

# The Garden Loft



chicken coop construction plan

# what's inside

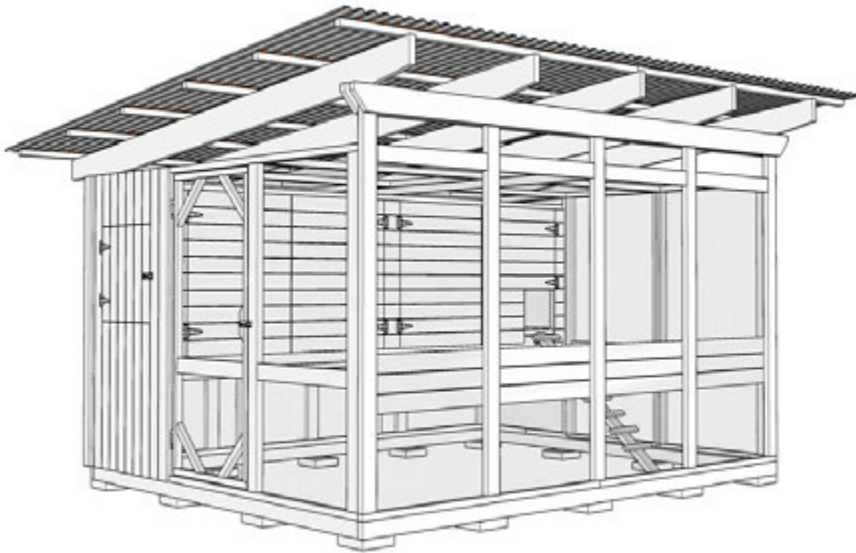
Overview and precautions (read first!) .....	3
Tools and materials .....	6
Foundation .....	13
Walls and doors .....	19
Roof .....	38
Ceiling .....	50
Henhouse .....	55
Nest boxes, ladder, etc.....	69
Perimeter skirt .....	76
Tips and suggestions .....	79
Cut lists and diagrams .....	80

## thank you!

Thank you for buying The Garden Loft construction plan and for supporting our efforts. Years of work went into this design and plan. I'm confident it will save you time, frustration, and money as you build a safe, spacious home for your backyard chickens — or rabbits, ducks, quail, or other backyard critters. Most importantly, I hope it leads to a beautiful, functional, well-built structure that you love and are proud of!



# overview and precautions



## The Garden Loft

THE GARDEN LOFT makes for a spacious, attractive home for up to 16 hens (or more, depending on how much additional run space you can provide). It is an integrated henhouse and run — basically a box within a box. The elevated henhouse is an ideal retreat for roosting by night and laying eggs by day. And because the henhouse is raised, the entire footprint below is open for the run.

This construction plan shows you step-by-step how to build The Garden Loft chicken coop design using standard materials, and the materials list and cutting diagrams show you how to get the most out of those materials. The frame is built from dimensional lumber/timber. It rests atop concrete pier blocks set partially in the ground, which provide a stable, level foundation and elevate the frame off the ground. Up top, the translucent polycarbonate roof adds to both the form and the function of the coop, providing light (and shade), ventilation, and protection from rain, snow, heat, and UV.

