

Amara and the Bats



EMMA REYNOLDS



Amara *really* loves bats!

When Amara was very small, a bat got trapped
in the attic of her old house.





Amara asked if she could hold the bat, but her mom and big brother, Samir, told her they should wait for the wildlife rescue team. They would know how to handle and look after the bat safely.

When the wildlife rescue team arrived, they caught the bat carefully and held it very gently in a towel.

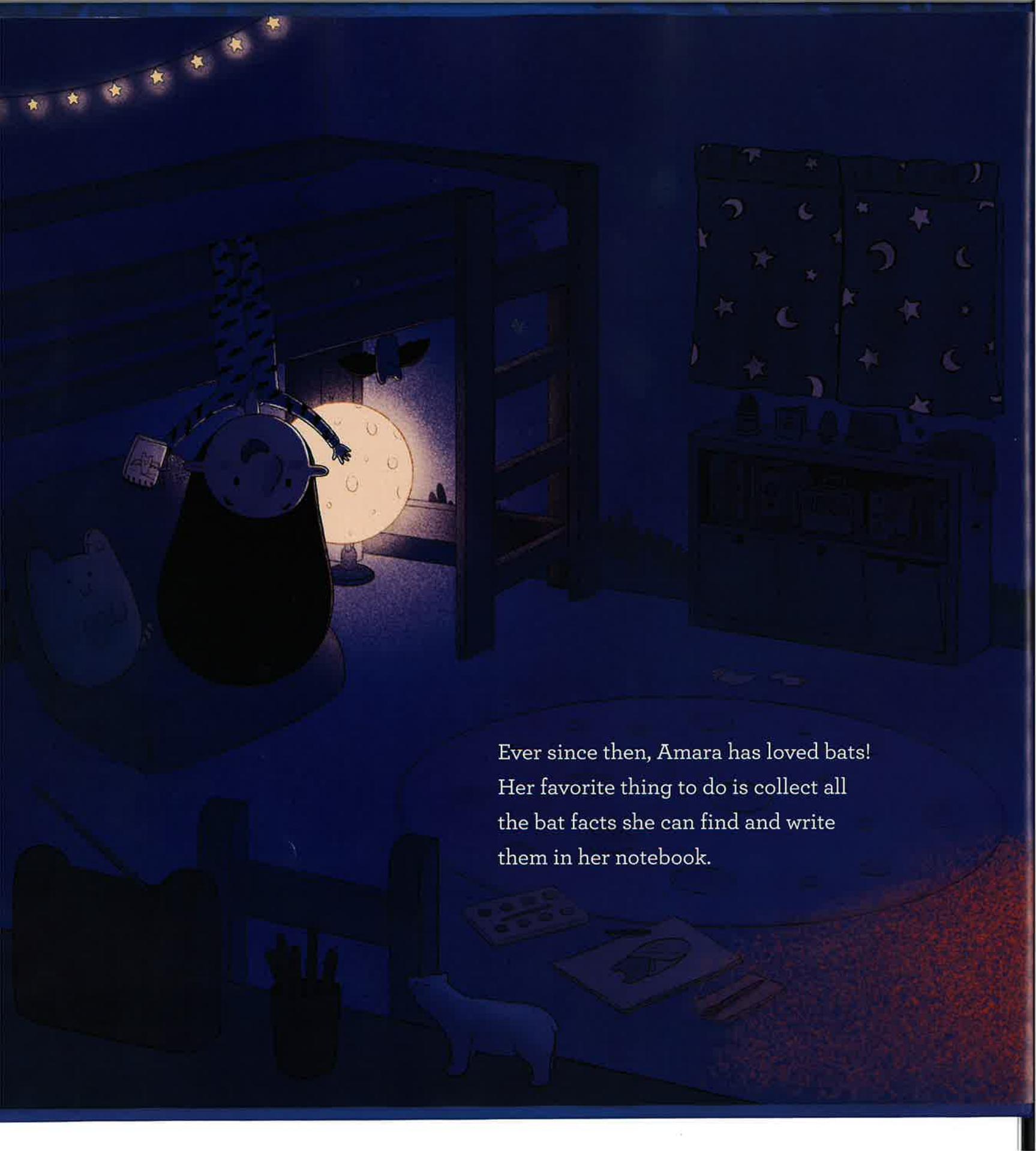


Amara got to see the bat's fluffy face, beady eyes, and delicate wings up close.

