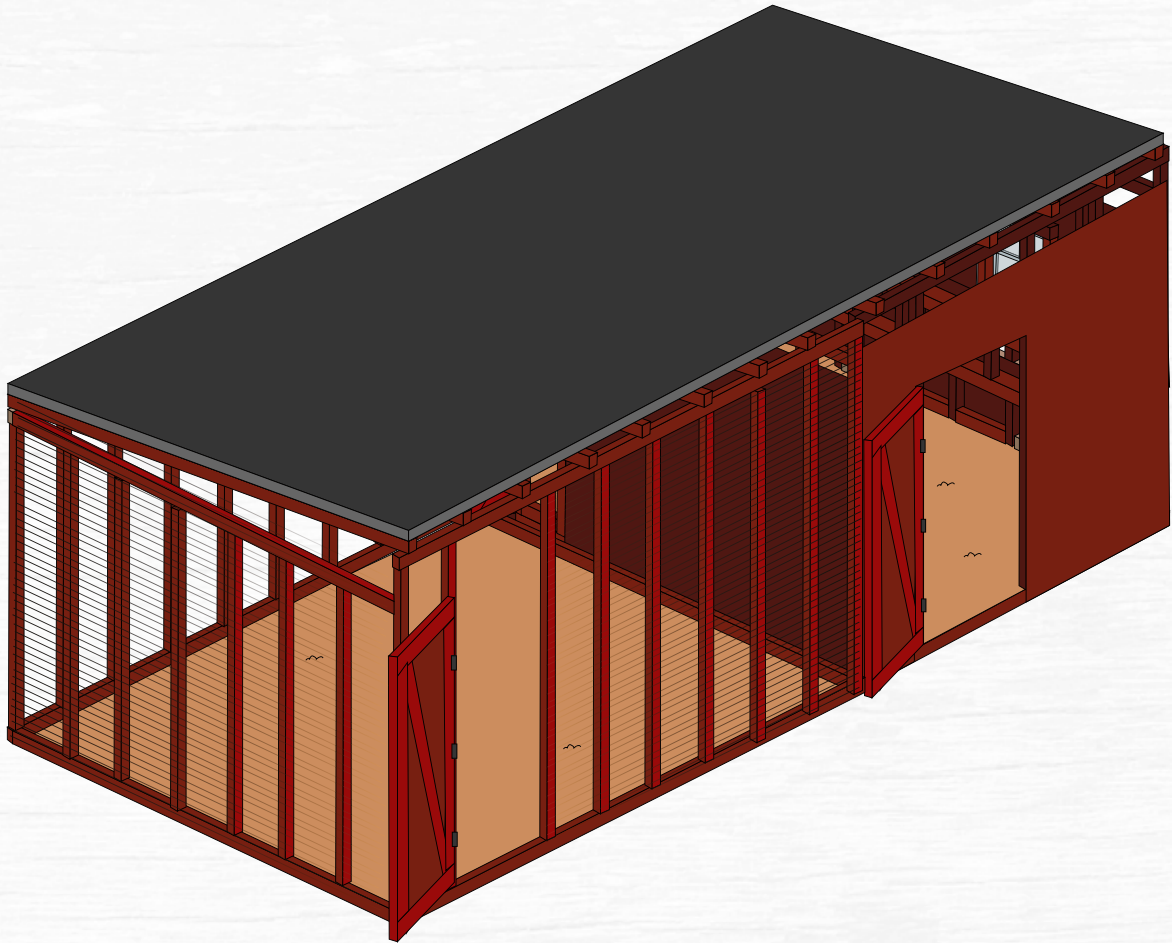


AN EASY STEP-BY-STEP

20x10 Chicken Coop Plan (With Run)



GET YOUR RUN UP-AND-RUNNING IN NO TIME AT ALL!



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Looking for a spacious, sturdy, and secure home for your chickens?

This 20x10 coop with a sloped roof and attached run is exactly what you need. Whether you're raising hens for eggs, or just enjoying backyard chickens, this coop is built to last and designed with both your birds' comfort and your convenience in mind.

With the 8x10 enclosed coop and 12x10 run, you can comfortably house up to 18 birds. The spacious design allows for plenty of room to roam, roost, and nest, providing a safe and secure environment for your birds.

MATERIALS LIST

LUMBER / WOOD:

- **2x6s (pressure-treated):** 2 pieces, 12' long & 9 pieces, 8' long
- **1x4s (pressure-treated):** 2 pieces, 8' long
- **Standard 2x4s:** 63 pieces, 12' long & 22 pieces, 8' long
- **Standard 2x4s:** 12 pieces, 4' long
- **1/2" exterior-grade plywood:** 25 sheets, 4' x 8'
- **3/4" exterior-grade plywood:** 3 sheets, 4' x 8'

HARDWARE:

- **1" screws with 1/2" washers:** 3 lbs
- **1 1/4" screws:** 5 lbs
- **1 1/2" screws:** 5 lbs
- **3" screws:** 20 lbs
- **Heavy-duty door hinges:** 6 (walk-in coop door and walk-in run door)
- **Medium-duty hinges:** 6 (chicken door and nesting box lid)
- **Heavy-duty locking latches, padlock-compatible:** 3 (walk-in coop door, walk-in run door, and nesting box lid)
- **6" door pull:** 2 (walk-in coop door and walk-in run door)
- **24" x 24" pre-hung windows:** 2
- **1/2" galvanized hardware cloth:** 800 square feet (for predator-proofing)
- **Roofing materials (metal sheets or asphalt shingles):** check packaging for 260 sq. ft. coverage
- **Exterior paint or stain (weatherproof):** 3 gallons (optional)
- **Exterior-grade silicone caulk:** 3 tubes

TOOLS NEEDED

CUTTING & MEASURING:

- **Tape measure** (at least 25')
 - **Speed square/carpenter's square**
 - **Carpenter's pencil or chalk**
 - **Circular saw** (for cutting plywood and 2x4s)
 - **Wire snips/side cutters**
 - **Miter saw or hand saw** (for precise angle cuts)
-

DRILLING & FASTENING:

- **Drill/driver** (corded or cordless)
 - **Drill bits** (for pilot holes)
 - **Screwdriver bits for 1 ¼", 1 ½", 2", 3", and 6" screws**
 - **Hammer** (for nails and hardware cloth)
-

ASSEMBLY & SUPPORT:

- **Clamps** (optional, for holding pieces while screwing)
 - **Level** (to ensure walls and frame are plumb)
 - **Sawhorses or workbench** (to support plywood while cutting)
-

ROOFING & EXTERIOR:

- **Utility knife** (for shingles or underlayment)
 - **Roofing nails or screws** (if using metal roofing)
 - **Caulk gun** (for exterior-grade silicone caulk)
 - **Paintbrushes/rollers** (for exterior paint or stain)
-

SAFETY:

- **Safety glasses**
- **Hearing protection**
- **Work gloves**
- **Dust mask** (especially when cutting plywood)

