



Art



Science

# BUILD-A-BEE HOTEL

## Grade Level

2-5

## Length of Lesson

30-60 minutes

## Objective

By the end of this lesson, students will have a better understanding of native bees, their habitat, and how we can help them prosper.

## Materials Needed

- Empty, clean aluminum food cans with lids removed
- Cardboard and bamboo bee tubes (available online)
- Pinecones, bark, small twigs, and other organic materials
- Wire and wire snips
- Paint supplies

## Standards

### NGSS

2-LS4-1; 3-LS2-1; 3-LS4-4; 5-ESS3-1

### Illinois Visual Arts

VA: Cr2.1.2-5; VA:Cr2.2.2-5

## Lesson Summary

This lesson is a fun, hands-on activity designed to introduce students to different types of pollinators, help them understand the importance of pollinators, and provide them a chance to design and build their very own “bee hotel” to add to their school or home garden.

## Suggested Sequence of Events:

1. Set Up: Have students bring in empty aluminum cans from home and collect them. Drill a small hole near the edge of the round side of each can before giving to each student. Plan for a “foraging day” in which students can gather pinecones, bark, and small twigs from around the school.
2. Read through the IAITC Pollinator Ag Mag to learn more about pollinators and the process of pollination! Interactive online versions can be found on our website.
3. Students should have a basic understanding of the diversity of pollinators in our environment, and how different pollinators need different types of habitat and are attracted to different types of flowers. See the Teacher Resources page for a list of suggested books.
4. Complete the activity following the procedures:
  - Give each student an aluminum can to decorate. Students can decorate them to look like a bee or other pollinator if they choose. Wire can be used to make and attach wings, and bottle caps and googly eyes can be used as the insect eyes as well.
  - Once the paint dries, it is time to fill each can with the bee tubes and some of the materials collected from outside. Different bee species need different sized openings for their nests, so having a variety is a good thing. It may be necessary to cut the bee tubes to the length of the can.
  - Wires can be strung through the hole in the bottom of the can and through the open top in order to hang the bee hotels in the garden.
    - See the Teacher Resources page for additional ideas and variations.
4. Whole class discussion and reflection of activity.

# TEACHER RESOURCES

## Background information on native Illinois bees:

Honeybees get a lot of the attention when we discuss pollinators. While they are important to our food supply, native pollinators are just as important, and need our help in establishing and maintaining habitat for them to reproduce.

There are 400 to 500 species of native bees in Illinois. These include bumble bees, carpenter bees, cuckoo bees, mason bees, sweat bees, mining bees, and many more. These native bees live in wetland, woodland, grassland, and urban habitats across the state. All bees need a place to lay their eggs so that their larvae and pupae can safely develop into the next generation of bees. Native Illinois bees have a wide variety of nesting styles which allow them to raise their young. Some live solitary lives away from other bees. Some create communal and semi-social hives. The cuckoo bee is considered a “nest parasite” because it invades the hive of another species of bumblebees and tricks them into raising their young for them!

## Additional Ideas and Variations:

- A variety of materials can be used to create bee hotels. Alternatives include empty bottles, wooden boxes, PVC pipe, and more. The containers should block the rain and should be closed on one end—many bees will not nest in tubes that are open on both ends. The containers should also be opaque to block the light to better attract pollinators.
- Spraying the painted hotels with clear lacquer before placing outside may protect the paint finish for longer.
- Instead of hanging the bee hotels, they can also be attached with screws or plastic zip ties to a post or other structure and then filled with nesting materials.
- Students could also fill milk cartons with a sand/clay/water mixture and then press holes into the wet clay with a small stick or dowel rod. Once dry, these can be placed in the garden, protected from rain, to attract bees.

## Resources:

- Some excellent pollinator books to pair with this activity include: *Give Bees a Chance* by Bethany Barton, *Honeybee* by Candace Fleming, *Buzzing with Questions* by Janice Harrington, and *Flowers are Calling* by Rita Gray.
- Go to [agintheclassroom.org](http://agintheclassroom.org) to contact your County Literacy Coordinator for free classroom sets of our Ag Mags!