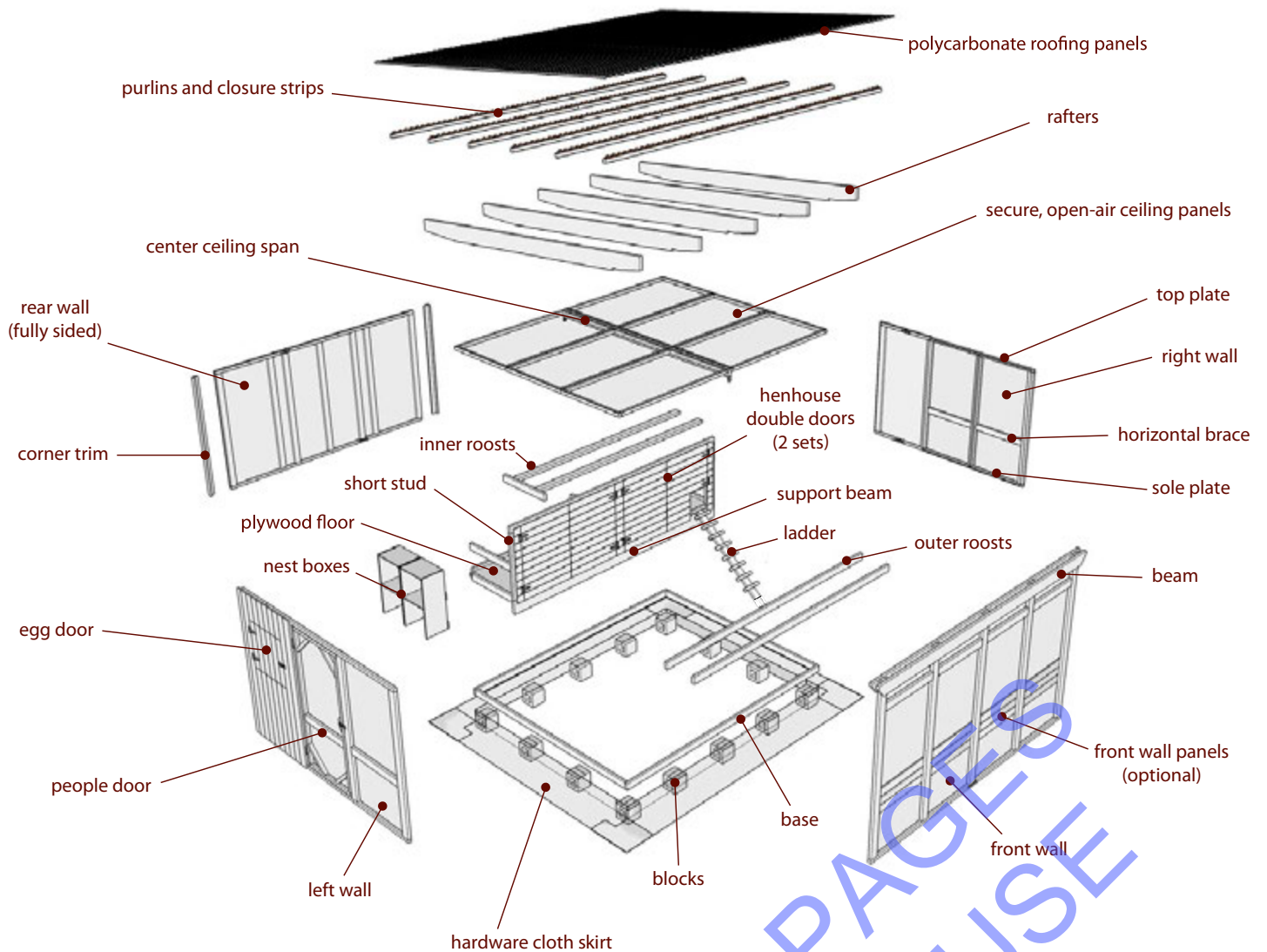
From the ground up, The Garden Loft protects your hens from predators, pests, and the elements. The frame is clad with both wood siding and heavy-duty hardware cloth. There's a hardware cloth ceiling above both the henhouse and run and a hardware cloth skirt at the base. The skirt prevents rodents and predators from digging in while leaving the ground in the run open for your chickens to scratch in. One of the nicest features for you as a chicken keeper is that, because the entire structure is secure, there's no need to let your flock in and out of the henhouse at night. They're free to move between the henhouse and run as they please.

The Garden Loft's open-air design lets in sunlight and fresh air to help keep your flock healthier and happier year round. It also affords you a spectacular view of all the goings-on in the run. Two outer perches span the full width of the coop, and there are two more long perches inside. It's plenty of space for a large flock to roost. There are also four nesting boxes (with room to add more, if you want) and a latched door that opens from the outside for egg collection. You can hang a waterer and feeder off the ground beneath the henhouse. It's all easy to get to and move around in — the full-height people door and the two sets of double doors opening into the waist-high henhouse put the entire space within easy reach for care and cleaning.

