

HOW-TO: VERTICAL GARDEN

Materials

Small annuals, perennials, or succulents

40 qts./1.55 cu. ft. potting mix

3' x 50' WeedBlock®

2 mil plastic sheeting

1 box galvanized wood screws

Two lengths of ¾" PVC pipe

1 cut to 8"

1 cut to 19"

Two ¾" PVC caps

PVC glue

Paint or wood stain

Two 1¼" to ¾" reducing bushings

1"x4" pressure-treated wood

2 cut to 24¼"

2 cut to 37"

4 cut to 12"

1"x6" pressure-treated wood

2 cut to 32"

3 cut to 18"

1"x2" pressure-treated wood

2 cut to 32"

1 cut at 20¾"

1 cut at 15"

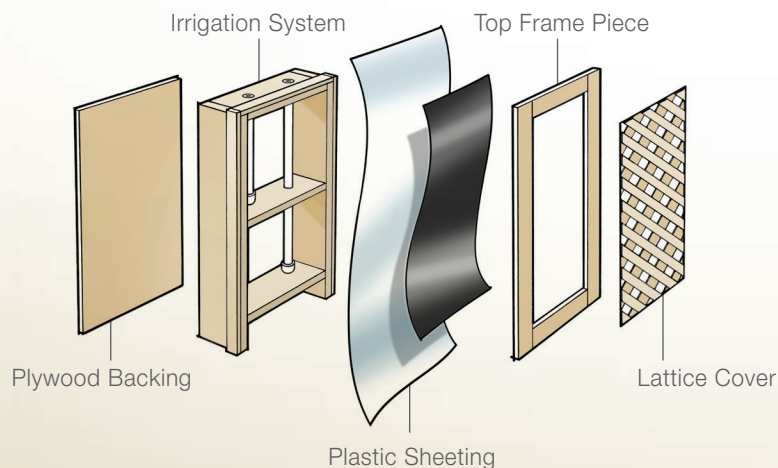
¼" plywood

1 cut to 19½" x 32"

Lattice

1 cut to 19½" x 32"

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BED ASSEMBLY

1. To begin the frame, take the two 32" lengths of 1"x6" wood and measure 14" down from the top and 3½" up from the bottom, placing a mark at each location. Then place the three 18" lengths horizontally between them: one at the top, one at the 14" marks, and one at the 3½" marks. These will form the body and compartments of the soil bed. Except for the board at the 14" mark, secure the frame together with 1½" exterior wood screws.
2. Secure the 19½"x32" plywood to the soil bed frame with wood screws. This will form the back of the vertical garden.
3. With the frame of the bed assembled, let's address the holes for the watering inlets. Our drip irrigation system will use ¾" PVC pipes, one routed to each compartment. Use a 1" spade bit to drill two holes in the top of the frame. These holes should be just slightly off-center.
4. Now take the middle support we didn't screw in previously, and slide it up and flush with the top board.
5. Using a clamp to hold the board in place, drill one hole for the lower compartment. Clamping the boards together ensures that the holes line up perfectly for the PVC to pass through.
6. Remove the clamps, move the center support back down to the 14" mark (made in step 1) and screw it into place as you did the top and bottom of the frame.

FRENCH CLEAT

7. Create a French cleat by cutting one of the 12" lengths of 1"x4" wood lengthwise at a 45-degree angle. The bottom half will be the "hook" that you secure to the wall.
8. Screw the top half of the cleat into the back of the plywood with the cut facing downward so it will fit into the hook. Make it doubly secure by drilling through the plywood and into a second 12" long 1"x4" placed on the inside of the garden box.
9. To brace the bottom rear of the garden box while hanging, place one of the two remaining 12" long 1"x4" boards on the bottom rear of the box, below the French cleat. Secure it with screws through the plywood and into the fourth 1"x4", placed on the inside of the garden box.



10. Drill the 32" lengths of 1"x2" wood into place flush with the side edges of the soil bed frame for extra surface area to support the facing frame without adding a lot of weight.
11. Repeat this with the 20¾" long 1"x2" along the top edge and the 15" long 1"x2" along the bottom.
12. Before attaching the facing frame, we need to line the bed with a moisture barrier to prevent wood rot and warping from the moist soil over time. In this case, we'll be using 2 mil plastic sheeting; pond liner is also an excellent option.
13. Line the top compartment with enough slack in the bed to allow soil to spread without ripping, and staple the overspill along the compartment's edges. Once the staples are in place, cut the excess away carefully with a razor knife. Repeat for the lower compartment.

NOTE: At this point, you have the option of drilling weep holes into the bottom of the soil bed to let excess moisture run out. If you do this, place WeedBlock over the plastic liner in this area to prevent soil escaping.



14. Before we add soil, we need to add irrigation. We'll use a simple PVC drip irrigation setup. Make X-shaped incisions in the plastic liner at the 1" holes we drilled into the soil bed frame in step 3.
15. Take the 8" long piece of PVC pipe and push it through one of the holes without passing it through into the second compartment. When it's about halfway in, attach the PVC cap to the end within the box. Glue the 1¼" to ¾" reducing bushing to the opposite end—this will be the water inlet. Use a small drill bit to place drip holes along the length of PVC, rotating slightly after each one. Make sure to get a hole as close to the bottom as possible to prevent standing water in the line.
16. Repeat the process for the 19" long PVC line that runs into the second compartment. Only drill the drip holes into the second compartment section of pipe, leaving the rest solid.

NOTE: It's not a bad idea to color-code or label the water inlets so you'll remember which is top and which is bottom.



17. Fill both the upper and lower compartments with soil. You want them to be pretty full, so once you reach the top lip (where the lattice attaches), shake the box to help the soil settle and add more as needed.
18. With the bed full, place a layer of WeedBlock tightly across the top, and staple it into place.
19. Attach the facing frame using the two 37" and two 24¼" lengths of 1"x4" wood. Be sure to align your screws so that they embed into the 1"x2" supports we put in place back in steps 10 and 11. If you plan on painting the facing frame, remove it at this point, paint it, and allow it to dry before reattaching.
20. With the bed and frame completed, now we can measure for the inset lattice. Take measurements from the inner edges of the facing frame (ignore the lip of the soil bed). You will want to measure the width at both the top and bottom edges, and likewise at the left and right edges for the height. This assures you the best possible fit and finish for the lattice.
21. Just as we did for the facing frame, attach the lattice to the inner lip of the vertical garden using 1" wood screws.
22. With a razor, cut an X into the WeedBlock at each opening of the lattice so that you can begin planting your flowers.
23. Begin planting. Remember: Flowers with shorter stems will look nicer since there's less weight to pull them down.
24. Wait 2-3 weeks before standing your garden upright to let the soil settle and the plants take root.
25. Hang your vertical garden with the French cleat, or stand it upright on its base. Marvel at your handiwork, check for any last-minute fixes like soil shift, and repair as needed.

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