



Build a Nest for Native Bees

Bees need homes too! See how you can repurpose different household materials to create your own nest for cavity nesting bees.

Overview

 Grades 2-8

 45 min

Topics

Environmental Science

STEM





About the Activity

Bees need homes too! See how you can repurpose different household materials to create your own nest for cavity nesting bees.

Native bees are important pollinators of many food crops like tomatoes and blueberries. Like other pollinators, they need flowers for food but they also need habitat for making their nests.

Some native bees make their nests in tunnels beneath bare, undisturbed ground. Other native bees make their nests in cavities like the stems of dead plants.

In this activity, you'll make a nest for cavity nesting bees that you can place outside to observe native bees in your own backyard.

This activity is part of our 4-H at Home Midwestern Native Bees Series. See the rest of the activities [here](#).



Materials

- Scissors
- Ruler
- A metal hanger to make very small tubes
- Black permanent marker
- Sticks
- String or wire
- Several sheets of computer paper (enough to make 10-20 tubes)
- Different size writing utensils to use to roll the paper (like an ordinary #2 pencil, a thin marker, a highlighter, and any other size you would like to try)
- Tape
- Variety of colorful markers
- Any container at least 7 inches deep, that is also waterproof and flexible enough to be cut with scissors

Activity Steps

- 1 It's important to find a good container that will hold your tubes for native bees. Any recycled (or recyclable), waterproof container that is more than seven inches long can be used. Items you may already have around the home include soda bottles, plastic cups, tin or aluminum cans, or milk containers.

DID YOU KNOW?

Most native bees are solitary, meaning each bee lives alone and makes its own nest for its young. Some solitary bees make their nest in the ground, while some solitary bees make nests in cavities they find. The cavity might be a hole in a tree or the hollow stem of the plant.

- 2 Make your native bee tubes by rolling computer paper around a pencil or pen. Find different size utensils to make tubes in a variety of sizes so you can house both big and small bees. The type of bees that will make their nest in a tube depends on the size of that tube. Bees prefer tubes between 4-10mm diameter.

-  Tightly roll the paper around the pencil, and continue wrapping until it is four layers thick.
-  Tape the edge of the paper in place. Remove the pencil.
-  Using the scissors and ruler, cut the tube to a length of 6.5 inches.
-  Pinch one end of the tube together. Tape the tube so that it is closed, and color that end black using the permanent marker.
-  Continue making tubes until you have enough to fill your selected container.

**DID YOU KNOW?**

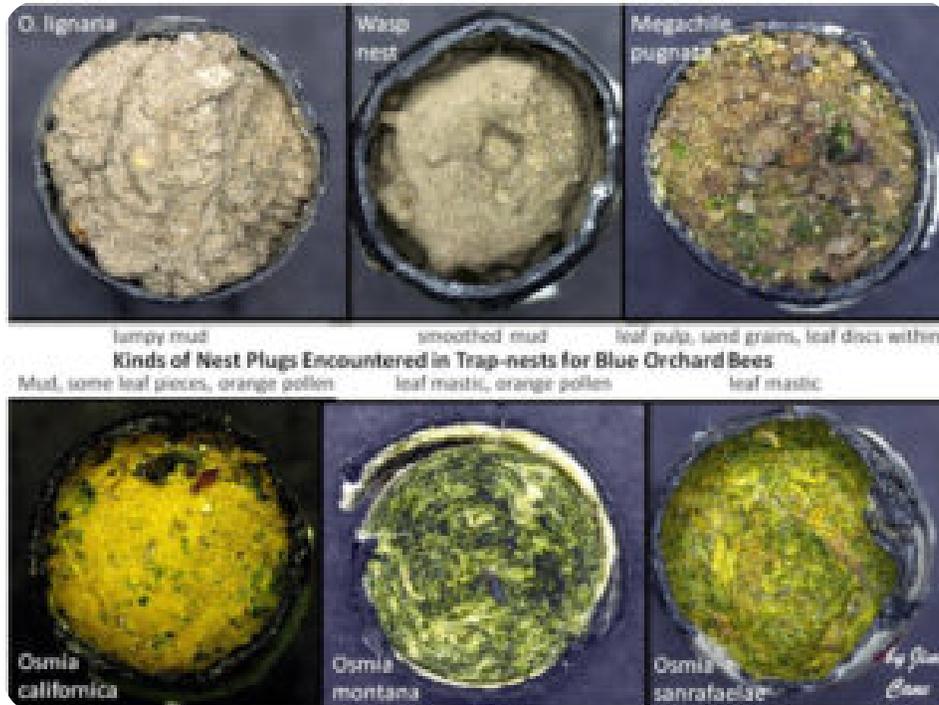
Native bees are many different sizes. Smaller bees prefer smaller cavities, and larger bees look to build their nests in larger cavities. That means the type of bees that nest in your tubes depends on the size of the tube. If you hope to find small bees, make rolls of paper with smaller holes, such as with the end of the wire hanger.