STEP 1

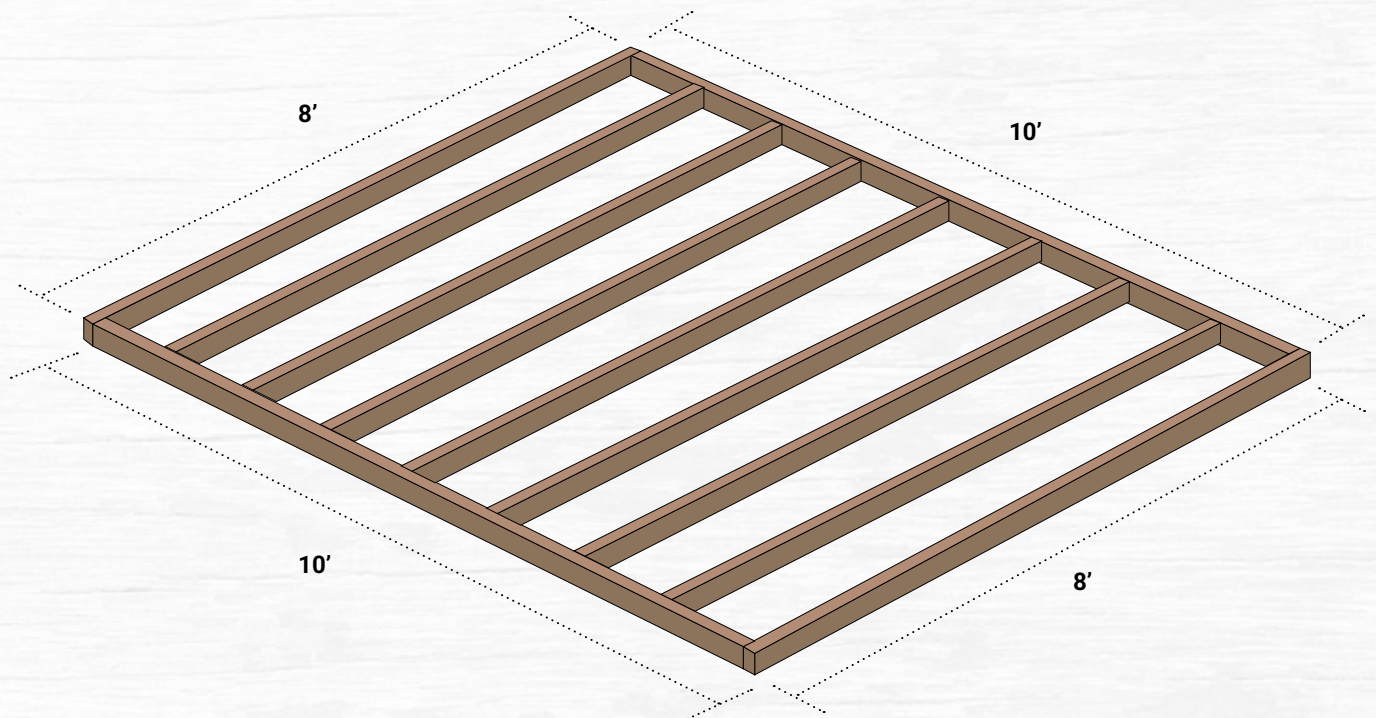
Preparing the Base

Prepare the Site:

- Clear the ground where the coop will sit. Ensure it's level to prevent issues with the structure later.

Frame the Coop Base:

- Use **four pressure-treated 2x6s** to form the frame: **two 10' lengths** for the sides, and **two 8' lengths** for the front and back.
- Assemble the frame using **3" screws**, ensuring the angles are square.
- Add **seven pressure-treated 2x6s** at **8'** for the cross braces (**13-14" apart**), ensuring a center support.
- Use **joist hangers** where the **8' braces** meet the **10' side joists** for maximum floor load capacity.



STEP 2

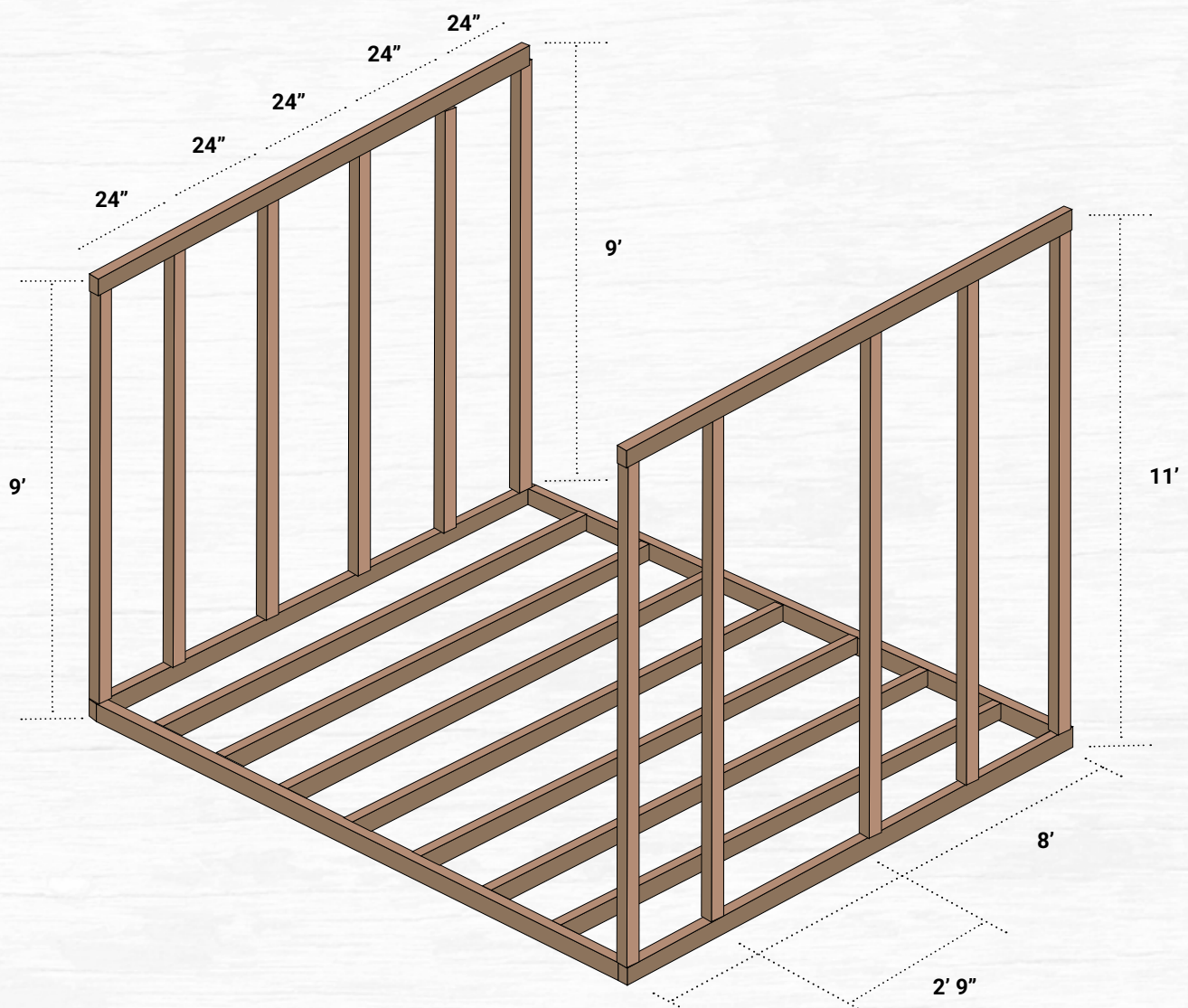
Framing the Front & Back Coop Walls

Front Wall Frame (Tall Side):

- Use **standard 2x4s** to cut **five 11' vertical studs** and space them between **16" and 24" apart**, leaving an opening of approximately **2' 9"** for the door width.
- Use a **standard 2x4** at **8'** for the top horizontal framing.
- Assemble with **3" screws**.

Back Wall Frame (Short Side):

- Use **standard 2x4s** to cut **five 9' vertical studs** and space them **24" apart**.
- Use a **standard 2x4** at **8'** for the top horizontal framing.
- Assemble with **3" screws**.