Those are the basics of The Garden Loft. It's beautiful, practical, and generously sized for your backyard flock. I'm confident you'll enjoy building and personalizing it to stand out in your garden.

# overview and precautions

## EXPLODED VIEW



### SPECIFICATIONS

Height (roof peak to ground).....	about 8.5' (2.6 m)
Henhouse (inside).....	about 11.5'w x 3'd x 3.5'h (3.6 x 0.9 x 1.0 m). 34.5 sq. ft. (3.2 sq. meters).
Run (inside).....	about 11.25'w x 9'd x 6.5'h (3.6 x 2.75 x 2.0 m). 102 sq. ft. (9.5 sq. meters).
Nest boxes (four).....	each 15.5" w x 12" d x 15" h (395 x 305 x 380 mm)
Roost length in henhouse (total)....	19' (5.75 m)
Roost length in run (total) .....	22.5' (6.8 m)

# tools and materials

THE TOOLS LISTED HERE are all you need, but if you have access to something better, by all means use it. This list is here to help you, not limit you.

\* Metric units appear in green throughout the plan. \*

- circular saw** (you may prefer a miter saw for crosscuts and a table saw for cutting siding, if you have access to these as well)
- power drill/driver** (borrow a second one for faster work: one for drilling, one for driving)
- drill bits:**
  - ▶  $\frac{7}{64}$  or  $\frac{1}{8}$ " (3 mm) for predrilling wood
  - ▶  $\frac{3}{16}$  or  $\frac{1}{4}$ " (5–6 mm) for predrilling roof panels
  - ▶ driver bits to match your chosen screw drive types (Phillips, square, star, hex, etc.)
  - ▶  $\frac{1}{4}$ " (6.3 mm) hex-head driver bit for attaching roofing panels
- tape measurer** at least 25' (7.5 m) long
- standard level**
- cross-check level** (helpful for leveling individual foundation blocks)
- pencils**
- sawhorses** (a pair or two and/or a good worktable)
- handsaw** (for finishing cuts)
- hammer** (for driving staples, trim nails, etc.)
- pliers** (for installing hook and eyes)
- combination square or speed square** (helpful for marking cross cuts on lumber)
- clamps** (2) with at least a 6" (150 mm) capacity
- wire/metal snips** that can handle 19-gauge wire or heavier
- shovel** (for preparing foundation)
- bow rake** (or other rigid rake, for leveling ground and spreading soil and mulch)
- step ladder** (for attaching the roof)
- sanding block and sandpaper** (80 grit or so) — or a power sander
- paintbrush** (for applying sealer, paint, or stain)
- dropcloth** (for painting or sealing)
- personal protective gear:** work gloves, eye & ear protection, dust mask/respirator, work boots, etc.
- pneumatic narrow crown stapler, with compressor** (optional, but helpful given the size of the project)



# foundation

A PROPER FOUNDATION elevates your coop off the ground and keeps it level. There are several types — chain wall, concrete posts, continuous pavers, etc. I describe here a pier-on-grade foundation.

The Garden Loft frame rests on 14 blocks, each positioned directly beneath a stud. A wooden base sits atop the blocks. The walls will attach to the base.



I used 8" x 8" x 8" (200 x 200 x 200 mm) cinder blocks. For a deeper foundation or to compensate for a slope, use 8" x 8" x 16" (200 x 200 x 400 mm) blocks, narrow end up. For a heavier foundation, use solid pier blocks.

## 1 Choose and prepare site

- a. **Select a good location.** Before you start building, decide where the coop will go and which direction it will face. Here are some things to consider when picking the best spot:
  - ▶ Choose a mostly level, well-drained site. A slight slope is okay. 18' x 15' (5.5 x 4.5 m) should be sufficient and allow for working room on all sides. More space is always better. It also helps to have a separate area nearby where you can cut and assemble the coop components.
  - ▶ The Garden Loft is secured from digging predators by a hardware cloth skirt at the base, which extends out about 2' (610 mm) on all sides (see p. 76). At the very least, leave enough room for this. If you can't, then you can trench the hardware cloth to a depth of about 18" (460 mm) instead.