Some people are afraid of bats, but Amara thought they were so cute!



Part of her wished she could keep it as a pet, but Amara knew the bat would be happier out in the wild, where it could fly around and be free.



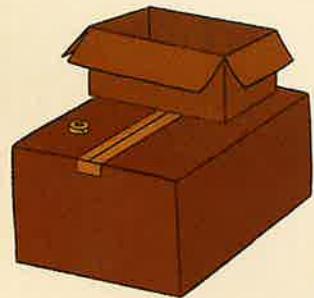
Ever since then, Amara has loved bats!
Her favorite thing to do is collect all
the bat facts she can find and write
them in her notebook.



"Mom, did you know that bats are nocturnal?
That means they're awake at night. They hang
upside down, like this! And they're the only
mammals that can fly!"

Amara and her family were moving to a new town. She was supposed to be packing up her room, but she kept getting distracted by more bat facts.

“SQUEEAK!”



“SQUEEAK!”



Amara squeaked all around the house.

“Samir! Did you know that bats have such a high-pitched squeak that we can’t even hear them? They use echolocation to find their food in the dark!”



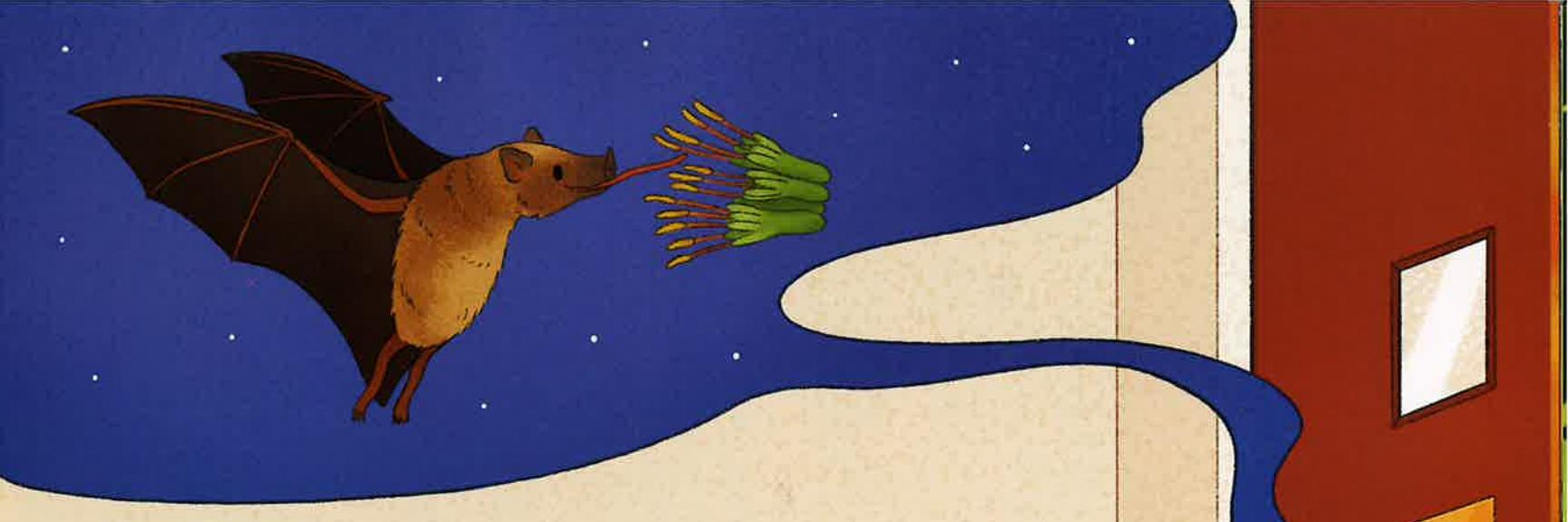
“I can hear you!”
Samir laughed.