STEP 3

Framing Right Side Coop Wall

Framing Right Side Wall:

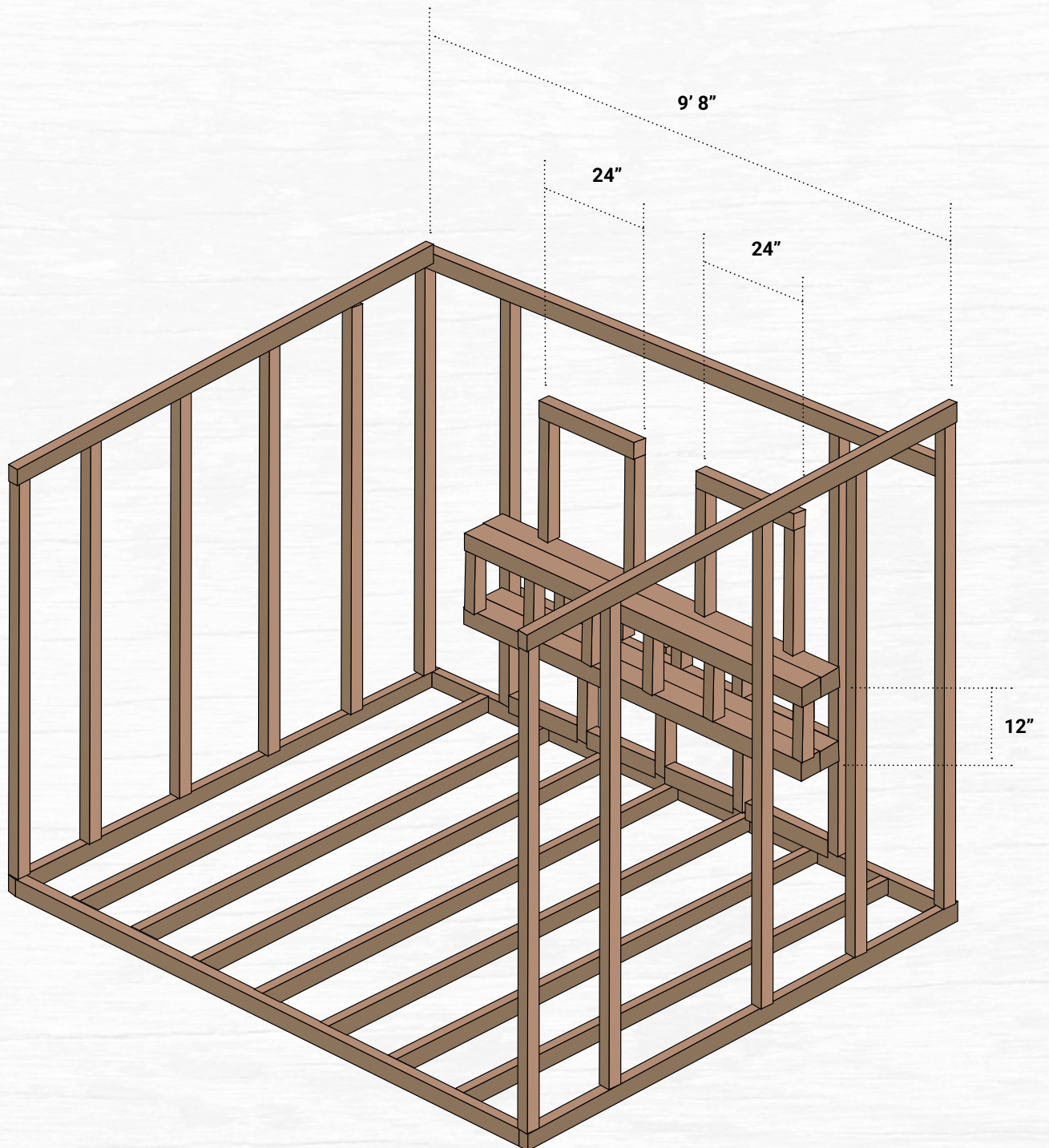
- Use **two standard 2x4s** for **9' vertical studs** and space them **13"** from the **11' and 9'** corner studs.
- Use **three standard 2x4s** for **3' vertical studs** and space them **19" apart**, leaving an opening of **6' 10"** for the nesting box width.
- Use a **standard 2x4** at **9' 8"** for the top horizontal framing.
- Assemble with **3" screws**.

Framing Nesting Boxes:

- Use **five standard 2x4s** for **12" horizontal studs** and attach them perpendicular to the **two 9' vertical studs** and **three 3' vertical studs**.
- Use **two standard 2x4s** for the **6' horizontal bottom frames** of the nesting box width.
- Use **five standard 2x4s** for **12" vertical studs** and space them **12" apart** on top of the **back 6' horizontal nesting box bottom frame**, to create the vertical wall studs of six nesting boxes.
- Use **seven standard 2x4s** for **10" vertical studs** and space them **12" apart** on top of the front **6' horizontal nesting box bottom frame**.
- Use **two standard 2x4s** for the **6' horizontal top frames** of the nesting box width.
- Use **three standard 2x4s** for the **12" cross braces**, cut both ends at **45-degree angles** (parallel to each other).
- Install the **12" cross braces** underneath the **6' horizontal bottom frame**, connecting them to the main vertical studs.
- Place one brace at each end and one in the centre to prevent the nesting boxes from sagging or pulling away from the wall.
- Assemble with **3" screws**.

Framing Windows:

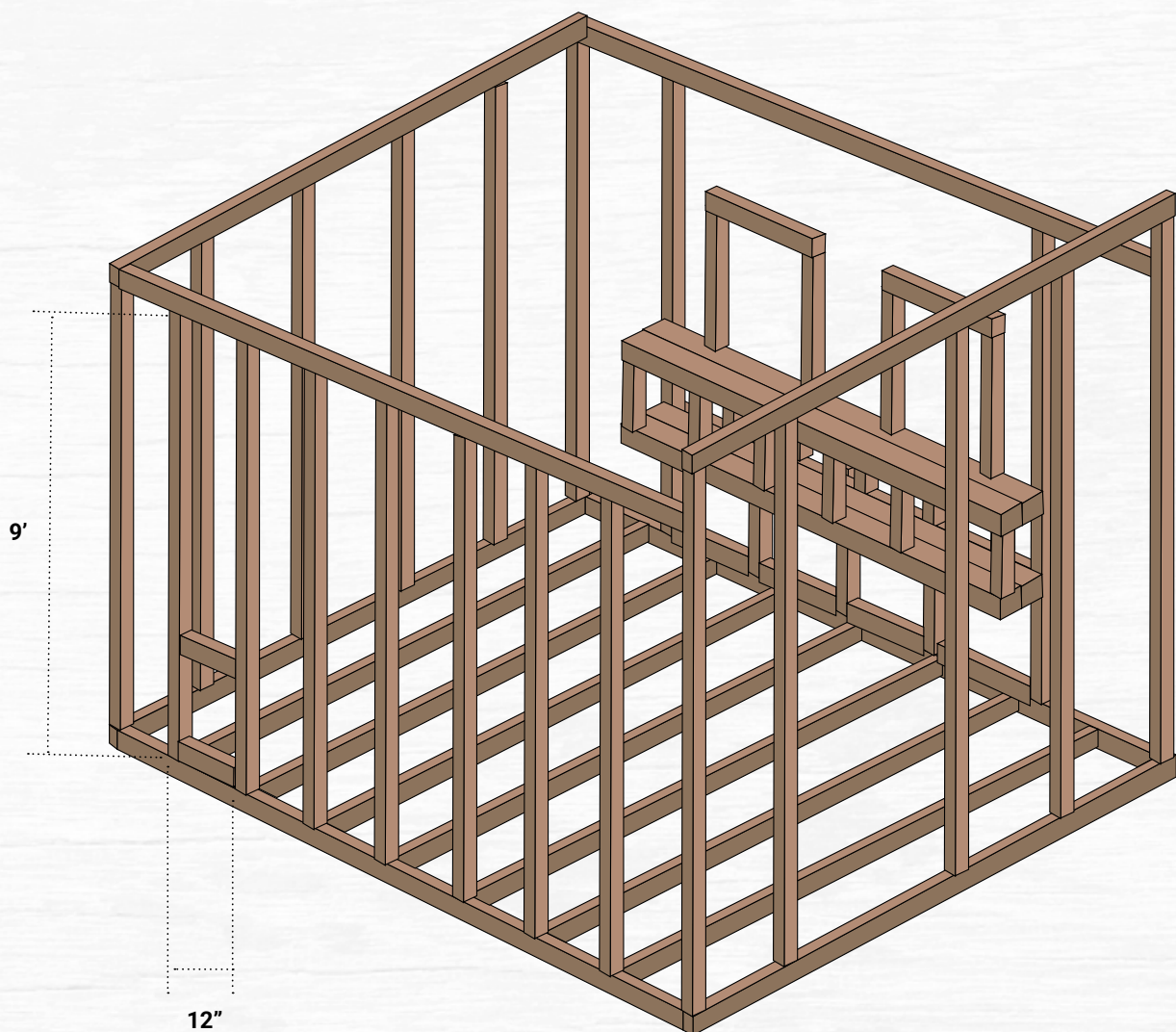
- Use **four standard 2x4s** at **4' 8"** as vertical studs of the two windows, attach on top of the **6' nesting box top frame**, leaving a width of **24"** for each window opening.
- Use **four standard 2x4s** at **24"** for the horizontal top and bottom framing of each window.
- Assemble with **3" screws**.