### A note about frost heave

If you're building in a colder climate and on frost-susceptible soil, the ground may swell as the moisture in it freezes, which can cause a structure to shift over time. Trying to prevent it is probably more costly than it's worth, as it involves digging and setting a foundation that reaches deeper than the frost line, which could be more than a few feet below grade.

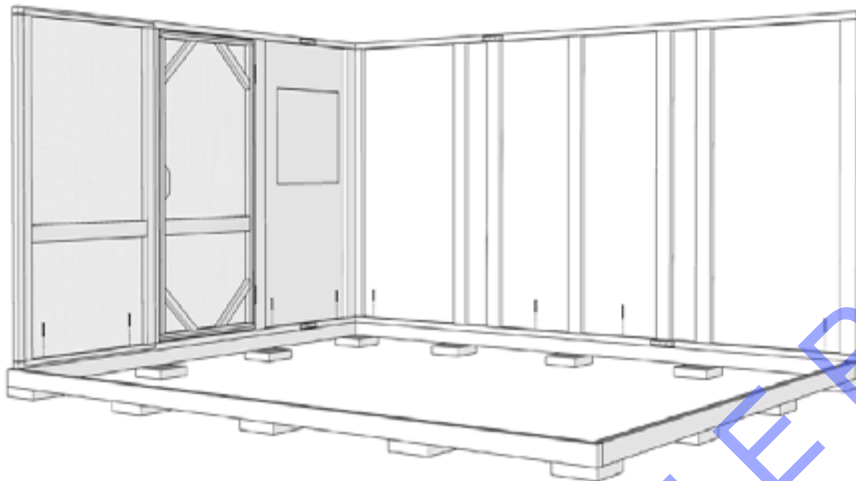
The simpler option is to check for any shifting annually and make corrections as needed. The pier-on-grade foundation described here is ideal for this. Simply jack up any low spots and add shims between the blocks and the frame.

# walls and doors

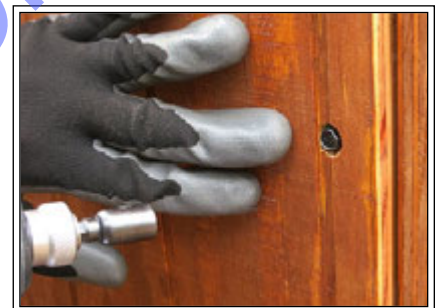
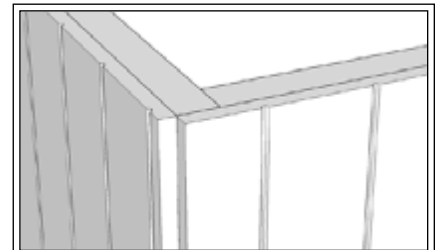
## 9 Connect the four walls

As a precaution, wait for a calm day to move the walls into place. If you're in a windy area, consider anchoring the structure with augur anchors and straps until it is fully built.

- a. **Set rear wall in place.** Enlist the help of a few partners and carefully raise the rear wall into position atop the base. The wall should align flush with the left and right edges of the base. While holding the wall in place, attach the sole plate to the base in a few spots using 3" (75 mm) screws. Continue to support the rear wall until both side walls are attached.
- b. **Set left wall in place.** Again with help, carefully raise the left wall into place atop the base. The siding on the rearmost edge of the left wall should overlap the rear wall (see illustration at right). While holding the wall, attach the sole plate to the base using 3" (75 mm) screws.



- c. **Attach rear wall to left wall.** Using three 4" (100 mm) structural wood screws, attach the rear wall to the left wall, driving through the siding on the rear wall into the stud on the left wall. The top screw should be about 6" (150 mm) below the top edge of the wall, the center screw about halfway down, and the bottom screw about 6" (150 mm) from the bottom edge (see second illustration at right). Drive until the head of each screw is slightly countersunk into the siding (see photo at right).



