BECOME A BUG EXPERT WITH THIS FIELD GUIDE FOR KIDS!

Grab your magnifying glass and get ready to jump into the fascinating world of bugs! *A Kid's Guide to Backyard Bugs* is an essential handbook for young bug enthusiasts aged 6 to 8. You'll discover fascinating facts about the United States' most common insects, as well as a DIY project, a log for keeping track of your finds, important information on protecting bugs, and a glossary of bug-related terms.

This portable guide—perfect for your back pocket, school bag, or even the basket on your bike—will help you explore the amazing world just outside your door!

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A Kid's Guide to BACKYARD BUGS

Berkowitz
LaRue

Gibbs Smith

A Kid's Guide to BACKYARD BUGS

by
Eliza Berkowitz

illustrated by
Nicole LaRue

INTRODUCTION

Did you know that some types of scorpions can live for a year without food? Or that there's an earthworm that grows to be 6 feet long? You probably already know about ladybugs, but do you know about wheelbugs? How about the woolly bear (which is not a bear at all!)? You may have spent years learning about creepy, crawly bugs, or you may just be getting started. Either way, there's lots to learn. Bugs are fascinating!

Every time you step outside, there are opportunities to spot bugs. If you help care for a garden, you will likely come face-to-face with some creepy crawlies. If you grow fruits or vegetables, you will also likely spot some interesting insects. What about trips to the beach, park, or playground? Bugs are everywhere! When you take the time to look for them, you'll be surprised by how many you cross paths with every day.

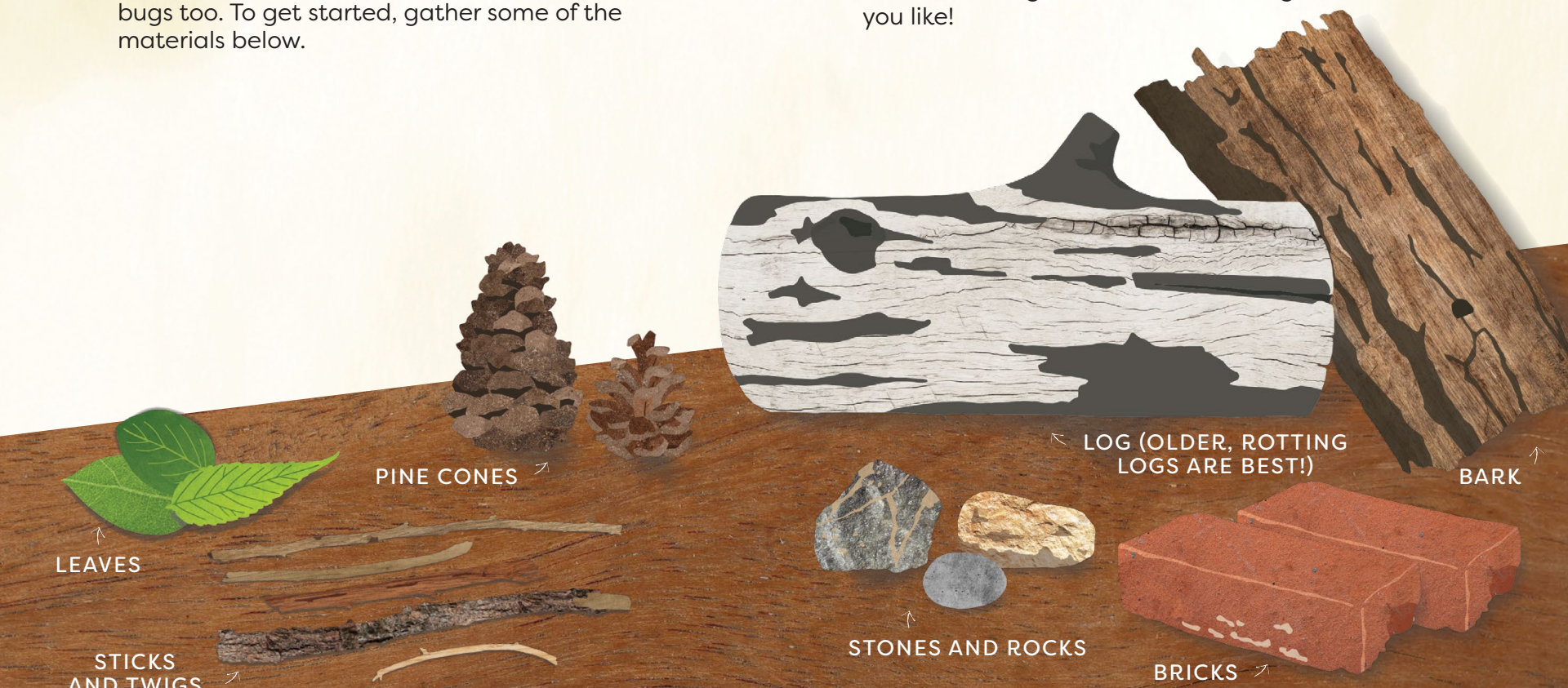
This book will get you familiar with the 40 bugs you're most likely to see in the United States. Some of these bugs are much more common than others. You'll learn what they eat, what their life cycle looks like, and so much more. At the back of the book, there's a bug log to help you keep track of all the bugs you have spotted. How many of the bugs in this book can you find?

