Bee Hotel Build-a-Long!

February 27 | 1PM

Free to attend with registration
Material kits available or B.Y.O.

Bee hotel construction step-by-step

Materials included in kit available for purchase (click here):

- Pre-cut lumber—see specifications below if not using kit
- Screws—23 total, GRK trim head screws, size #8 x 1-1/4"

Materials not included in kit that you will need:

- wood glue
- power drill
- T-10 star bit, to drive trim screws
- ruler or tape measure
- bar clamps or masking tape, to hold pieces in place while fastening
- wood filler, to hide screw holes
- sandpaper, 120 grit, for smoothing screw holes, board ends, and wood filler
- exterior finish of your choice (marine varnish, spar urethane, or primer and paint)
- paintbrush, to apply finish
- nesting materials in approximately 6” lengths
- attachment hardware of choice, such as
  - two #9 deck screws with corresponding drill bit and manual screwdriver
  - birdhouse mounting bracket with keyhole openings

If you are sourcing your own lumber and NOT purchasing a kit:

- You will need a chop saw or other saw capable of mitered and beveled cross-cuts

Developed January 2021 by Dr. Elsa Youngsteadt: https://cals.ncsu.edu/applied-ecology/people/ekyoungs/
• **Clear yellow pine** is a mid-priced option that has minimal knots and blemishes, and is unlikely to split while fastening, but does require exterior finish for durability. This is the wood included in the kit.

• **Cedar** is more durable without finish, but more likely to split during fastening. If you use cedar, you may wish to pre-drill before fastening with screws. Stainless steel screws are recommended, since cedar can corrode other fasteners.

• **Quantities**

<table>
<thead>
<tr>
<th>nominal dimensions</th>
<th>actual dimensions</th>
<th>length needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; x 10&quot;</td>
<td>3/4&quot; x 9-1/4&quot;</td>
<td>14&quot;</td>
</tr>
<tr>
<td>1&quot; x 8&quot;</td>
<td>3/4&quot; x 7-1/4&quot;</td>
<td>14&quot;</td>
</tr>
<tr>
<td>1&quot; x 6&quot;</td>
<td>3/4&quot; x 5-1/2&quot;</td>
<td>24&quot;</td>
</tr>
</tbody>
</table>

Cuts

From the 1” x 10” board, cut two pieces
- One piece 6-1/4” long
- One piece 7” long

From the 1” x 8” board, cut two pieces, both:
- 6-3/4” long, beveled to 45° at one end
From the 1” x 6” board, cut three pieces:

- Two pieces 6-1/2” long
- One piece 9-1/2” long, mitered to create the 45° roof pitch

Assembly overview

Front
Right and rear, showing screw placements

Left and rear, showing screw placements

Developed January 2021 by Dr. Elsa Youngsteadt: https://cals.ncsu.edu/applied-ecology/people/ekyoungs/
Assembly steps

1. Attach left side (part C) and back (part E) as shown
   - Line the vertical edge of part E with wood glue where it will touch part C
   - Bring into contact with part C and use a piece of masking tape or clamp to temporarily stabilize the joint while handling
   - Attach with screws

2. Attach bottom and shelf (parts D) to left side (part C) and back (part E) as shown
   - Use a ruler or tape measure to establish the 3-3/4” spacing between bottom and shelf
   - Line each joint with glue, stabilize with tape or clamp if needed, and fasten with screws

Developed January 2021 by Dr. Elsa Youngsteadt: [https://cals.ncsu.edu/applied-ecology/people/ekyoungs/](https://cals.ncsu.edu/applied-ecology/people/ekyoungs/)
3. Repeat steps 1 and 2 to attach the right side (part C) to the back (part E), bottom (D), and shelf (D)
   - Line each joint with glue, stabilize with tape or clamp as needed, and fasten with screws

4. Attach the short side of the roof (part A) to the back (part E) and side (part C)
   - Line each joint with glue and fasten, as above
   - Note that screws entering part E are driven perpendicular to the roof, while those entering part C are driven parallel to part C
5. Attach the long side of the roof (part B) to parts A, C, and E
   • Line each joint with glue and fasten, as above

6. Fill screw holes with wood filler

7. Let the wood filler cure, then sand wood filler and any other rough areas with sandpaper

8. Use a paintbrush to coat all surfaces with exterior finish of choice

9. Mount to side of 4” x 4” wooden post, outbuilding, or other vertical surface using hardware of choice
   a. If using deck screws
      o Pre-drill two holes centered on part E, one above the shelf and one below the shelf
      o Lay a strip of masking tape flat along the back of part E over the two holes, and mark their location on the tape with pencil or by poking holes in the tape
      o Transfer the masking tape to the mounting surface and pre-drill holes at the marked locations
      o Attach the hotel to the mounting surface with a deck screw in each hole; these will be driven from the front by reaching into the bee hotel, and will likely need to be driven by hand with a screwdriver, or using a long extension on a power drill/driver.
   b. If using birdhouse keyhole brackets, follow the mounting instructions included with the brackets

10. Fill with nesting materials