

Help bees and other pollinators – **build an insect hotel**

In today's landscapes, wild bees and other insects often struggle to find suitable habitats and nesting sites. An insect hotel can be one good way of helping them.

Whereas honey bees which are managed by beekeepers, live in beehives, different wild bee species and other pollinators/insects use a wide variety of structures as breeding and nesting sites. Many species burrow to make their nests in the ground or build them in holes in dead wood, some may nest in structures such as abandoned snail shells, while others will seek out hollow plant stalks.

Insect hotels can provide a home for pollinators, not only in private gardens but also in school gardens, parks, woodlands and other green spaces. An insect hotel is easy to build and offers wild bees and other insects, such as mason bees, leafcutter bees or scissor bees, a place to nest and breed. In addition, insect hotels can also house parasites of the bees living in the hotel, such as parasitic bees, wasps or flies. They too are welcome guests, since they also form part of the ecosystem, and are thus no less "valuable".

As a general rule, there is no wrong time to put up an insect hotel: depending on the season, a variety of different insects may be able to benefit from it.

Our tip: Plan this exciting activity for the winter term, so that the insect hotel is ready for the start of the gardening season in spring.

HELP BEES AND OTHER POLLINATORS! BY BUILDING AN INSECT HOTEL, YOU HELP KEEP OUR MEADOWS AND FLOWER BEDS BUZZING AND HUMMING WITH ACTIVITY.

To make your insect hotel as attractive as possible for bees, you should position it in a dry spot, facing south. This provides the optimum light and temperature needed for the next generation of wild bees to develop. If the hotel is positioned facing north, this increases the likelihood of disease, so that more pupae may die before hatching.

The following insect hotel construction manual offers two variants, a basic version and a more slightly more complex one. So, these instructions are suitable for everyone – whether you are a woodwork novice, DIY enthusiast or more adventurous insect hotel architect and also regardless of whether the insect hotel is destined for your balcony, the grass verge in front of your house or the garden.

... and if you still need more ideas, have a look at the following hotels:

- // The buzz at Cherry Creek
- // insteadof.com/blog/insect-hotel
- // GrowVeg – insect hotels for beneficial insects
- // Bee hotels open for business



DID YOU KNOW?

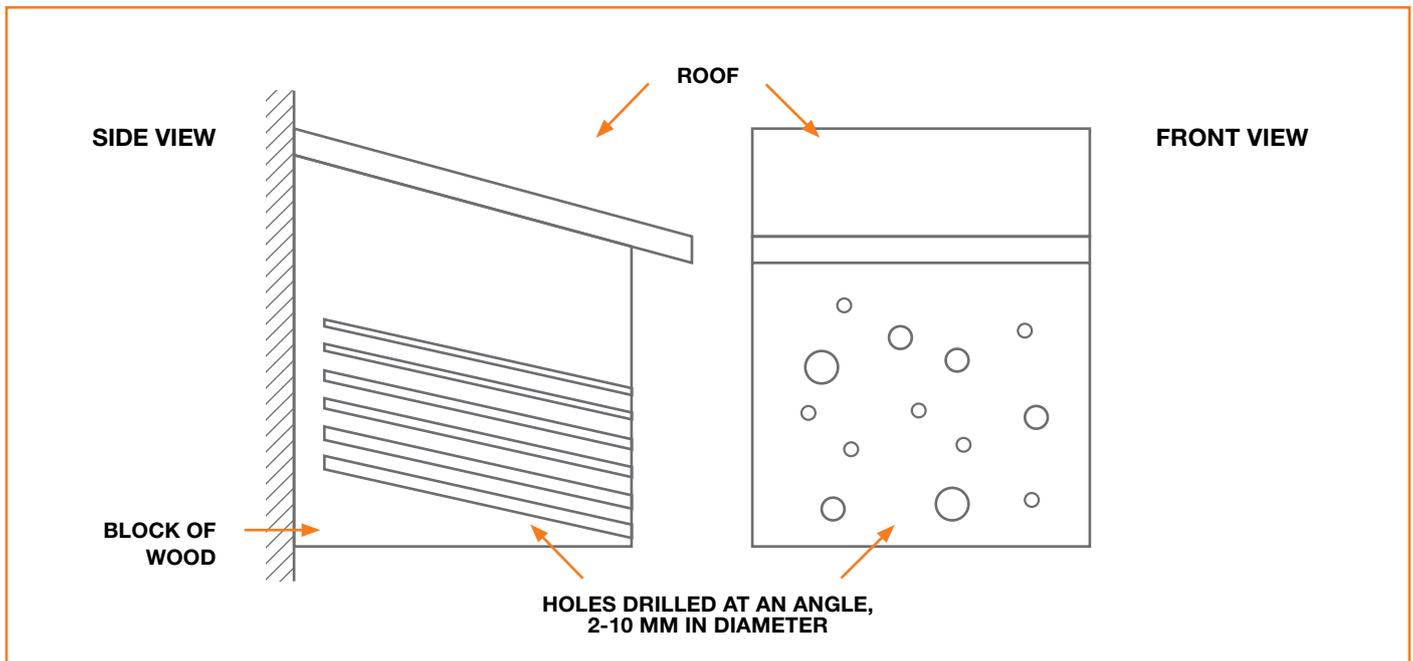
While the European honey bee may be the best known bee species, it is only one of more than 20,000 species of bee worldwide. Around 550 different wild bee species are found in Germany, among them bumble bees, the furry bees, sand bees (also known as ground bees) and plasterer bees. The various species differ considerably in both appearance and size. Most wild bee species live alone (are solitary) and not in colonies.