# roof

- b. Lay out first roof panel.** Working from either the right or the left, set the first roof panel atop the closure strips. There should be one unsupported crest that overhangs the side edges of the purlins.

When measured at the center, the front edge of the panel should extend 4" (100 mm) beyond the front face of the first purlin (and about the same distance from the rear purlin). See second photo at right. A speed square works well for this.

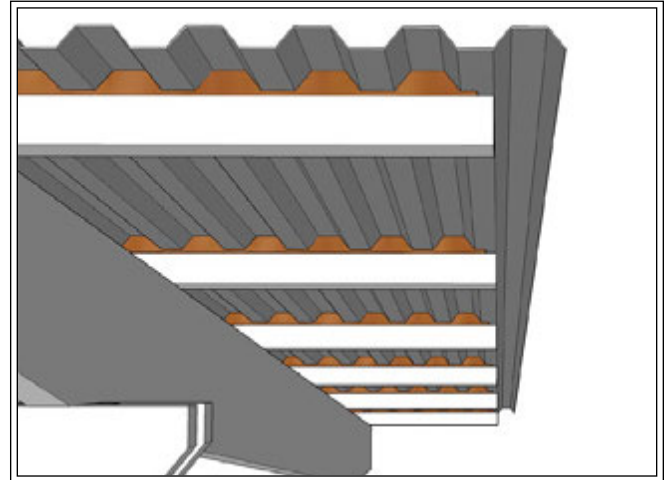
- c. Predrill and attach first roof panel.** See page 47 for how to do this. Stand on a well-supported ladder either inside or near the edges of the coop.

Start at the front purlin. Predrill/attach at the first and second supported crests, then at every other crest — but stop before the crest where the next panel will overlap. You'll drill/attach at this crest once the next panel is in place.

Move your ladder as needed. Working toward the rear of the roof, predrill/attach the panel to the remaining purlins. Sweep any plastic shavings as you go and collect for disposal.

- d. Predrill and attach remaining roof panels.** Place the next panel so that it overlaps the previous panel at one crest (or two, if you prefer — you can also add an optional bead of clear silicone caulk at the crest for added waterproofing).

Measure again at the center to make sure the front edge of this panel extends 4" (100 mm) beyond the front face of the front purlin. Because the panels may come slightly skewed, you shouldn't simply align the front corner with that of the previous panel. This could lead to the overhang getting progressively longer or shorter down the line.

