



## Four Family Fun Bee Activities

Contributed by Erin Graves, 2020 MEEA Board Member

### 1. Build a Bee Hotel

Instead of hives, like honey bees use, some types of bees lay their eggs in hollow twigs. You can help native bees by providing them a safe place to nest by making a **bee hotel**. You could purchase a kit, but it's so much more fun to build your own! Your hotel can be as simple or as deluxe as you want!

One very simple way to make a bee hotel is to drill various size holes into a wood block or tree cookie (slice) and hang it in a secure area (*see examples below*). To attract as many species of bees as possible, drill holes of varying sizes if you can. Be sure not to drill all the way through the block as the holes must have a stopping point; 1" to 3" hole depth is good. Drill bits ranging from 2 mm to 10 mm in diameter are ideal, yet using just a 5/16 drill works great also. About 12-20 holes is best.



<https://www.alive.com/lifestyle/thinking-bee/>



<https://www.foxleas.com/make-a-bee-hotel.asp>



<https://www.environment.sa.gov.au/goodliving/posts/2018/10/insect-hotels>

Kids and adults alike will have fun building this next type of bee hotel....lots of different kinds of materials can be used and the hotel design is anything your imagination can dream up!

1. Choose a container (example a wooden box, a cup, a plastic bottle, a tin can, a clay pot).
2. Choose and collect fill material, such as:
  - a. Hollow stems such as old flower stalks
  - b. Honeysuckle branches work great! Their wood has a hollow center and since honeysuckle is an invasive species in Missouri, it is the perfect filling for your hotel.
  - c. Bamboo canes (you can get bamboo stakes for about \$3 at Walmart in their garden section )
  - d. Paper straws
  - e. Rolled up scrap paper (try using old magazines or any paper you plan to recycle)
3. Cut your fill material to length, based on your hotel container and place the fill material inside (*see pictures below for examples*)

Ideally, whatever you use to make your bee hotel, the holes in the fill material should vary in diameter between 2mm and 10mm, to attract the widest range of species. If you'd like, decorate or paint your bee hotel (and maybe bright colors would even attract more bees!)

Once your bee house is done, hang it in your garden or wherever you want your pollinators to hang out. Place your bee hotel at least 3 feet off the ground. If you make multiple bee hotels, be sure to space them out in your yard and garden so they aren't clustered together.



<https://www.bakerross.co.uk/craft-ideas/kids/solitary-bees-hotel/>



[Naturalbeachliving.com](https://www.naturalbeachliving.com)



[https://www.urbanbees.co.uk/blog\\_1/?p=1780](https://www.urbanbees.co.uk/blog_1/?p=1780)



<https://2pawsdesigns.com/diy-bee-hotel-tutorial/>



## 5 Star Bee deluxe hotel!

<https://howafrica.com/make-bee-hotels-garden-help-save-native-bees/>



<https://www.diynetwork.com/how-to/outdoors/gardening/build-a-backyard-bee-house>

## 2. Make a Bee Bath

When bees buzz through your garden, it's easy to overlook their water needs. But like all living creatures, bees need a reliable water source. You can do your part to create a spot where bees of all sorts can safely gather to sip.

Bee baths can be made of many different things (*see some examples below*). All you need is some sort of basin or dish. Look around your home and find something you can easily adapt to make your own custom bee watering hole. Something that is wide and shallow works best, for example a clay pot base works great, but you could also use a bowl. Put something in the basin for the bees to climb on and dry off, for example, glass beads, rocks, marbles, wood or whatever you can find that would work.

The important thing is that there is something to hold water and a way for them to get out of the water. Once you've made your bee bath, put it in a place that is in the shade most of the day. Up high or low to the ground, the bees in your area will find it and tell their buddies where the good water is. If you keep it clean and full, they will come. (BackyardBeekeeping.com) The best part is, that while the bees are on their way to or from their new watering hole, they'll be stopping in your garden to help pollinate your plants.



[BackyardBeekeeping.com](http://BackyardBeekeeping.com)



[craftinvaders.co.uk](http://craftinvaders.co.uk)



[Experinecellife.com](http://Experinecellife.com)



[cozylittlehouse.com](http://cozylittlehouse.com)

### 3. Plant a Bee Garden

By planting a bee garden, you can do your part to help the bees by adding to the shrinking inventory of flower-rich habitat in your area. In return, the bees will pollinate your flowers, fruits and vegetables as well as the joy of watching these little buzzing insects up close.