- 1 Use the colorful markers to make the open end of each tube a different color. The different colors will help the female bee know where to return to continue making her nest.
- 2 Gather all the tubes together, and set them in the container with the closed end towards the bottom of the container. The tubes should fit tightly in the cup, so if they seem loose, make a few more tubes to fill the gaps. Make sure the tubes do not stick out past the edge of the container.
- 3 Use the heavy string or wire to hang the nest outside near flowers in an area with lots of sunlight. If you can reach a horizontal branch that isn't too shaded, that is a great place to hang your bee nest. It needs to be positioned sideways, and sloping slightly downward so that it doesn't collect rainwater. It also needs to be secure, so that it isn't disrupted by wind, and off the ground, but no higher than a second story.

**DID YOU KNOW?**

Native bees need their nests to be located close to flowers so they can get enough food (nectar and pollen) to ensure that they have enough food for themselves and to feed their young.

- 1 Keep an eye on your nest to observe who visits. You can also learn clues about the type of native bee (or maybe even wasp) living in each tube by looking at the end cap.



DID YOU KNOW?

Each native bee young inside the cavity has their own compartment or room. In each room, female native bees also place a ball of food made of pollen and nectar. They then lay an egg on the food. Bees make walls of leaves or other materials to separate each developing native bee. Native bees live about 6 weeks. Flowers bloom for about two weeks. It is important that native bees have a variety of flowers available throughout their lifespan.



Test Your Knowledge

See how much you've learned about this theme

Question 1

What kind of lifestyle do solitary bees have?

- a. They live alone
- b. They are likely to sting you
- c. They share their spaces
- d. They are aggressive and like to fight other bees

Question 3

Where is the best place to put your bee nest?

- a. In the shade
- b. In a sunny spot with flowers nearby
- c. In your garage to protect from weather
- d. Way up in a tree

Question 5

Fill in the blank: Native bees have short lives and only live for about __ weeks.

- a. 6/six

Question 2

What size cavity is best for native bees?

- a. $\frac{5}{8}$ -inch width
- b. 1mm width
- c. It depends on the bee
- d. 3mm width

Question 4

How many eggs are laid in each "room" in a solitary native bee nest?

- a. 5
- b. 10
- c. 1
- d. 20 or more

Note: Answers can be found on the last page of the PDF



Reflection Questions

Bonus questions to inspire wonder:

1. Does the area where you live have good habitat for native bees? Why or why not?
2. How might a city neighborhood benefit from having bee nests like the one you created?
3. How might some farmers benefit from having bee nests like the one we created



Investigate and Explore

Take what you've learned to the next level to learn more and explore the possibilities. Now that you know more about native bee nests, you might be better able to spot natural nests in your own community! Here's some additional information that can make it easier to identify the different types of bees that thrive in the prairie: What is a bee? <https://www.youtube.com/watch?v=MVDXD3oyMJg>

Nesting and Mating Crown

Bees: <https://crownbees.com/mason-bee-edu-educator-modules-nesting-and-mating>





Career Connections

STEM Careers If you liked building a bee's nest, you might enjoy a career in STEM. STEM careers are exciting and rewarding, and you can pursue a STEM-related career wherever you live, whether you're in a city, a rural community, or anywhere in between. Watch this video and learn what it takes to be a toxicologist from Kimberly Hodge-Bell of Bayer Crop Science.



Test Your Knowledge answers

1) a. They live alone. 2) c. It depends on the bee. 3) b. In a sunny spot with flowers nearby. 4) c. 1. 5) a. 6/six.

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Brought to you by Iowa State University Extension and Outreach, National 4-H Council's AIE Native Bee Challenge, Crown Bees, Dave Hunter; CEO and founder, Heather Holm; Author Book Bees: An Identification and Native Plant Forage Guide and posters, and USDA's National Institute of Food and Agriculture.

No endorsement by 4-H is implied or intended. 4-H is the youth development program for our nation's cooperative extension system. This work is supported by the USDA National Institute of Food and Agriculture, AFRI - Education and Workforce Development project 2021-67037-33376.9