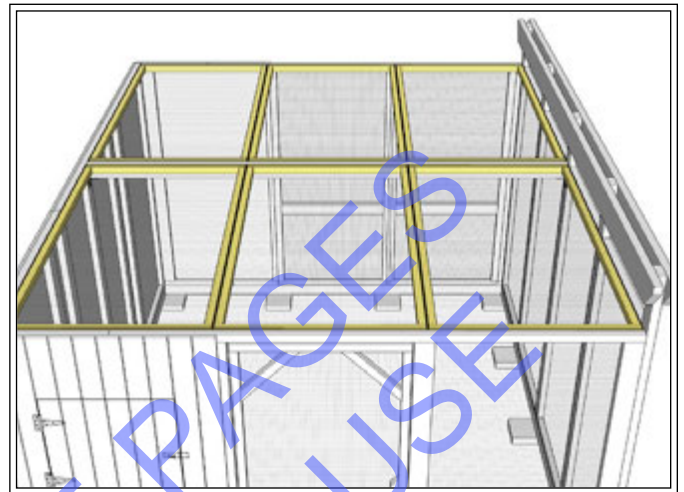
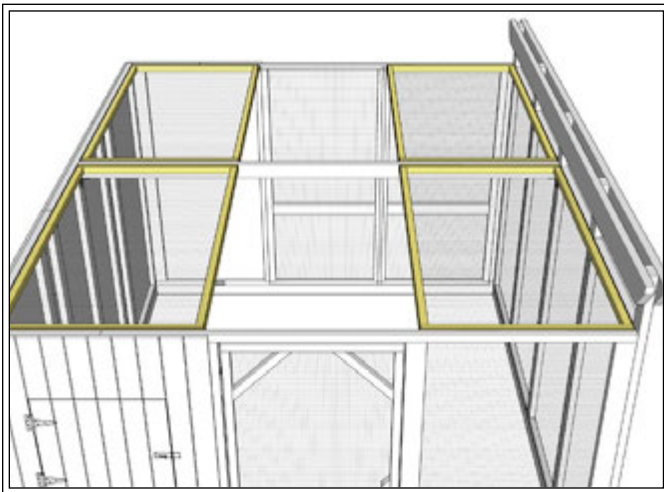
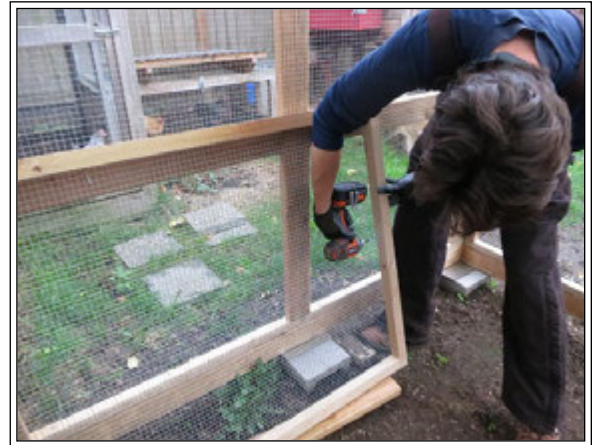




# ceiling

## ③ Attach ceiling panels

- a. **Pre-drive screws.** Before lifting a panel into place, drill 2–3 pilot holes through each side and get the 2 ½" (64 mm) screws started.
- b. **Attach the four corner panels first, then the two center panels.** See illustrations below, shown without the roof for clarity. Attach the panels to the center span; to the top plates on the rear, left, and right walls; to the horizontal braces on the front wall; and to the adjacent ceiling panels. Screw them tight, but a slight gap around each panel is by design. Also see photos on next page.

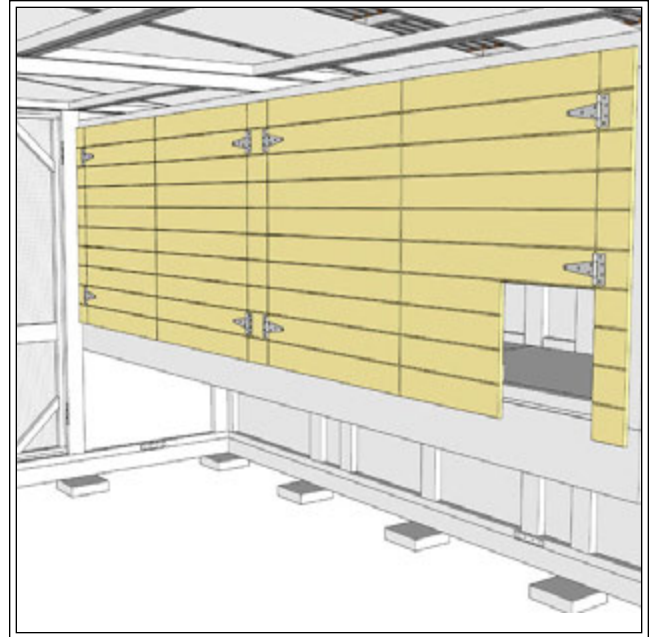


*It helps to have a partner outside the coop making sure that the panels align flush with the top plates and top edges of the horizontal braces. A second partner inside the coop can help hold the panels as you attach them.*

# henhouse

## ③ Henhouse doors

There are two sets of double doors for henhouse access and cleaning. The doors attach to the short studs (via hinge backing strips) with a couple of 5" (125 mm) T-hinges. On each set of doors one hook and eye latches the right door to the lower support beam, and a second hook and eye latches the left door to the right door. The hens' access hole (where the ladder comes up) is cut into the face of the rightmost door.