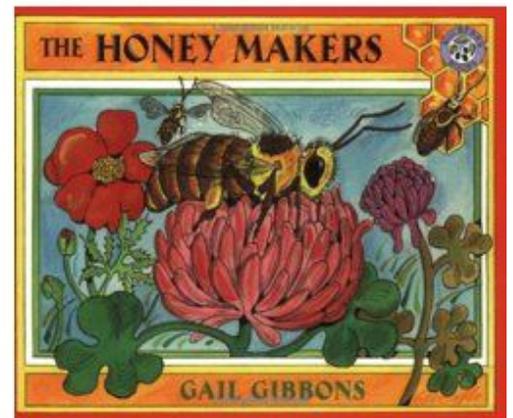
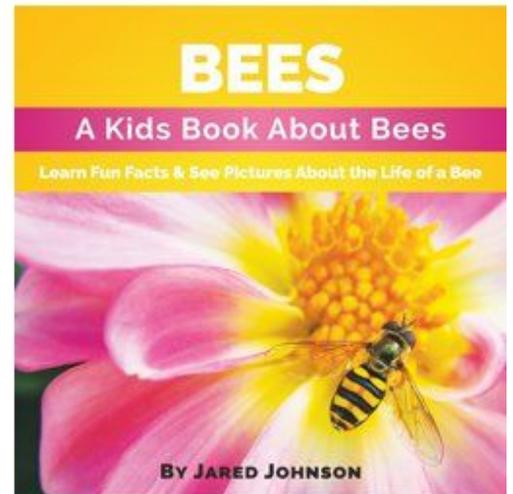
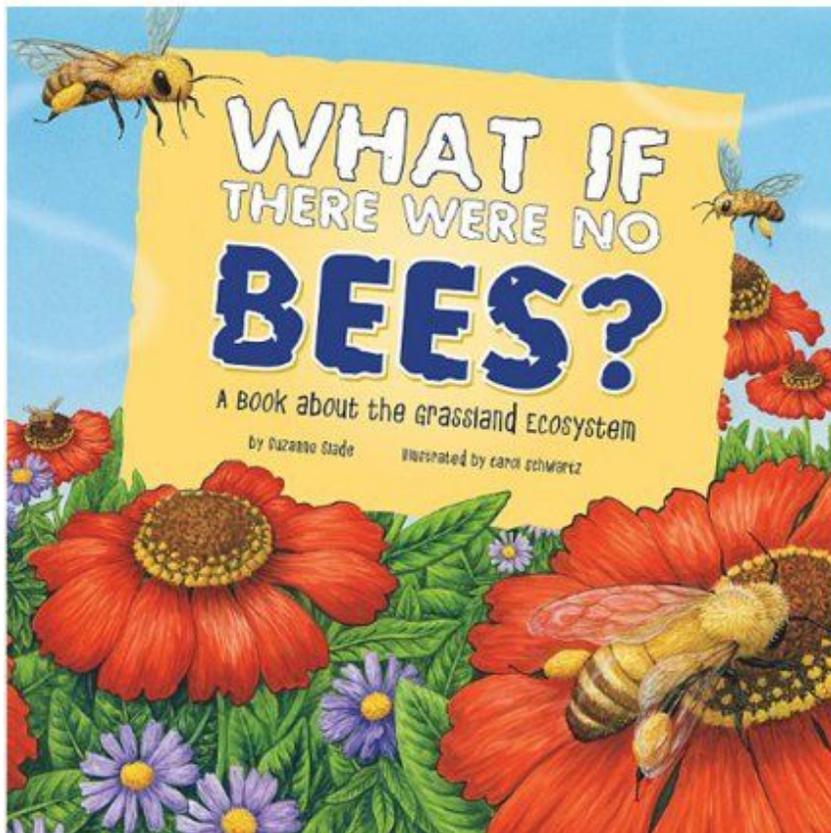
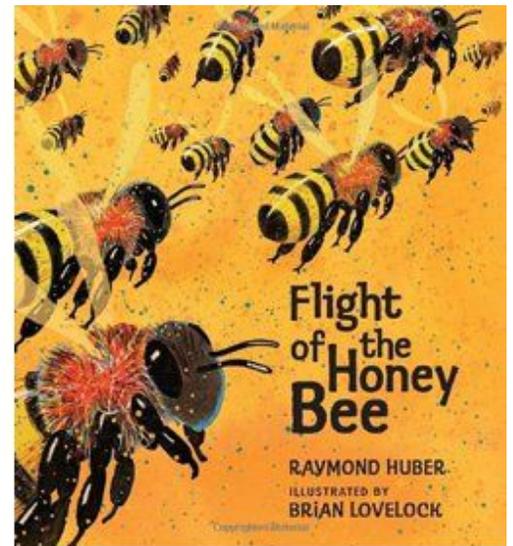
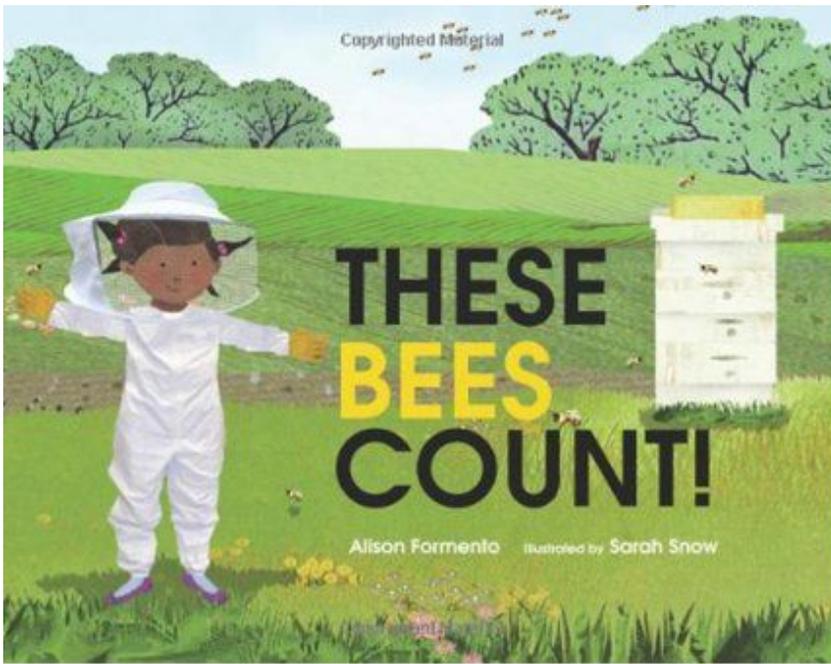
1. **Pick your spot.** If you don't have a place in your yard, (or if you don't have a yard), you can start a container garden or a raised garden. Don't let space be an issue.