Amara and her family often watched the bats flying near their old house. She knew that all kinds of bats lived all over the world, so no matter where they lived, she'd always be able to see them.

After they moved, Amara couldn't wait to visit the park in her new neighborhood to see the bats flying around at sundown.





A bat with a long, forked tongue is shown flying over a green flower with many stamens. The background is a dark blue night sky with stars.

"Did you know that most bats eat insects or fruit, but some eat fish, frogs, and even flowers? They have really long tongues to reach the nectar! They are amazing pollinators."





But when Amara and her family got to the park, there were no bats to be found. They asked the park ranger about the bats, but she hadn't seen any in a while.



"We used to have a few bats nearby years ago," the ranger said sadly.

"But it's just me working here now, and more and more of the land is being sold to make room for buildings."



Amara felt a sad feeling in her tummy on the way home.



She couldn't stop thinking about the bats and their habitat. There was so much that needed fixing.



She felt as if the weight of the whole world was crushing down on her. What could *she* do to help?



“Amara?” Her mom knocked on the door gently. “I unpacked the rest of your books! And your new nature magazine arrived.”

“Thanks, Mom,” said Amara, still feeling glum.

“It will feel like home soon, I promise.”

Her mom placed the magazine and Amara’s bat books on the bed and then gave her a hug.

Amara opened her magazine and started to read. . .



Dara McAnulty

There was a story about young people organizing beach cleanups to clear plastic from the oceans.

And another story about a boy teaching people to connect with nature by writing a blog and fighting to protect endangered birds.



Jerome Foster II

She found lots of stories and videos online about kids taking action to help animals and the planet.

Tokata Iron Eyes

Greta Thunberg



Ridhima Pandey



Soon, Amara realized: if they could make a difference, so could she.

And she had an idea!



Amara showed her mom and Samir a picture of a bat house, a little wooden house built for bats to roost in. “Maybe if we can help the park build some bat houses, the bats will come back? We have to try to save the park!”



She decided to talk about her idea for show-and-tell the next day.



She was still new at school,
so she was a bit nervous to
stand up in front of her class.

But Amara didn't have to worry, because her classmates really wanted to help! They started to tell her about their favorite animals. Jasper loved tigers, and Lucy loved pangolins—their favorite animals were endangered too.





When Amara told Jasper and Lucy more about the bat houses, they had some great ideas.

"We could have a bake sale," said Jasper.
"And paint signs!" Lucy waved her paintbrush.

What if they could build a nature reserve in the park so that lots of wild animals would have a home in the city?



Amara felt inspiration bubbling up inside her. She loved a challenge!





The entire class painted signs and baked cakes to raise money for the nature reserve. Amara's new friends all wanted to help the bats come home! She was so happy.



Amara's mom made some important phone calls, and soon, their neighborhood gathered together to hold up their painted signs.



SAVE OUR
PARK!

It was hard work, but eventually,
people listened. The park would
get its nature reserve!

SAVE THE

Over the next few months, volunteers helped make a bat-friendly sanctuary—a wild place where nature could flourish in the park. They made a new pond and planted flowers that smelled nice at nighttime, so lots of insects could come by for the bats to eat.



Bat houses need the perfect location with enough sunlight, placed at least twelve feet high.



Let the grass and local plants grow wild! Avoid using pesticides.

Grow hedges to help bats navigate and give other animals a home.



Many bats love eating insects, and ponds help attract lots of them.

Pile up dead leaves or logs to attract insects and small mammals.



Pale flowers attract night-flying insects for bats to eat.





The park ranger put the bat houses up in a special place with help from the wildlife rescue team.



"I hope they come back!" Amara said thoughtfully, sipping her hot chocolate.

"We might have to wait a while," the ranger replied.

"It's okay; I can wait."

