

PICTURE BOOK EDUCATIONAL COMPANION

Begin with a Bee



LIZA KETCHUM, JACQUELINE BRIGGS MARTIN, AND PHYLLIS ROOT • ILLUSTRATIONS BY CLAUDIA McGEHEE

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Bumble bees are aMAZing!!

Bumble bees use their powerful senses of sight and smell to find flowers and gather nectar and pollen.

Help this rusty-patched bumble bee find her way through the maze to the wildflowers.



TMC



1 - 2 - 3 BUMBLE BEE!

In the book *Begin with a Bee* we see seven stages of the development of the pupa as it becomes ready to hatch into a bee. The pupa inside the cocoon darkens and its parts become more detailed.

These pupae are in a different order to their growing stages. Try cutting them out and pasting each pupa onto a piece of paper in the order that fits their growth. When you are done, check your work with the pupa development page in the book.

Have fun!





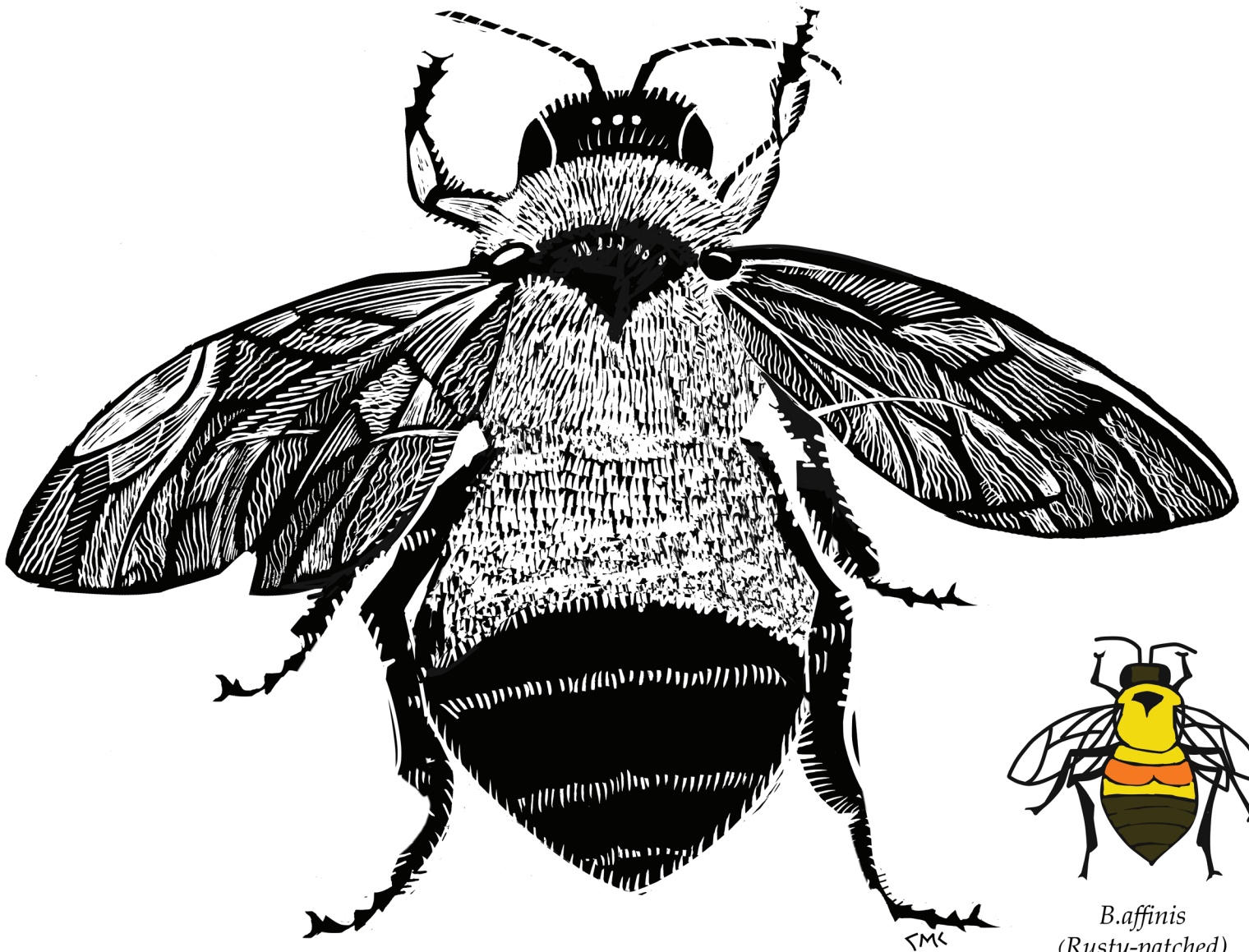
Be an Adventurer!

