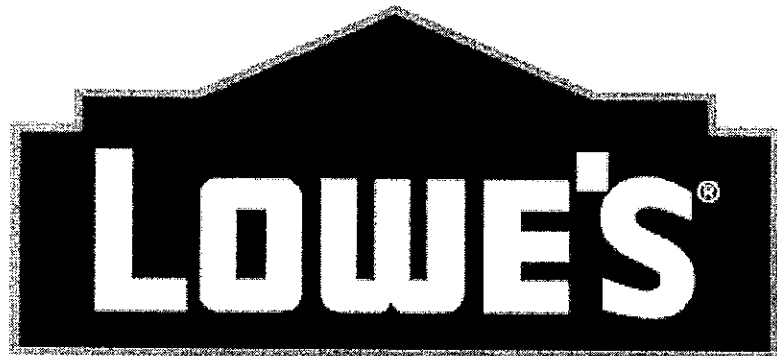


Basic Framing for Walls and Roofs



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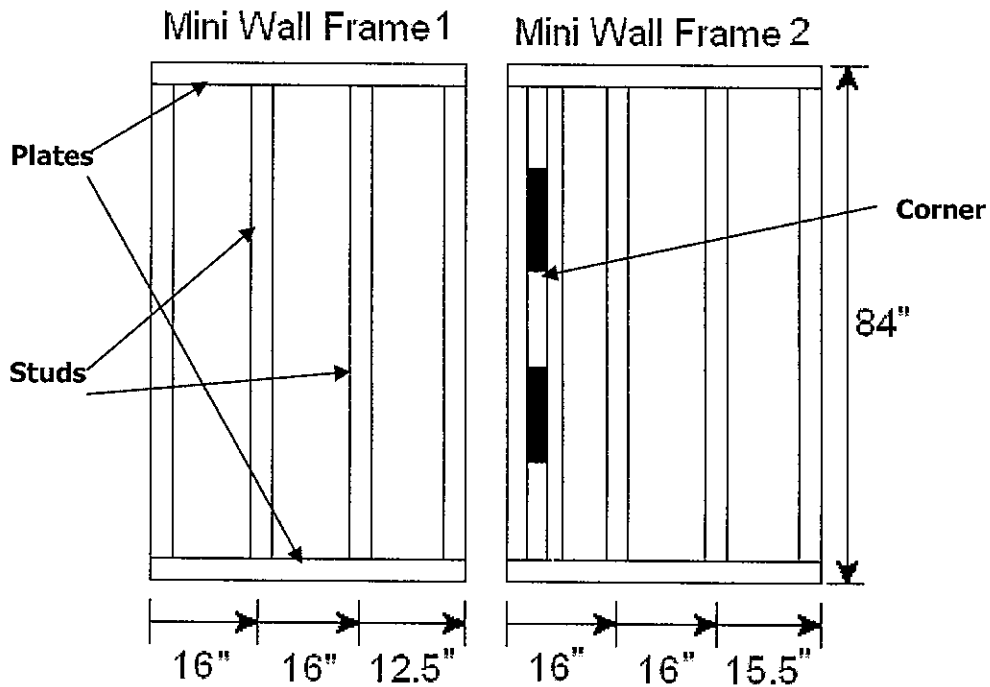
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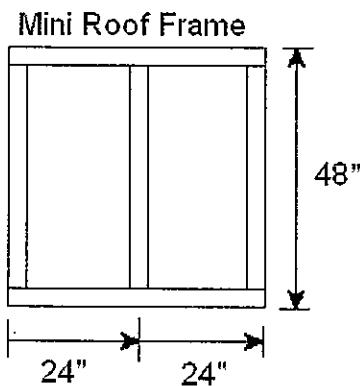
Basic Framing for Walls and Roofs

All structures require a strong frame for support. Today we are going to learn the basics about framing walls and roofs. We will learn about the types of materials used in home building, especially with Habitat for Humanity. We will also learn and try some of the basic techniques to build two small sample walls and roof frame.

Sample Wall and Roof Frame Plan



These are the sample wall frames we will try to assemble. The "plates" are the horizontal pieces at the top and bottom. The "studs" are the vertical pieces in between the plates. The corner on wall 2 is made from two studs and three small blocks. It allows room to attach the other wall and allows room to attach the drywall sheet on the inside corner.



This is the sample roof frame.

To assemble the wall on this plan we need to:

1. Select the studs and two plates.
2. Place the studs down on edge on the floor.
3. Place the plates above and below the studs.
4. Attach the plates to the studs with 2 nails.



The frames are attached with two nails about in the center of each stud. The finished plate should look something like this with the dashed lines showing where the stud is located.

Marking Plates

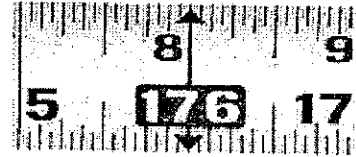
When the studs and plates are selected, it is time to mark out the plates and lay out the studs. To mark out the plates:

1. Place the top and bottom plates together.
2. Measure and mark out $1\frac{1}{2}$ inches from each end and draw a line across both plates at each mark.
3. Measure off and mark $15\frac{1}{4}$ inches and $16\frac{3}{4}$ inches. These marks will tell us where the two edges of the stud will fall.
4. We can then extend the tape and mark off $31\frac{1}{4}$ inches and $32\frac{3}{4}$ inches. With all the studs marked out, we can draw a line across both plates through each mark.

Driving Nails

To drive nails:

1. Wear your safety glasses.
2. Check that the stud is in the correct position. Place your foot so that you can press down on both the stud and the plate and hold them in place.
3. Hold the nail firmly.
4. Tap the nail carefully until it is firmly in the wood.
5. Move your hand away from the nail.
6. Swing the hammer using your whole arm and let the weight of the hammer do the work.
7. Make sure the nail head is sunk well into the surface of the wood.



Clearly marked multiples of 16" help during framing.



Hold the hammer near the bottom of the handle. Don't "choke" your hammer.

Never strike one hammer with another.

Removing Nails

To remove a nail with the claw of a hammer:

1. Wear your safety glasses.
2. Wedge the claw under the nail head, so that the head is securely in the middle of the "Vee".
3. Place a small block under the head of the hammer.
4. Make sure the material is securely held.
5. Pull down on the handle until the nail comes free.
6. Use steady pressure to remove the nail, not jerky pulls.
7. Never strike one hammer with another.

To remove a nail using a cat's paw:

1. Wear your safety glasses.
2. Align the claw just beside the nail.
3. Angle the handle so that the claw is aimed under the nail head.
4. Strike the cat's paw so that the claws dig under the nail head. Keep striking until the nail head is securely inside the "vee".
5. Pull or strike on the end of the handle until the nail comes free.



A "Cat's Paw" is a handy tool for removing embedded nails. It is designed to be struck with a hammer and provides great leverage for pulling nails out.