STEP 4

Framing Left Side Wall

- Use **seven standard 2x4s** for **9' vertical studs** and space them approximately **14" apart**.
- Use a **standard 2x4** at **9' 8"** for the top horizontal framing.
- Use **two standard 2x4s** for the **14"** horizontal top and bottom frames of the chicken door. Install them **12" apart** between **two vertical studs**, at the bottom of the wall frame.
- Assemble with **3" screws**.



STEP 5

Installing Coop Doors

Main Door:

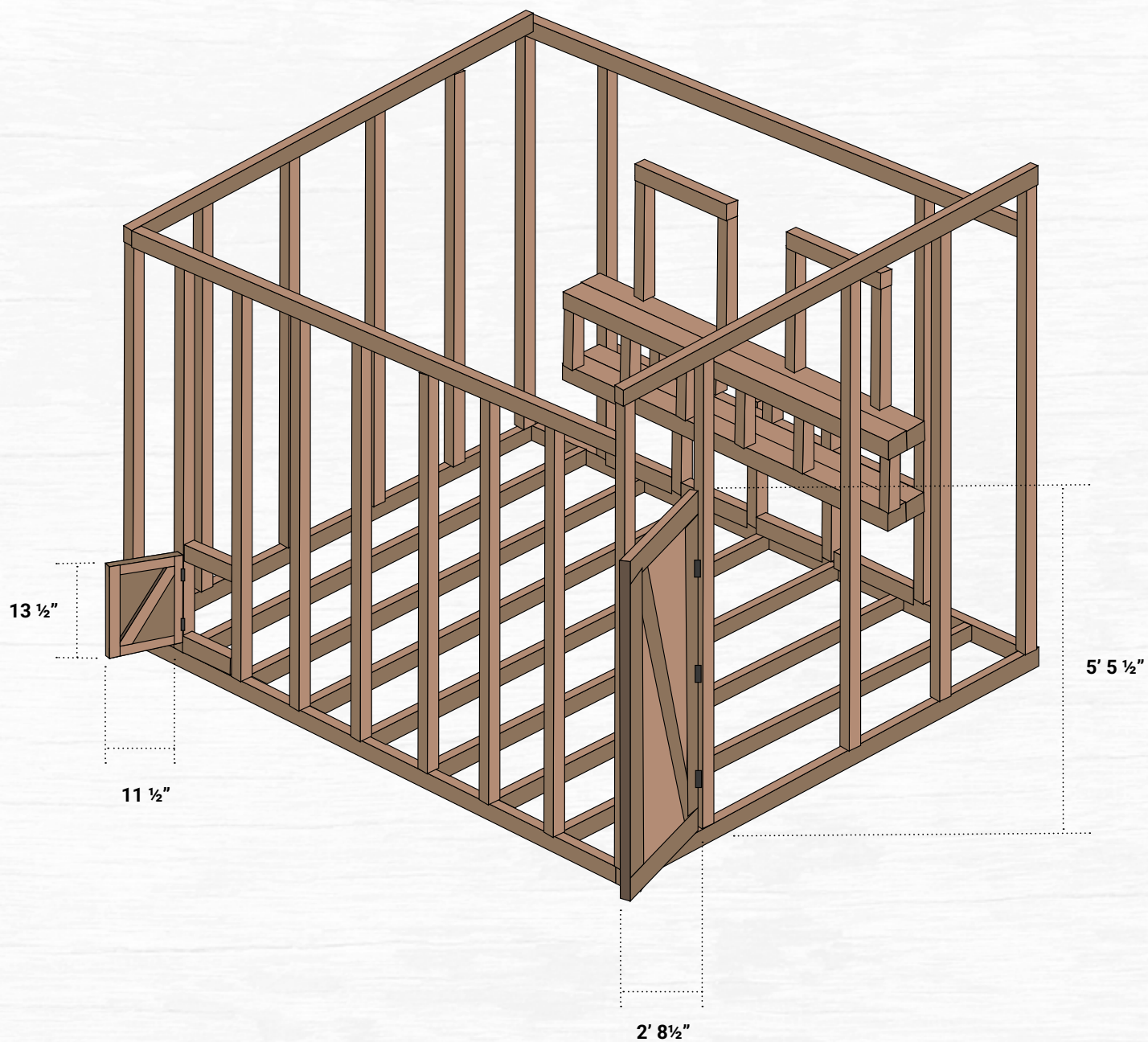
- Cut a piece of **1/2" exterior-grade plywood** to be **2' 8 1/2" x 5' 5 1/2"** (this **1/4" gap** on all sides prevents the door from sticking when the wood swells in the rain).
- Lay your plywood door flat. Use **standard 2x4s** for two vertical framing at **5' 1 1/2"**.
- Use **standard 2x4s** as two horizontal framing at **2' 8 1/2"**.
- Measure and cut a **standard 2x4** to fit diagonally inside that rectangle. It must run from the top corner (hinge side) down to the bottom corner (latch side).
- Attach the frame pieces with **3" screws**, ensuring that all angles are square using a speed square.
- Secure the frame to the **1/2" exterior-grade plywood** using **1 1/2" screws**.

Framing Nesting Boxes:

- Attach **3 heavy-duty hinges** to the door and the coop frame.
- Install a **secure locking latch** to prevent predators from opening the door.
- Finish the door installation by attaching a **6" door pull**.
- Ensure the door swings outward for safety.

Chicken Door:

- Cut **3/4" exterior-grade plywood** to **13 1/2" x 11 1/2"**.
- Use **two standard 2x4s** at **9 1/2"** for vertical side framing.
- Use **two standard 2x4s** at **13 1/2"** for top and bottom horizontal framing.
- Measure and cut a **standard 2x4** to fit diagonally inside the rectangle, for extra stability.
- Attach the frame pieces with **3" screws**, ensuring that all angles are square using a speed square.
- Secure the frame to the **3/4" exterior-grade plywood** using **1 1/2" screws**.
- Attach **2 hinges** to the top or side of the door and the coop frame.



