# Make Your Own Wooden Bee Nest

Bees and other animals, known as pollinators, are responsible for the reproduction of 75-90% of all flowering plants, and one out of every three bites of food we eat. However, their populations are in danger of decline. You can help by planting native plants that flower from spring to fall, which provide food and nesting habitat for bees, and also by building and putting out this bee nest.

Close to a third of our native bees nest in wood, including hollow- or pithy-stemmed plants. For example, small carpenter bees (*Ceratina* spp.), leaf-cutter bees (*Megachile* spp.), masked bees (*Hylaeus* spp.), and mason bees (*Hoplitis* spp., *Osmia* spp.) are all types of twig or stem-nesters. Visit www.pollinationguelph.ca, www.pollinator.org, and www.xerces.org to learn how to make other types of bee nests, and for more information on bees, other pollinators, and pollination in general.

**What you will need:**

5 pieces of wood about 1" thick
- left top: 6x8"
- right top: 5x8"
- left bottom: 4x7"
- right bottom: 3x7"
- back: 5x5"

12 galvanized nails
1-2 medium screw eyes
Hammer
Sandpaper
Drill (if desired)
Non-toxic paint, stains (if desired)
String (to hang/attach nest)
Post/Stake (if desired)

**Directions for the box:**

1. Nail the left top piece onto the top edge of the right top piece using two nails.
2. Nail the left bottom piece onto the edge of the left top piece using two nails.
3. Nail the back piece onto the top pieces using four nails. It can be nailed flush with the inside edges (as shown in the photo), or along the outside edges.

4. Nail the bottom pieces onto the other pieces using 4 nails, to form a square or diamond.
5. Use the sandpaper to smooth any rough edges.
6. Screw the eye hook into the top of the box, about 1/3 of the way from the back. A second hook can be used at the front to prevent the box from swinging in the wind. Pre-drill the hole if needed.
7. If desired, the outside of the box can be painted or stained in any design you choose.

**Directions for the nesting tubes:**

Any type of dead stems with a hollow or pithy stem can be used for nesting tubes. Example species include goldenrod, Queen Anne's Lace, sumac, teasel, cattails/reeds, elderberry, parsnip, rose, and raspberry. Different sized twigs are recommended as different bees prefer stems of different diameters and lengths. One end of the twigs should be closed (e.g. by a knot or stem node) so that the tube has only one opening; the female bee will plug the front entrance with mud after she finishes nesting. Pack the tubes in the box tightly so that the tubes remain horizontal and will not fall out if moved. Tubes should end just before the edge of the box overhang, to protect the bees from the elements.

**Placement and Maintenance:**

The completed nest can be placed on a building, post, or in a tree. The nest should be kept level, with the entrance facing east or south-east. Direct sunshine in the morning helps warm the bees up in preparation of flight. Ensure that the nest is stable and not going to move in the wind, or else the bees will nest elsewhere. The actual height doesn't matter, although 2 to 6' (0.6-1.8m) from the ground is good.

It is best to put out nests in early spring, although it is never too late to put a new one out, as females of some species will lay eggs throughout the year. If a female finds a tube suitable, she will lay a series of eggs on a pollen and nectar ball, separated by partitions. As the eggs hatch, the larvae will feed on the provisions, and then create cocoons in which they will mature into adults later in the summer or the next spring. Design your garden so that there are flowers blooming nearby from spring to fall. It is important to note these bees will only sting if handled roughly (e.g. squeezed), and in the rare cases where this happens, their sting is similar to a mosquito bite.

Keeping your nest clean and dry is important. Nests should not be moved in the spring and summer if possible, as the developing larval bees could become dislodged from their food and die. Tubes should be replaced every year or two, and the box disinfected with a weak bleach solution if pests become a problem over time. With your help, the local twig-nesting bee populations can increase in number, and the whole ecosystem will benefit.