Learning about bugs is fun for people of all ages. And it's something the whole family can do together. You don't need anything special to get started, just an appreciation for the many types of crawling, flying, wiggling creatures found in nature.

DIY PROJECT

Want to create a safe place for bugs, from which you can observe and appreciate their weird ways? You can create your very own bug hotel! Providing some shelter for insects can be a fun project for you, but also great for the bugs too. To get started, gather some of the materials below.

Next, find the perfect place to build your structure. Look for a spot that's not too sunny or dry. (Many bugs prefer damp, dark areas.) Then, use your imagination and start to piece your palace together. Maybe it looks like a tent with sticks forming the outside and filled with bark and leaves. Or perhaps it looks like a nest with pine cones, rocks, and twigs creating the perfect hiding spots. Think about ways to use logs to form a happy hideaway. There's no right or wrong way to create a bug hotel. It can be as big or as small as you like!



SIZE

About ½ inch long.
That's as wide as an M&M.

HONEYBEE

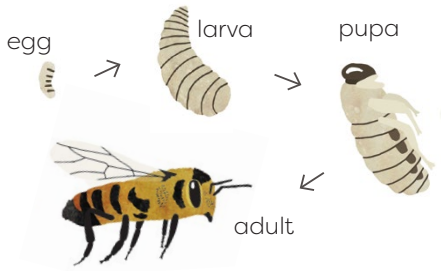
Apis mellifera

Honeybees are well known for the honey and beeswax they produce. But they also play an important role in our **ecosystem**. Honeybees fly from plant to plant collecting pollen and nectar from flowers. As they visit each new flower, some pollen from a previous flower is left behind. This is called **pollination**, and it is what allows the plant to reproduce. Bees do this for many crops, including the fruits and vegetables that we eat. Without bees, farmers would not be able to produce nearly as much food as they do.

FOOD

Honeybees eat the nectar and pollen collected from flowers. They use it to make honey. Young bees eat honey, which has a lot of vitamins and nutrients to help them grow.

LIFE CYCLE



YEAR-ROUND

HABITAT & RANGE

Honeybees live wherever there are flowering plants. Although they are not native to the United States, they now live all over the continent.

BUG ABODE

In the wild, bees live in nests. They create the nests inside empty spaces, such as tree hollows. Beekeepers use man-made hives made of wood. Inside these hives, bees build honeycomb to store food and house the eggs, **larvae**, and **pupae**.

FUN FACTS

Honeybees talk to each other by dancing. The way they move tells other bees important information, like where to find food nearby.

Each **colony** has a queen bee. She is responsible for laying eggs and can lay up to 2,000 eggs per day!

SIZE

About 1½ inches long.
That's as long as a safety pin.

