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FRAMING A NEW WALL

Turn large, unusable spaces into more functional ones by adding walls. Framing a new wall is not extremely difficult, but it does require accuracy and attention to detail.



STEP ONE

Temporarily lay out the new wall. Run a stud finder along the ceiling to locate the joists. If the joists are parallel to the new wall, adjust the layout so that the wall is directly under a joist. If they run perpendicular to the wall, put the wall where you want it.



STEP TWO

Measure from a corner and mark where the new wall will meet the existing wall. Measure from the opposite corner and lay out the other end of the new wall. Snap a chalk line between the marks. This marks one edge of the top plate. Measure diagonally between opposite corners. If the measurements are the same, the new wall is square. If they're not, adjust the layout so they're equal.



STEP THREE

To lay out the sole plate, drive a nail into the ceiling close to one end of the chalk line. Hang a plumb bob from the nail and mark the floor at the point. Repeat at the other end of the ceiling chalk line. Snap a chalk line between the marks to lay out one edge of the sole plate. Mark an X to the side of the line where the plate will be positioned.

Overview:

SKILL SCALE

Medium

TIME REQUIRED

To frame an 8x10-foot wall.

Beginner: 2.5 hr.

Intermediate: 2 hr.

Advanced: 1.5 hr.

(It's a good idea to ask someone to help you with this project.)

What You'll Need:

TOOLS

stud finder
hammer
handsaw
tape measure
chalk line
plumb bob
combination square
level
single-edge razor
safety goggles

MATERIALS

2x4s
16d common nails
wood shims

TIP: If you're nailing into concrete, fasten the wall with construction adhesive and concrete nails.

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STEP FOUR

Set the top and sole plates side by side on the floor. Starting at one end, measure and mark the plates every 16 inches. Then, with a combination square and a pencil, extend the lines across the plates. Draw an X at the end of each plate and to the right side of the line on each plate to mark the location of studs.



STEP FIVE

Determine the stud length by measuring the distance between the ceiling and the floor at several places. Take the shortest distance and subtract $3\frac{3}{4}$ inches to allow for the combined thicknesses of the top and sole plates. This also allows for the clearance you'll need to tilt the wall into place.



STEP SIX

Cut the studs to length. Lay the bottom plate and first stud on edge and nail them together with 16d nails. If the first stud (or any other stud) is warped, make sure the crown faces up. This will allow you to nail the ends without the stud rocking.



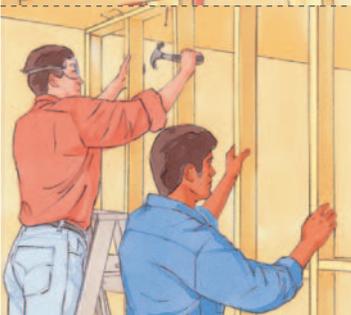
STEP SEVEN

Nail the studs in place one at a time. Once all of the studs are attached to the bottom plate, set the top plate on edge and nail it to the studs at the marks. Two-by-fours placed between the studs act as firestops in case of a fire inside the wall. Cut them to fit, position them to make nailing easy, and nail them in place.



STEP EIGHT

With the studs nailed in place, align the bottom plate with the floor chalk line. Carefully tilt the wall into place and align the top plate with the ceiling chalk line. For a large wall, get someone to help you lift it into position.



STEP NINE

Starting at one end of the new wall, shim between the top plate and ceiling, and check the wall for plumb with a level. As you shim and plumb each section of wall, drive 16d nails through the top plate into the framing. Fasten the bottom plate by driving 16d nails through it into the floor. Nail the end studs to framing in the existing wall. Score the shims with a utility knife and snap them off flush with the plate.