You can find more information about the guests that might stay in your hotel and the timing of their visit on this webpage: https://www.beelab.umn.edu/sites/beelab.umn.edu/files/native_bees.pdf



Building instructions

Insect hotel (basic version)



You will need the following tools* and materials:

- // A block of wood (approx. 10 x 10 x 14 cm) – with the top sawn off at an angle to create the pitch of the roof (hardwood is ideal, as it is less likely to split)
- // A flat piece of wood the same width as the wood block, and about 1/3 longer than the depth of the block
- // Approx. 6 carpentry nails
- // Hammer
- // Power drill or cordless screwdriver
- // Materials for hanging, as appropriate

Instructions:

Drill holes 2-10 mm in diameter into the front of the wood block at a slightly upward angle, if possible. Do not drill these holes too close together, as the wood may split

between them, which could harm the development of the larvae. Using a bit of sandpaper, smooth away any splinters at the edges of the drilled holes. To make a roof, nail the piece of flat wood onto the block with an overhang at the front to form a canopy.

Positioning:

- // Choose the site for your insect hotel so that it faces south, if possible, and so that it gets enough heat from the sun.
- // It should be protected against the worst of the weather.
- // Place or hang it at least 60-70 cm above the ground.
- // Position close to as many plants as possible which are rich in pollen and nectar, to provide food for the insects (wild bees have a flight radius from 100 m to 1.2 km).