DAMSELFLY

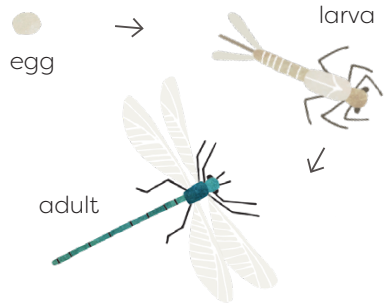
suborder Zygoptera

Like its cousin the dragonfly, damselflies are one of the oldest groups of insects. They were here before dinosaurs! They have long, thin bodies, short **antennae**, and large eyes set far apart. The males are more colorful than the females, often showing off blue, green, red, or yellow bodies. Although they have two pairs of see-through wings, they are not great at flying. They can be slow and awkward in the air.

FOOD

Damselflies are considered useful, because they eat harmful insects, like mosquitoes. They also eat flies and moths. Some eat caterpillars and beetles. They catch **prey** in midair, grabbing insects with their hairy back legs.

LIFE CYCLE



YEAR-ROUND

HABITAT & RANGE

Damselflies live all over the world. They live near water, as they need it to reproduce.

BUG ABODE

Damselfly **nymphs** live underwater. They crawl along the bottoms of lakes, streams, and rivers looking for food. When they become adults, they leave their underwater **habitat** and stay on land. But they stay close to water where they can find a mate and reproduce.

FUN FACTS

To tell the difference between a damselfly and a dragonfly, take a look at the wings. A damselfly keeps its wings tucked in when at rest. The dragonfly keeps its wings fanned out.

SIZE

About 5 inches long.
That's as long as a dollar bill.

HICKORY HORNED DEVIL

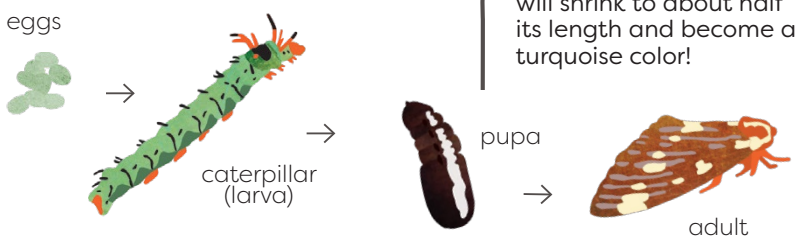
Caterpillar of Citheronia regalis

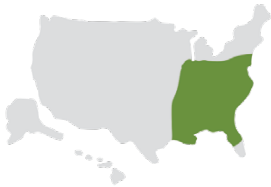
If you come upon a hickory horned devil in your backyard, you might be tempted to run away as fast as you can! Based on its looks, it makes sense you might think they were very dangerous creatures. First, they are big, about the size of a large hot dog. Second, their blue-green bodies are covered in what looks like small black spikes. Worst of all, they have red and black horns on their head. Despite its fearsome appearance, this caterpillar is totally harmless to humans!

FOOD

While growing to its full size, the caterpillar lives in trees and eats leaves. Persimmon, walnut, and sumac trees are among the many types that are suitable to a hickory horned devil.

LIFE CYCLE





YEAR-ROUND

HABITAT & RANGE

The hickory horned devil is found in forests in the eastern part of the United States. They are more common in the south.

BUG ABODE

The hickory horned devil is **nocturnal**. It lives in trees until it grows to its full size. At that point, it will drop to the soil to look for a place to **pupate.** Hickory horned devils dig down in the ground and spend the winter in their **pupa**. At the beginning of the following summer, they emerge as regal moths!

FUN FACTS

Before it forms the pupa, a hickory horned devil will shrink to about half its length and become a turquoise color!

SIZE

Up to 2 inches long. That's as long as the shorter side of a credit card.

WOLF SPIDER

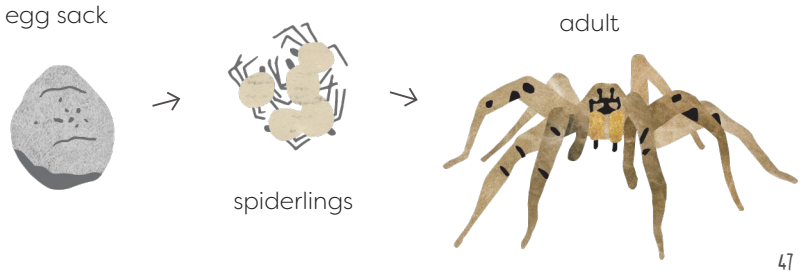
family Lycosidae

The wolf spider gets its name from the ferocious way it hunts. Unlike most other spiders, it does not spin webs to catch **prey**. Instead, it follows its prey, then pounces like a wolf! Usually hairy and brown in color, the largest species of wolf spider is only about 1 inch long. Female wolf spiders carry their babies on their backs. When they sense danger, the babies hop off and scatter. When it happens, it looks like a single spider exploded into a hundred tiny ones!