STEP 6

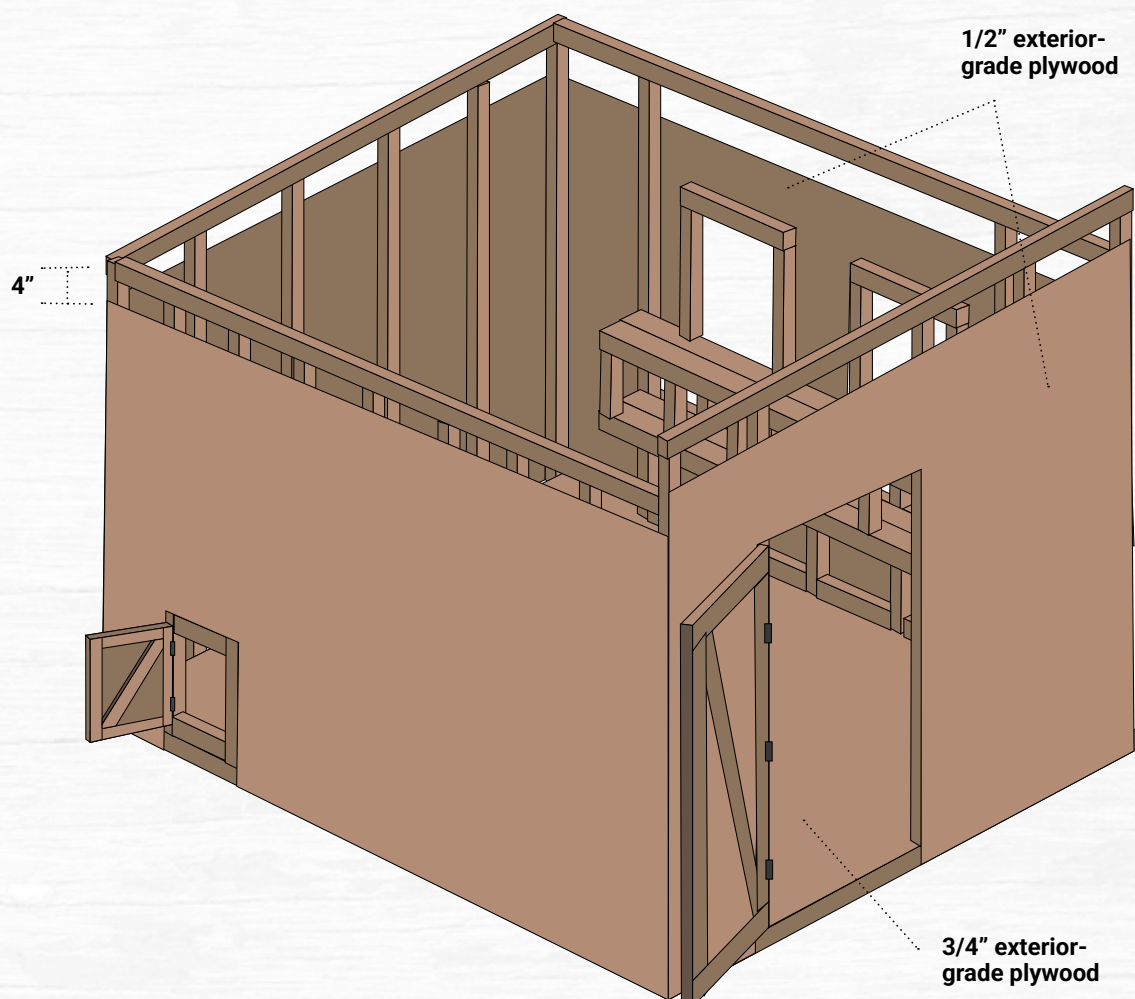
Installing Coop Wall Siding & Floor

Attach Flooring:

- Install **3/4" exterior-grade plywood sheets** over the floor frame to fully cover the **8 ft x 10 ft platform**. Stagger seams where possible.
- Fasten with **1 1/4" screws**, every **8"** along the edges and every **12"** in the field.

Install Wall Sheathing:

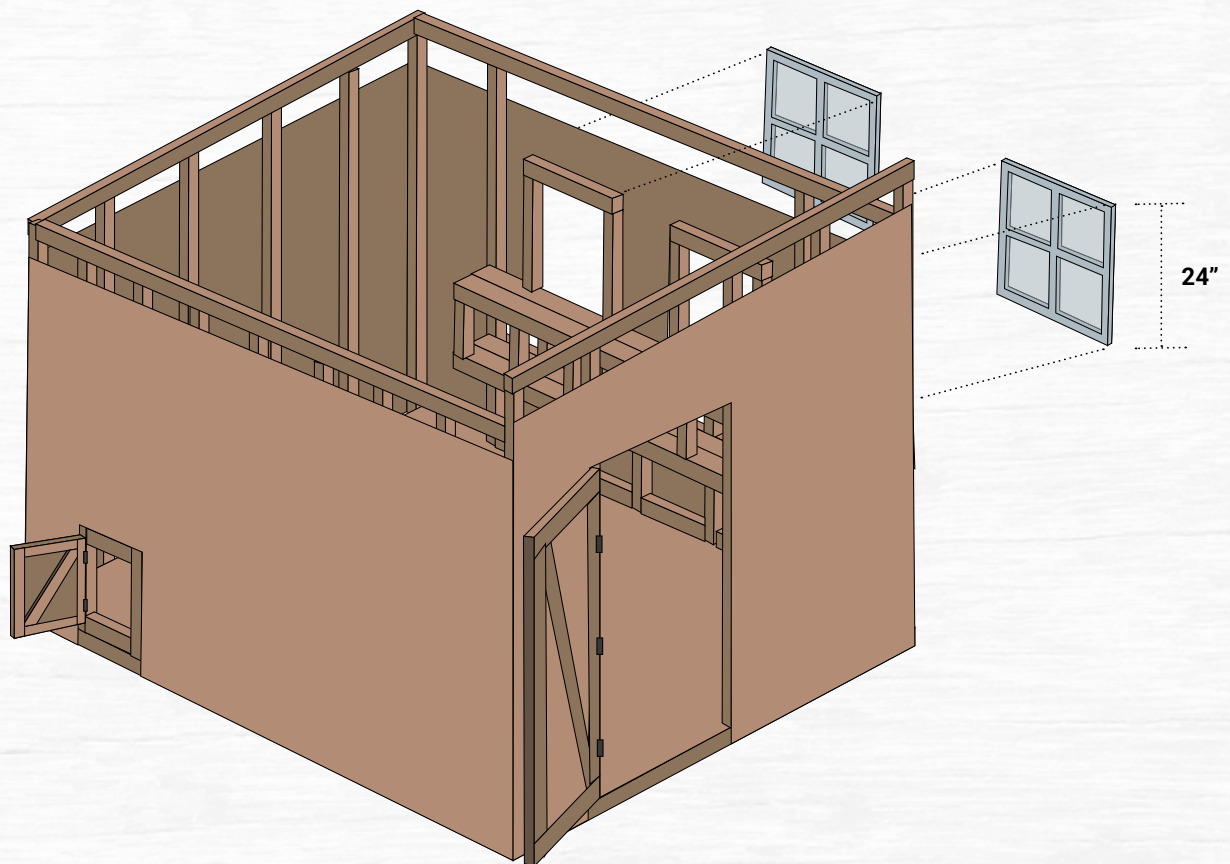
- Use **1/2" exterior-grade plywood** to cover all walls, leaving a **4" opening** at the top of each side, for ventilation.
- Cut panels to fit around doors, nesting boxes and windows precisely.
- Fasten using **1 1/2" screws** every **8–12"**.
- Cover the ventilation openings on the inside with **1/2" hardware cloth**, fastened with **1" screws with 1/2" washers**.