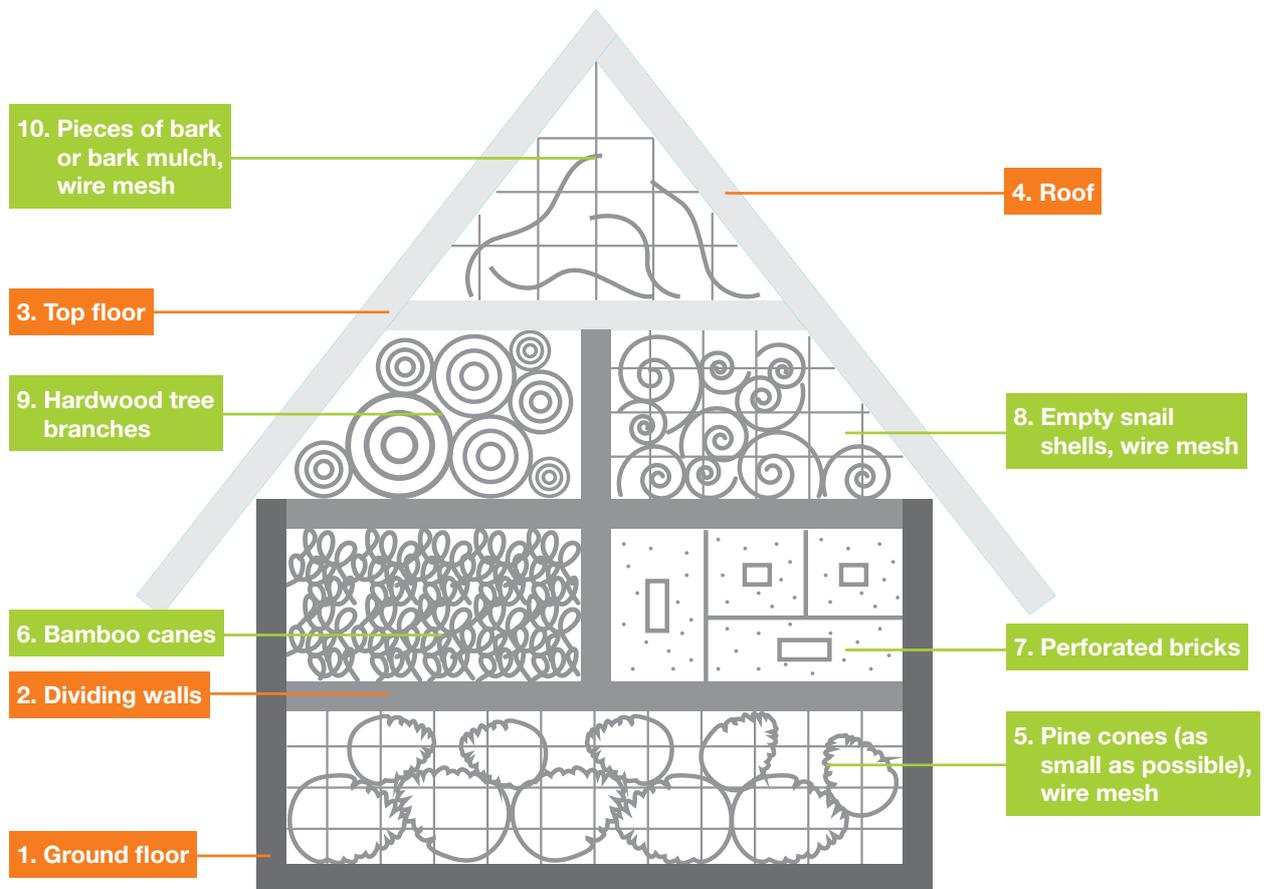


Building instructions

Insect hotel (more complex version)

You will need the following tools* and materials:

- // Cordless screwdriver
- // (Free-standing) power drill
- // Roofing felt (or tar paper)
- // Roofing nails, approx. 30 (2.8 x 16 mm)
- // Secateurs (also suitable for cutting wire)
- // File
- // Fine-cut saw
- // Hammer
- // Wood drill bits (3/4/5/6 mm)
- // Wood screws, approx. 24 (4 x 45 or 4 x 50 mm)
- // Clay
- // Tape measure
- // Vice
- // Staple gun
- // Utility (craft) knife



Timber	Purpose	Length x Width x Thickness
Spruce	Base section (1 x)	40 cm x 12.5 cm x approx. 2 cm
Spruce	Side wall (2 x)	28 cm x 11 cm x approx. 2 cm
Spruce	Horizontal dividing wall (2 x)	36 cm x 11 cm x approx. 2 cm
Spruce	Vertical dividing wall (2 x)	12 cm x 11 cm x approx. 2 cm
Spruce	Roof, left side (1 x)	52 cm x 12 cm x approx. 2 cm
Spruce	Roof, right side (angled at the top) (1 x)	49.5 cm x 12 cm x approx. 2 cm
Spruce	Top floor base (angled ends) (1 x)	24 cm x 11 cm x approx. 2 cm