FOOD

Wolf spiders mostly eat insects, such as ants, worms, and insect eggs. They are not afraid of larger insects and will go after prey that is bigger than them.

LIFE CYCLE



YEAR-ROUND

HABITAT & RANGE

Wolf spiders live all over the United States. They will live anywhere they can find insects to eat.

BUG ABODE

They can live in almost any climate. They prefer to be on the ground, where they can **camouflage** with dead plant matter. Sometimes they will dig a hole and burrow in soil. Other times they will make their home beneath a rock or log.

FUN FACTS

Wolf spiders have eight eyes. They have excellent vision!

SIZE

Less than ¼ inch.
That's smaller than a staple.

LADYBUG

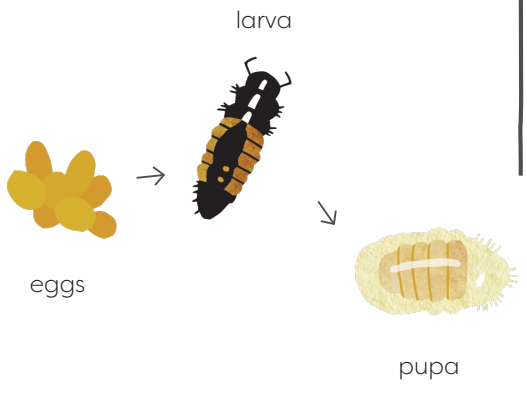
family Coccinellidae

Colorful, cute, and totally harmless, ladybugs are thought to be a sign of good luck. They have colorful, oval-shaped bodies and black heads. Most commonly, they are red with black spots, but some are orange, yellow, brown, or black. They are active in spring, summer, and fall. In the winter, they **hibernate** in **colonies**, sometimes with thousands of other ladybugs.

FOOD

They eat other insects and insect eggs. Farmers sometimes buy ladybugs to help keep unwanted pests under control.

LIFE CYCLE



YEAR-ROUND

HABITAT & RANGE

Ladybugs live almost everywhere! They avoid places with the coldest temperatures but are found all over the rest of the world.

BUG ABODE

Ladybugs can live in many different **habitats**. They are seen in cities, suburbs, forests, and near rivers.

FUN FACTS

The ladybug's bright color is a warning to **predators**. It lets them know that ladybugs do not taste good.

A single ladybug can eat up to 5,000 insects in its life!

MY BUG LOG

Here you can keep track of all the bugs you have spotted. In the Notes column, add details about the bug's appearance or behavior.

NAME OF BUG	DATE	LOCATION	NOTES

NAME OF BUG	DATE	LOCATION	NOTES

GLOSSARY

abdomen The rear section of a bug that contains the stomach and other organs used for digestion and reproduction.

antennae The parts of an insect that are used for smell or to help feel what's around.

camouflage The act of blending into surroundings to hide.

colony A group of insects living in a dwelling together.

ecosystem All of living things in an area.

eyespot A round marking on a butterfly or moth that looks like an eye.

habitat The natural home of a plant or animal.

herbivore An animal that eats only plants.

hibernate To spend time being inactive, usually in the winter.

larva The wormlike juvenile form of an insect.

migration The movement from one area to another, usually seasonally.

molt The process of shedding skin as an insect grows.

mouthparts The part of an insect that is used for chewing and eating.

nocturnal Active at night.

nymph A young insect.

pincers The curved claws of an insect.

pollination The act of moving pollen so that a plant can reproduce.

predator An animal that lives by killing and eating another animal.

prey An animal that is hunted and killed by another animal.

pupa The cocoon inside which an insect transforms into an adult.

pupate To become a pupa; transitioning from larva to adult insect.