STEP 7

Installing Windows

- Lift your **24" x 24" pre-hung windows** into the framed openings on the right side wall to ensure a proper fit.
- Apply a thick bead of **exterior-grade silicone caulk** around the back of the window flange before inserting it into the opening.
- Place the window in the opening. Use a level to ensure it is perfectly straight. Fasten the window to the framing using **1 ½" screws** through the pre-drilled holes in the flange.
- Use **pressure-treated 1x4s** to frame the outside of the windows.
- On the inside of the coop, fasten **1/2" hardware cloth** over the window openings using **1" screws with 1/2" washers**.



STEP 8

Coop Roof Framing & Sheathing

Cut Roof Rafters:

- Use **six standard 2x4s** cut to **12'** for the roof rafters. This allows for an overhang on both the front and back to keep the coop dry.
- Notch the ends of each rafter for a solid connection to the top frame.

Assemble the Roof:

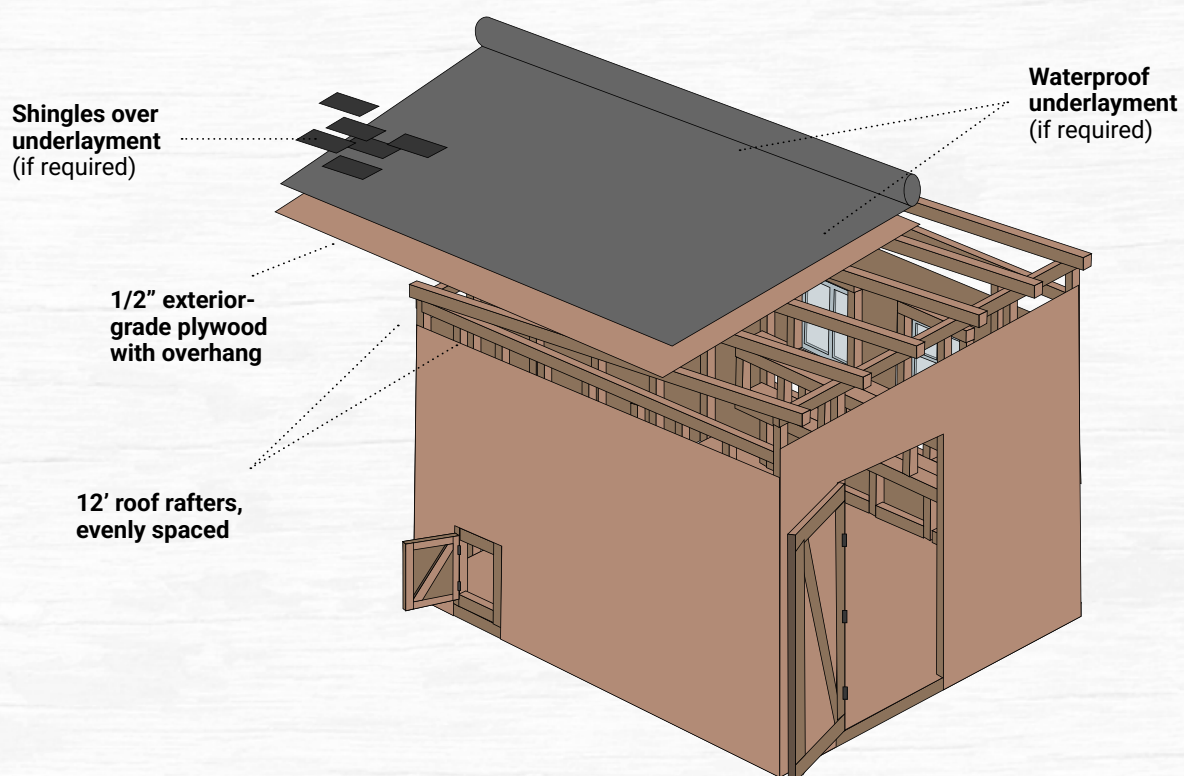
- Attach the rafters to the top frame using **3" screws**, ensuring the rafters are evenly spaced at around every **19"** for stability.

Install Roof Sheathing:

- Secure **1/2" exterior-grade plywood boards** to the rafters. Ensure plywood extends past the walls for side overhangs.
- Use **1 1/4" screws** to attach the plywood to the rafters.

Install Roofing:

- If using shingles: Install a waterproof underlayment first, then apply the shingles according to the manufacturer's instructions.
- If using metal roofing, secure the metal sheets with appropriate fasteners.
- Ensure all edges are sealed and weatherproofed to prevent leaks.



STEP 9

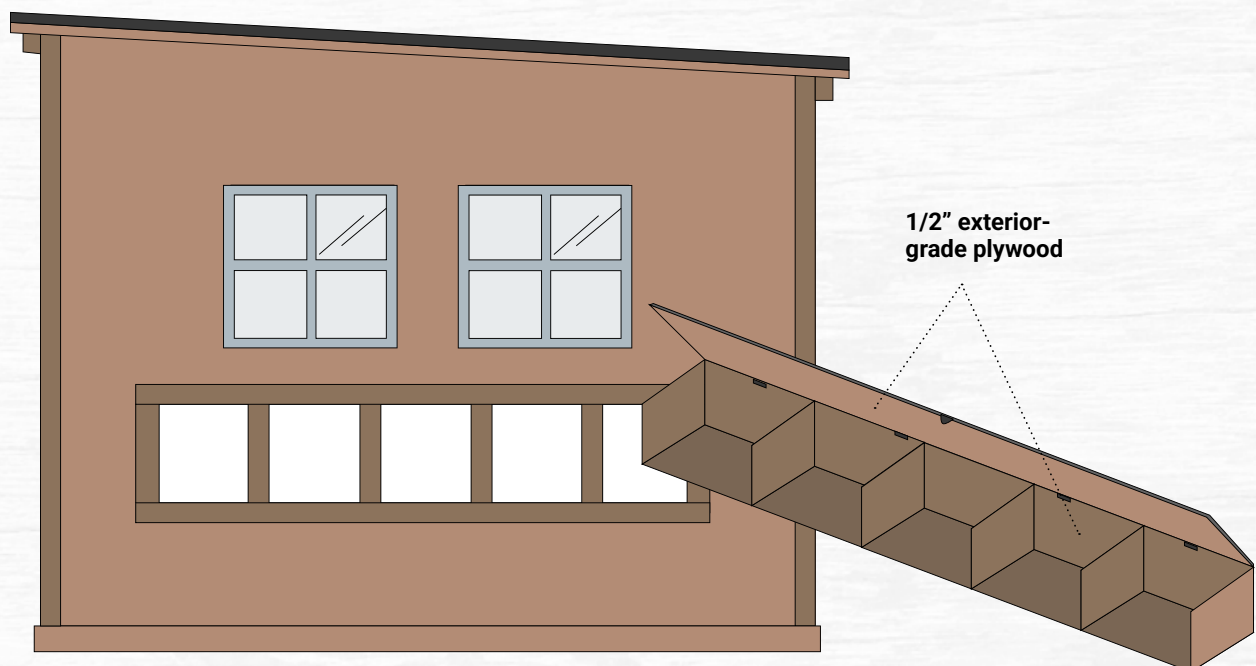
Nesting Boxes & Roosting Bar

Nesting Boxes:

- Cut six nesting boxes from **1/2" exterior-grade plywood**. Twelve sides at **12" x 12"**, six floors at **12" x 12"**, and the front wall at **6' 10" x 10"**.
- Cut the top of the **12" x 12"** sides with a slope from the back edge at **12" tall** to the front edge at **10"** (this is for a sloped roof).
- The nesting box roof should have a roughly 9-degree slope. Cut **1/2" exterior-grade plywood** to be **6' 10" x 13"**.
- Attach **four hinges** evenly spaced along the back edge and secure the roof.
- Install a **secure latch** to the roof lid so it cannot be opened by raccoons, foxes, or other predators.