Building instructions

Insect hotel

Steps	Tools* and materials required	Instructions
1. Ground floor	<ul style="list-style-type: none"> // Cordless screwdriver // 4 wood screws // 1 base section // 2 side walls 	Stand the side wall of the hotel upright on your work surface on a long side. Place the base section against the short side of the side wall nearest you at a 90-degree angle and fix into place with two screws. Screw the second side wall against the base section in the same way.
2. Dividing walls	<ul style="list-style-type: none"> // Cordless screwdriver // 8 wood screws // 2 horizontal dividing walls // 2 vertical dividing walls 	Hold an upright dividing wall onto a horizontal dividing wall, half way along it, at a 90-degree angle and fix in place with two screws from underneath. Repeat this procedure with the second set of dividing walls. To attach the dividing walls to the ground floor section, place the latter section with its base towards you. Take one set of dividing walls and place it such that the horizontal wall forms a rectangle with the ground floor section, making sure the vertical dividing wall falls outside of the rectangle. Fix in place with 2 screws on each side. Fit the second set of dividing walls inside the walls of the ground floor section, so that the vertical dividing wall sits against the horizontal dividing wall above, and fix in place with 2 screws on each side.
3. Top floor	<ul style="list-style-type: none"> // Cordless screwdriver // 12 wood screws // Roof, right side (angled) // Roof, left side // Base for top floor // File 	Attach the top floor base with the angled ends to the dividing, upright wall using 2 screws. Using a file, angle the right side of the roof. Fix the left side of the roof against the angled surface of the right side of the roof using 2 screws. Then fix the whole roof onto the top floor base with 2 screws on each side.
4. Roof	<ul style="list-style-type: none"> // 1 piece of roofing paper or roofing felt // Utility knife // Roofing nails (2.8 mm x 16 mm) // Hammer 	Using the utility knife, carefully cut the roofing paper or felt to shape to fit the roof and place onto the roof. Fasten in place with a few nails.
5. Filling the lowest level	<ul style="list-style-type: none"> // Small pine cones // 2 pieces of wire mesh (16 cm x 40 cm) // Secateurs // Staple gun 	Cut the wire mesh to the correct size and shape with secateurs and put the first piece into place across the lowest compartment. Using a staple gun, fasten it to one side of the hotel. Fill the compartment with pine cones. Now staple another piece of wire mesh (also cut to shape) onto the other side to hold the cones in place.
6. Bamboo cane compartment	<ul style="list-style-type: none"> // Bamboo canes (various widths) // Saw to cut canes to size 	Cut the bamboo canes into approx. 11 cm lengths (taking care not to crush the hollow interior). Pack the compartment tightly with different size canes until the bamboo is held in place and cannot fall out.
7. Perforated brick compartment	<ul style="list-style-type: none"> // Perforated brick // Hammer // Clay 	Using a hammer, size the brick to the compartment and insert. Fill the holes in the brick with a slurry made of water and clay and, while the clay is still soft, pierce it with a knitting needle (or similar), rotating the needle while doing so. Create several channels in the clay in this way (diameter three to six millimeters). Once all the channels have been made, seal the back openings with clay. Finally, rework the channels from the open side, without piercing the back.
8. Snail shell compartment	<ul style="list-style-type: none"> // Empty snail shells // 2 pieces of wire mesh // Secateurs // Staple gun 	Cut the wire mesh to the correct shape with secateurs and put the first in place. Using a staple gun, attach it to one side. Fill the compartment with snail shells; their openings should face outwards. Now staple the other piece wire mesh on the other side to hold the shells in place.
9. Hardwood stick compartment	<ul style="list-style-type: none"> // Hardwood tree branches and twigs // Power drill or cordless screwdriver // Drill bits (3-6 mm in diameter, at least 10 cm long) // Vice 	Cut some hardwood branches and twigs into 11 cm lengths and hold in place with a vice. Use the power drill to make channels of various diameters between 3-6 mm in one end of each piece of wood (if possible, drill the holes at a slightly upward angle). Using a piece of sandpaper, smooth any splinters from the edges of the drilled holes. Do not drill these holes too close together, as the wood may split between them, which could harm the development of the larvae. Now insert the lengths of hardwood into the compartment. Pack them in tightly so that they cannot fall out.
10. Bark compartment	<ul style="list-style-type: none"> // Bark or bark mulch // 2 pieces of wire mesh // Secateurs // Staple gun 	Cut the wire mesh to the correct shape with wire cutters and put the first in place. Using a staple gun, attach it on one side of the hotel. Cut up the bark with secateurs and fill the compartment. Now staple the other piece of wire mesh in place on the other side to prevent the bark falling out.
11. Positioning		<ul style="list-style-type: none"> // Protected from the wind and in a sunny spot, facing south if possible. // Fix onto a flat surface or tree stump or hang, making sure that it is at least 60-70 cm from the ground. // Position close to as many plants as possible which are rich in pollen and nectar, to provide food for the insects (wild bees have a flight radius of between 100 m and 1.2 km).