2. **Pick bee-friendly flowers.** Choose bee-friendly flowers: According to the Bee Conservancy, bees prefer blue, purple, yellow and white flowers with single flower tops like marigolds or sunflowers, comfrey, nasturtiums, lavender, cosmos, marigolds, red clover,, honeysuckle, and verbena. Even better, the Missouri Conservation Department suggests planting native Missouri flowers such as asters, coneflowers, Joe Pye weed and wild bergamot. Go to their website to learn more about native plants that attract bees: <https://mdc.mo.gov/xplor/2017-03/how-plant-pollinator-paradise>



#### 4. Read Bee Books

Help to educate children about the importance of bees by reading these and other fun books



together.

<https://letsliassothemoon.com/>

## **Lesson Plan**

Subject: Bees

Grade: 3rd (lesson can be modified for younger or older students)

Preparation: 30 minutes

Time Needed: 5 lessons (approximately 30 minutes each)

Standards: *Missouri Science Curriculum, Grade 3: Growth and Changes in Plants*  
1.1 assess ways in which plants are important to humans and other living things, taking points of view into perspective and suggest ways in which humans can protect plants  
1.2 assess the impact of different human activities on plants, and list personal actions they can engage in to minimize harmful effects and enhance good effects  
3.6 describe ways in which plants and animals depend on each other  
3.8 identify examples of environmental conditions that may threaten plant and animal survival

