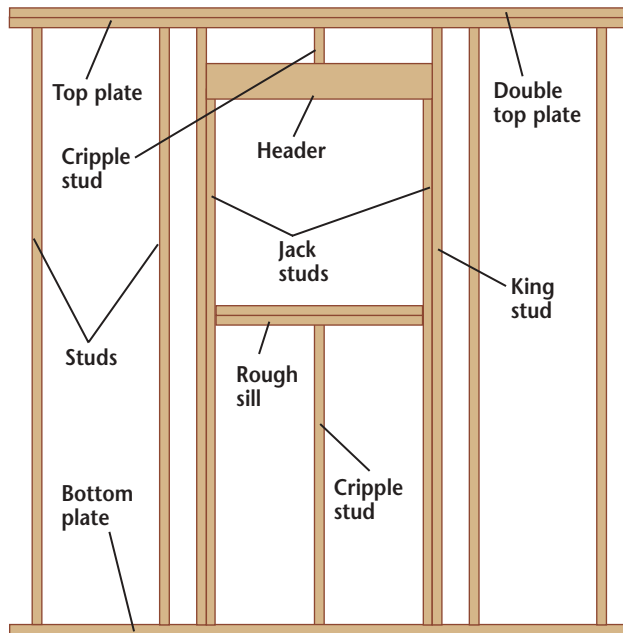


## Wall Framing

Standard framed walls have vertical  $2 \times 4$  studs nailed between horizontal top and bottom plates. The top plates are doubled to provide additional



support for the roof frame and to strengthen the wall connections. Door and window frames are made up of *king* studs; a *header*, which supports *cripple* studs above the opening; and *jack* studs, which support the header. A window frame also has a *rough sill* and cripple studs below the opening. The opening defined by the frame is called the *rough opening*. Wall frames gain rigidity from plywood sheathing or siding.

Building walls involves three major phases: laying out and framing the walls; raising the walls; and tying the walls together and adding the double top plates. Note: If your building has a concrete slab floor, use pressure-treated lumber for the bottom plates and anchor the plates to the J-bolts set in the slab (see page 25).

### TOOLS & MATERIALS

Broom	$2 \times$ lumber
Circular saw or power miter saw	8d, 10d, and 16d common nails
Square	$\frac{1}{2}$ " plywood
4-ft. level	Construction adhesive
Handsaw	

### HOW TO FRAME WALLS

#### Step A: Mark the Bottom-plate Layout Lines

1. Sweep off the floor and make sure it's dry. Cut a short (about 4" to 6") piece of plate material to use as a spacer. Position the spacer at one corner of the floor, with its outside edge flush with the outside of the floor frame. Mark a pencil line along the inside edge of the spacer.

2. Use the spacer to mark the wall ends at each corner of the floor (eight marks total). Snap chalk lines through the marks. These lines represent the inside edges of the bottom plates.

#### Step B: Lay Out the Plates

1. Measure along the plate layout lines to find the lengths of the plates. Note: Follow your project plans to determine which walls run to the edges of the building (called *through* walls) and which butt into the other walls (called *butt* walls).

2. Select straight lumber for the plates. Cut a top and bottom plate for the first wall, making sure their dimensions are the same. Use a circular saw or a power miter saw, but make sure both ends are square. Lay the bottom plate flat on the floor and set the top plate on top of it. Make sure their edges and ends are flush, then tack the plates together with a few 8d nails.

3. Turn the plates on-edge and mark the stud layout onto the front edges.



**A.** Use a block cut from plate material to lay out the bottom plates. Mark at the ends of each wall then snap a chalk line.