Roosting Bar:

- Install **four standard 2x4** at **8'** horizontally inside the coop, **8" higher** than the nesting boxes and at least **12" away** from the nearest wall.
- Position the **standard 2x4** with the wide side facing up so the chickens can rest on a flat surface.



STEP 10

Framing the Run

Frame the Base:

- Use **four pressure-treated 2x6s** to form the frame: **two 10' lengths** for the sides, and **two 12' lengths** for the front and back.
- Assemble the frame using **3" screws**, ensuring the angles are square.

Front Wall Frame (Tall Side):

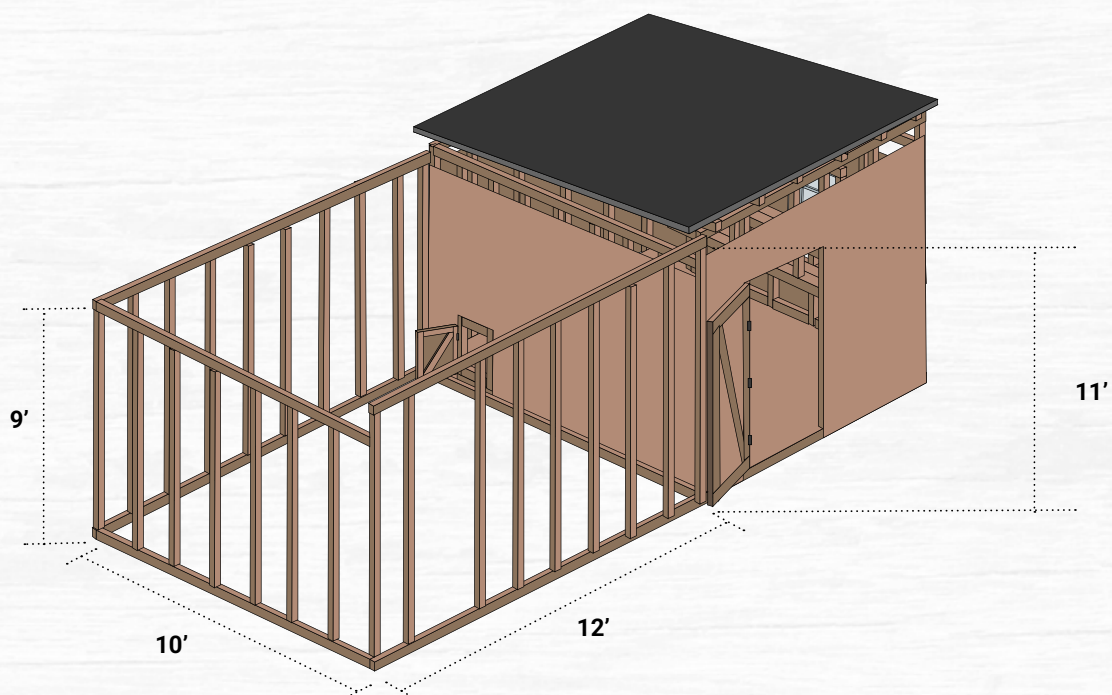
- Use **standard 2x4s** for the **two 11' side vertical frames**.
- Use **seven standard 2x4s** for **11' vertical studs** and space them approximately **15" apart**, leaving a **36" opening** for the door width.
- Use a **standard 2x4** for the **12' horizontal top frame**.

Back Wall Frame (Short Side):

- Use **standard 2x4s** for the **two 9' side vertical frames**.
- Use **eight standard 2x4s** for **9' vertical studs** and space them approximately **15" apart**.
- Use a **standard 2x4** for the **12' horizontal top frame**.

Side Wall Frame:

- Use the **11' corner stud** from the front wall and the **9' corner stud** from the back wall as your ends.
- Use **six standard 2x4s** for **9' vertical studs** and space them approximately **15" apart**.
- Use a **standard 2x4** for the **9' 8" horizontal top frame**.



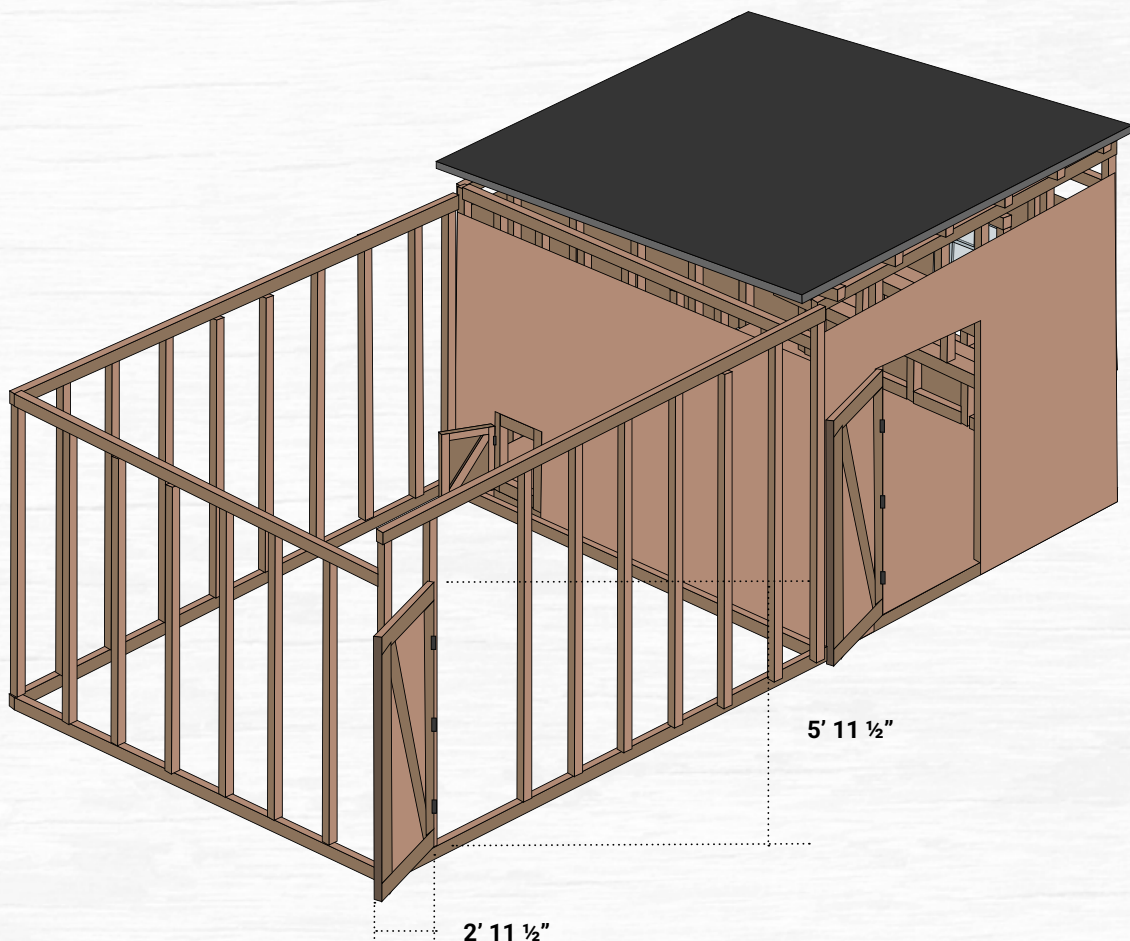
STEP 11

Installing Run Door

- Cut a piece of **1/2" exterior-grade plywood** to be **2' 11 1/2" x 5' 11 1/2"** (this **1/4" gap** on all sides prevents the door from sticking when the wood swells in the rain).
- Lay your plywood door flat. Use **two standard 2x4s** to cut two vertical framing to **5' 11 1/2"**.
- Use **three standard 2x4s** at **2' 3 1/2"** for top and bottom horizontal framing, and a center brace.
- Measure and cut **two standard 2x4s** to fit diagonally inside each rectangle. It must run from the top corner (hinge side) down to the bottom corner (latch side).
- Attach the frame pieces with **3" screws**, ensuring that all angles are square using a speed square.
- Secure the frame to the **1/2" exterior-grade plywood** using **1 1/2" screws**.