Objectives: *By the end of this lesson, students will be able to:*

- Understand that bees are integral components of the life cycle of many plants
- Identify ways that human beings harm bee populations
- Identify ways that human beings can help bee populations to be more successful

Materials:

- KLW Charts
- Computer and projection screen
- Paper and pencils
- Scrap paper, old magazines, discarded books (to be used for making seed packets)
- Glue Sticks
- Variety of flower seeds

Directions:

*These lessons could easily be modified to meet time constraints, or adapted to be used by a classroom teacher, or included as part of a larger unit and including a variety of specialist teachers. They are designed to guide students through an inquiry into bees and pollination. Students will be encouraged to identify situations that might harm bees, and learn from an expert about farming practices that both help and harm bee populations.*

### **Lesson One:**

1. Introduce the topic of bees and pollination by starting a KWL (Know/Want to Know/Learned) Chart with students. Ask students “What do you already know about bees?”

2. Show students the video called Kids Learn Why Bees Are Awesome (National Geographic) <https://www.youtube.com/watch?v=z9zZ48jJZyk>
3. Go to “EyesOnHives” live (<https://www.eyesonhives.com/>) cam or Explorer.org live cam (<https://explore.org/livecams/honey-bees/honey-bee-hive-cam>) and view bees in real time in their hive. .
4. Reflect together as a group and collect questions that students have. Asking students “What do you want to know? How will we find these answers?”

### **Lesson Two:**

Invite an expert to speak with the class. (example: invite or live chat online with an expert from the Insectarium at the St. Louis or Kansas City Zoo or a member of the Missouri Beekeepers Association or the Missouri Conservation Department or a local beekeeper in your area)

*Questions to explore with the expert:*

- Are there different types of bees? (why do we need different types of bees)
- How can humans help/harm bee populations (discuss agriculture/food)
- What is the process of pollination (parts of plant and demonstration)

### **Lesson Three:**

Take a field trip to a local beehive to see the bees in action, if this option is not available to you, this lesson could be substituted for a nature walk (even around the school) to observe and record bees and different pollinators in your local environment

*Questions to explore with students:*

- How do bees behave?
- What do you notice about the bees?
- What do you notice about the plants the bees were on?

### **Lesson Four:**

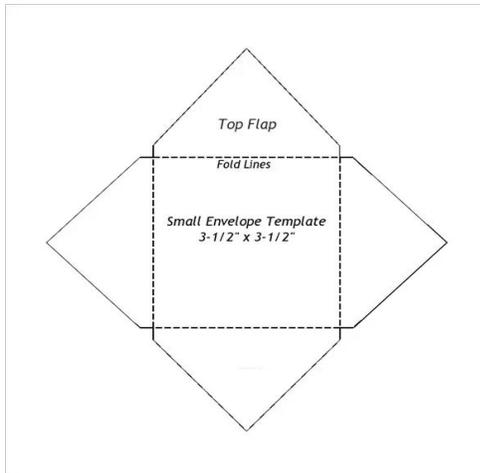
1. Read “The Honeybee”, by Kirsten Hall (this link is a youtube read aloud version of the also for differentiated learning: <https://www.youtube.com/watch?v=8XWYeRrRcY>)
2. Brainstorm ideas for posters that might educate classmates, family, and community members

about the importance of caring for bees.

3. Create posters. Discuss what makes a great poster? What is the most important message you want people to know about bees?

### **Lesson Five:**

1. Using scrap paper, pages from old magazines or pages from discarded books, or any type of paper you would otherwise discard.
2. Demonstrate how to create homemade envelopes.



<https://www.template.net/design>

3. Once students have created their envelopes, have students drop a few flower seeds into their packets and seal shut with glue.

#### *Questions to explore with students:*

- Where might we plant these seeds?
- What if I don't have my own garden or back yard?

#### Vocabulary:

Pollination, pollen, pollinator, pistil, stamen, germinate, agriculture, insecticide, beekeeper

#### Assessment:

- Students will be assessed through observation and conversation.
- Students will complete the final section of their KWL charts at the end of the investigation to ascertain whether key outcomes were understood.
- Posters will be used as evidence of learning.