The illustrator of *Begin with a Bee*, Claudia McGehee, has drawn a map of the places the rusty-patched bumble bee queen flies while looking for her nesting spot. Look at this page and draw a map of where you might go if you were exploring this area. You would not be looking for a nest, but exploring. Write a bit about what you might see—a list, or even a few sentences about adventures you might have with the creatures on this page. (Do you see the skunks?) Have fun!



Color a Bumble Bee!

There are over 250 species of bumble bees in the world, and about 49 of them live in the United States. Bumble bees come in many shapes and sizes. They can be identified partly by the colorations on their bodies, usually black, yellow and orange or red combinations. Color this bumble bee however you'd like, or make a rusty-patched colors, like the bumble bee in "Begin with a Bee".



B.affinis
(Rusty-patched)

Color the wildflowers for the rusty-patched bumble bees!

Wildflowers that grow from spring until fall are essential for bumble bee survival. Research the colors of each of these midwest blooms, or imagine different colors and choose them for each!



VOCABULARY



furry

The rusty-patched bumble bee is furry. Its body is covered with short black and yellow hairs.



petals

Most flowers have petals. At the center of the petals are anthers and stigma. Pollen is on the anthers; if it gets to the stigma, the flower will grow fruit and seeds.



pollen

Bumble bees grasp a flower's anthers in their jaws and vibrate their wing muscles to shake loose more pollen, which causes plants to produce more and bigger fruit.



endangered

In 2017 the rusty-patched bumble bee became the first bee species in the continental US to be placed on the endangered species list of the US Fish and Wildlife Service.

Ten things we can all do to help:



1. BE a friend to bees no matter where you live. Anyone can BE a gardener! Bees will visit flowers or herbs growing in pots on your city windowsill, fire escape, or balcony.

2. BE a three-season gardener. The rusty-patched bumble bee is a long-season pollinator, so try to have flowers in bloom from early spring through late fall.

3. BE a gardener who plants native plants. Check with gardeners in your area to find out which plants are best for bees where you live. You will attract the “Three Bs”: bees, butterflies, and birds.

4. BEware of pesticides and other chemicals that can sicken or kill bees. These chemicals are harmful to humans, too. Your library has good books about how to garden without chemicals.

5. BE messy. Seventy percent of native bees are ground bees, so leave a few spots of tall grass in your yard, as well as a few leaf piles, and maybe a compost heap or areas of undisturbed soil, for spring nests and winter hibernation.

6. BE gentle with bees. Usually bees aren’t trying to hurt you, but they may protect their nests.

7. BE loud and tell your friends and neighbors how many plants we depend on that are pollinated by bees: tomatoes, apples, blueberries, almonds, cherries, avocados, cucumbers, onions, grapefruit, oranges, pumpkins, and more!

8. BE a champion of bees. Encourage your city or town to become a BeeCityUSA. Bee Cities

help to create healthy habitats for pollinators. For information, go to www.beecityusa.org.

9. BE an activist. Even if you aren’t old enough to vote, you can write a postcard, make a phone call, or email the people who represent you in your local government, in state legislatures, in Congress, and the White House and tell them to take action to save our native bees and protect our planet. Get your friends to speak out, too.

10. BE a citizen scientist who collects and shares information about the natural world. Keep track in a journal of bees you see or take pictures if you have a camera. When do you see the most bees? Which plants do they like best? Join these groups to learn more and help bees:

- Bumble Bee Watch (www.bumblebeewatch.org) and Bee Spotter (www.beespotter.org) are citizen science databases where you can submit your own bee sightings. Reporting these sightings helps scientists keep track of bee numbers and their range.
- The Great Sunflower Project (www.greatsunflower.org) is a citizen science project that identifies bees when they visit flowers.
- Watch Clay Bolt’s wonderful movie about the rusty-patched bumble bee: *A Ghost in the Making: Searching for the Rusty-Patched Bumble Bee* (www.rustypatched.com).
- Join the Xerces Society (www.xerces.org), an organization that protects invertebrates, such as bees, butterflies, and other pollinators. You can download free lists of pollinator plants for your area from this website.