Attach Hinges & Latch:

- Attach **3 heavy-duty hinges** to the door and the coop frame.
- Install a **secure locking latch** to prevent predators from opening the door.
- Finish the door installation by attaching a **6" door pull**.
- Ensure the door swings outward for safety.



STEP 12

Run Roof Framing & Sheathing

Cut Roof Rafters:

- Use **eight standard 2x4s** cut to **12'** for the roof rafters. This allows for an overhang on both the front and back to keep the coop dry.
- Notch the ends of each rafter for a solid connection to the top frame.

Assemble the Roof:

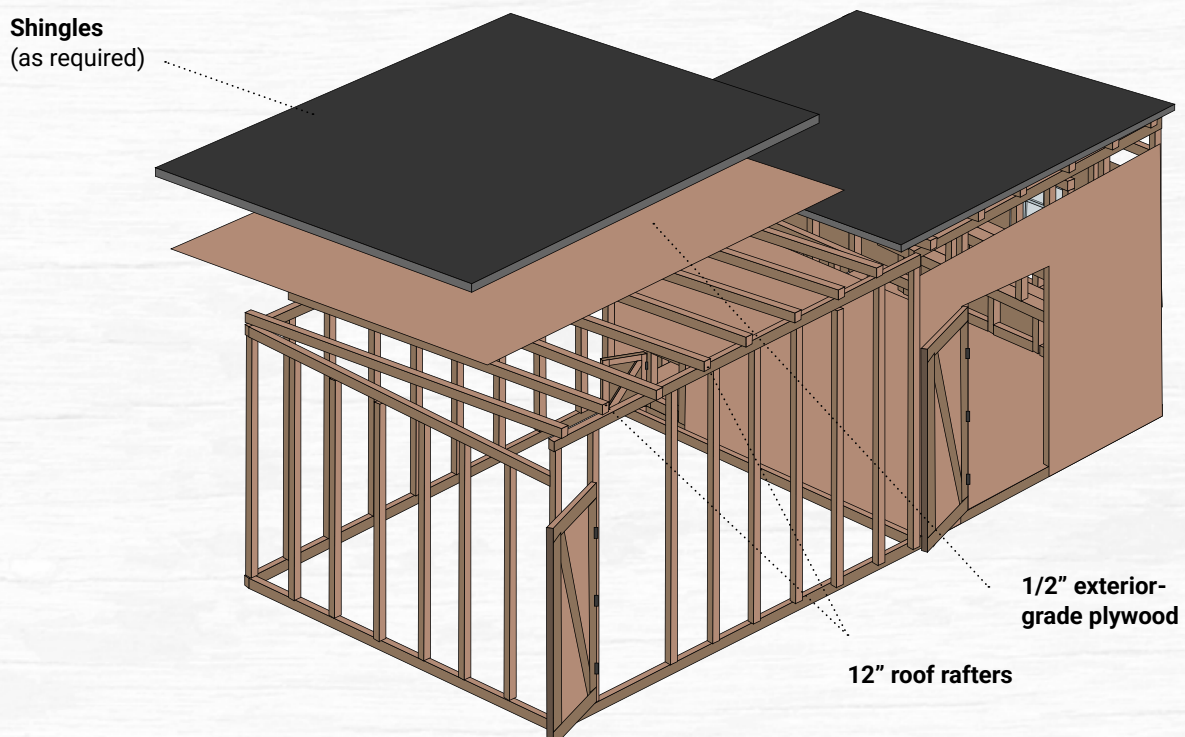
- Attach the rafters to the top frame using **3" screws**, ensuring the rafters are evenly spaced at around every **19"** for stability.

Install Roof Sheathing:

- Secure **1/2" exterior-grade plywood boards** to the rafters. Ensure plywood extends past the walls for side overhangs.
- Use **1 1/4" screws** to attach the plywood to the rafters.

Install Roofing:

- If using shingles: Install a waterproof underlayment first, then apply the shingles according to the manufacturer's instructions.
- If using metal roofing, secure the metal sheets with appropriate fasteners.
- Ensure all edges are sealed and weatherproofed to prevent leaks.



STEP 13

Installing the Hardware Cloth

- Wrap **1/2" hardware cloth** horizontally around all exposed areas of framed walls.
- Fasten the wire to the wood using **1" screws** with **1/2" washers** every **4"**.

STEP 14

Finishing Touches

Painting:

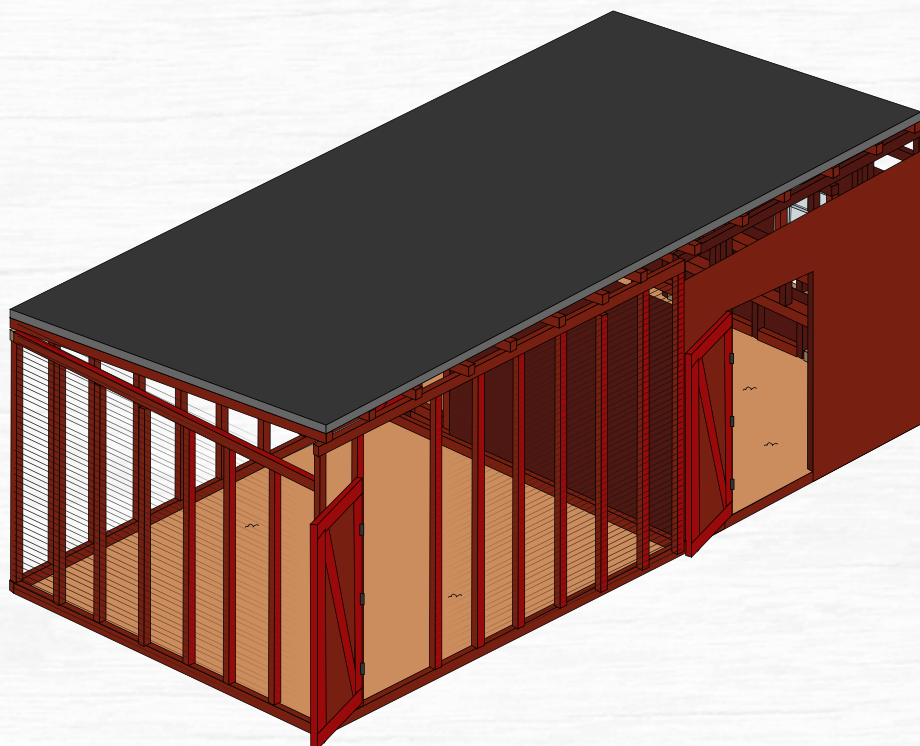
- Paint or stain the exterior of the coop frame with **weatherproof exterior paint**.
- Ensure all exposed wood and roof edges are sealed.

Predator-Proofing:

- Ensure all openings are securely covered with **1/2" hardware cloth**.
- Bury hardware cloth **12-18"** underground to prevent digging predators.

Cleaning:

- Consider adding a **deep litter system (4-6" of pine shavings)** to make cleaning easier.





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MEET THE EXPERT, CODY DELUISIO:

Cody Deluisio is a poultry expert with over 28 years of experience raising chickens, from small backyard flocks to groups of up to 500 birds. He is a member of the American Bantam Association and has hands-on experience with DIY coops, pre-built kits, barns, sheds, and chicken tractors. He currently raises Silkies and ISA Browns, sharing insights from his farm and breeding work through his content channels.