Every month Amara and her family would check to see if the bats had roosted.



They waited,



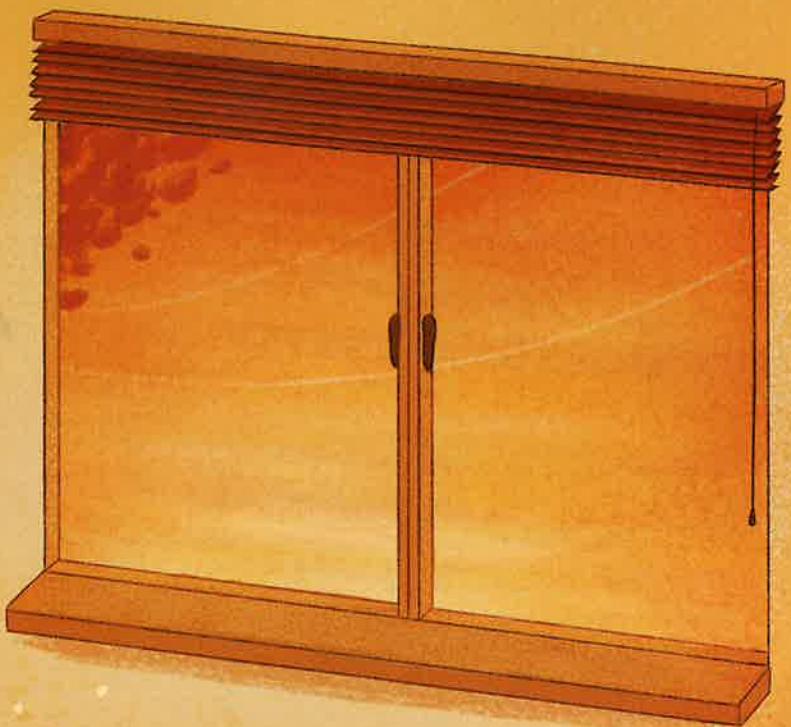
and waited,



and waited....



But the bats didn't come.



Amara tried to stay brave.



One day, when Amara was eating pancakes for dinner, her mom got a phone call—they needed to go to the park right away!



When they arrived, the ranger waved them over.



Amara was nervous. Had something happened to the bat houses? Suddenly, her mom and brother whispered, "Amara, look!"



And there they were, flying above her!

The bats had made a new home, and Amara felt at home too.



It was the best feeling in the world.

Amara's Bat Facts!

Species

There are more than 1,420 different species of bats, with more being discovered every year! They are commonly categorized into two main groups: echolocating microbats that mostly eat insects, and fruit-eating megabats, also known as flying foxes or fruit bats.

Most bats are microbats, with more than 1,200 species living all around the world on every continent except Antarctica. There are around two hundred species of megabats living only in tropical climates.

Size

Did you know the smallest bat is a little more than one inch in body length?



Wingspan around six inches

Kitti's Hog-Nosed Bats (above) are also called bumblebee bats because they are as small as bumblebees!



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The **biggest** bat is the giant golden-crowned flying fox.

Its wingspan is as long as a human adult at around five feet five inches!