- a. **Cut out hinge backing strips and doors.** Cut two sheets of plywood siding to the height and widths shown in the illustrations on p. 88. You may need to adjust the widths slightly for the best fit, so measure your coop to compare. Basically, you want the hinge backing strips to cover the short studs. You want a 1/8" (3 mm) gap between the hinge backing strips and the doors. And you want a 1/4" (6 mm) gap between the double doors.

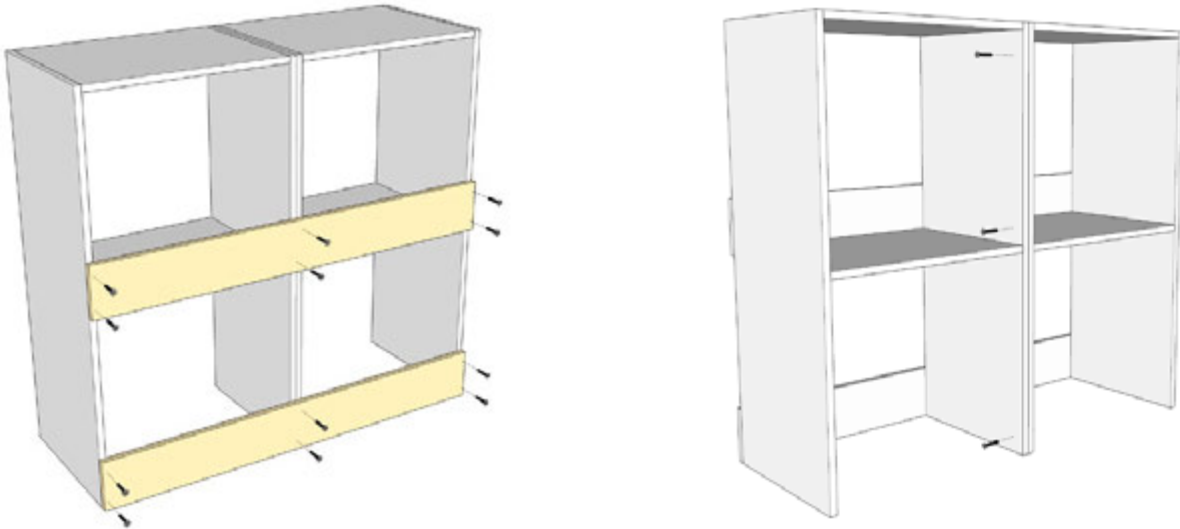
It helps with alignment and appearance if you cut the pieces in order, and attach them in the same order as they were in the original sheet of siding.

- b. **Measure and cut access hole in lower right corner of rightmost door.** It should be about 15 3/4" (400 mm) high and 13" (330 mm) wide. For looks, you can cut the top of the opening at the nearest horizontal groove if your siding is grooved.
- c. **Mark line to position hinge backing strips and doors.** Mark a horizontal line all the way across the front face of the upper support, about 1 1/2" (38 mm) from the top edge. A two-by-two is the perfect width to use as a guide. See photo at right. You'll position the top edges of your doors and hinge backing strips on this line for placement.



# nest boxes, ladder, etc.

- d. **Join stacks together.** Lay them next to each other, fronts facing up. Clamp them together tight so there's no gap between them. Attach a front panel flush to the bottom and side edges. Attach a second front panel flush to the bottom edge of the upper floor panel. See first illustration below.



Stand the assembly upright. Move the clamps to the rear side and screw the stacks together in three spots. If your screws are a little long, drive them just short of poking through the second panel. See second illustration above, shown from the rear of the boxes.

- e. **Set nest boxes in place** against the left wall inside the henhouse. See photos below. Notice that the space above the nest boxes is large enough for a chicken to sit (and poop) on. You can prevent this by blocking it off with a piece of hardware cloth hung from the ceiling or a scrap of plywood attached to the top of the boxes.



Better yet, make use of the space by placing a couple of sealed containers up there. It's a handy spot for storing scratch, oyster shell, or grit.