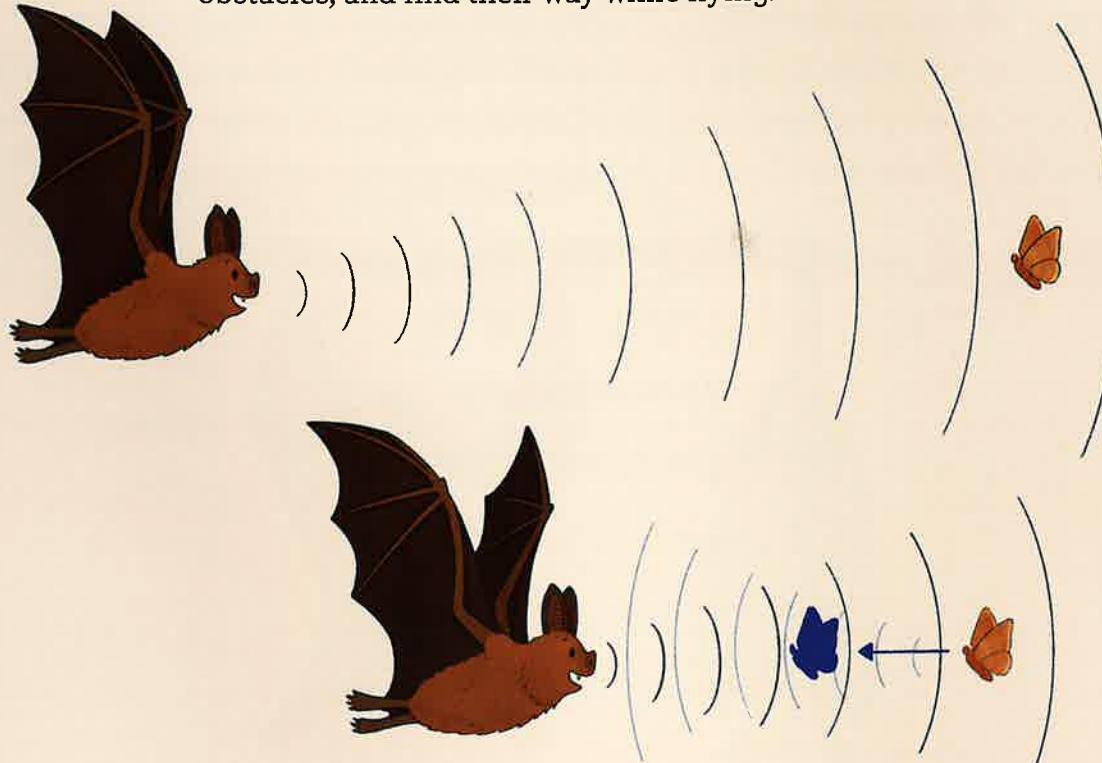
In winter there are less insects for microbats to eat. So they will fatten themselves up in the summer and fall, and then hibernate to reserve energy for up to six months until spring.



How Echolocation Works



Most bats use echolocation to find food, navigate around obstacles, and find their way while flying.



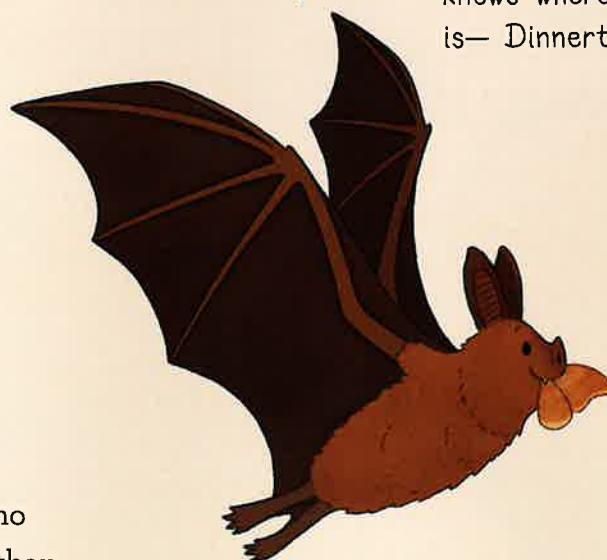
1. A bat sends out sound waves using its voice box, or by clicking its tongue.

2. When the sound waves hit an object, such as a moth, an echo is created that gives the bat information about the target's shape, distance, and direction.

3. Now the bat knows where the moth is—Dinnertime!

Human ears can't hear echolocation, because the sounds are too high-pitched. If you use a bat detector device, you can set it to the right frequency for your local bat, and it will convert the waves into a sound you can hear. (It sounds like a high, fast chittering!)

MYTH: Bats are blind. Nope! They have very good eyesight, but microbats use their ears to navigate with echolocation to find their food at night. Almost no megabats echolocate. Instead, they have bigger eyes than microbats and use their sight and sense of smell to find fruit.

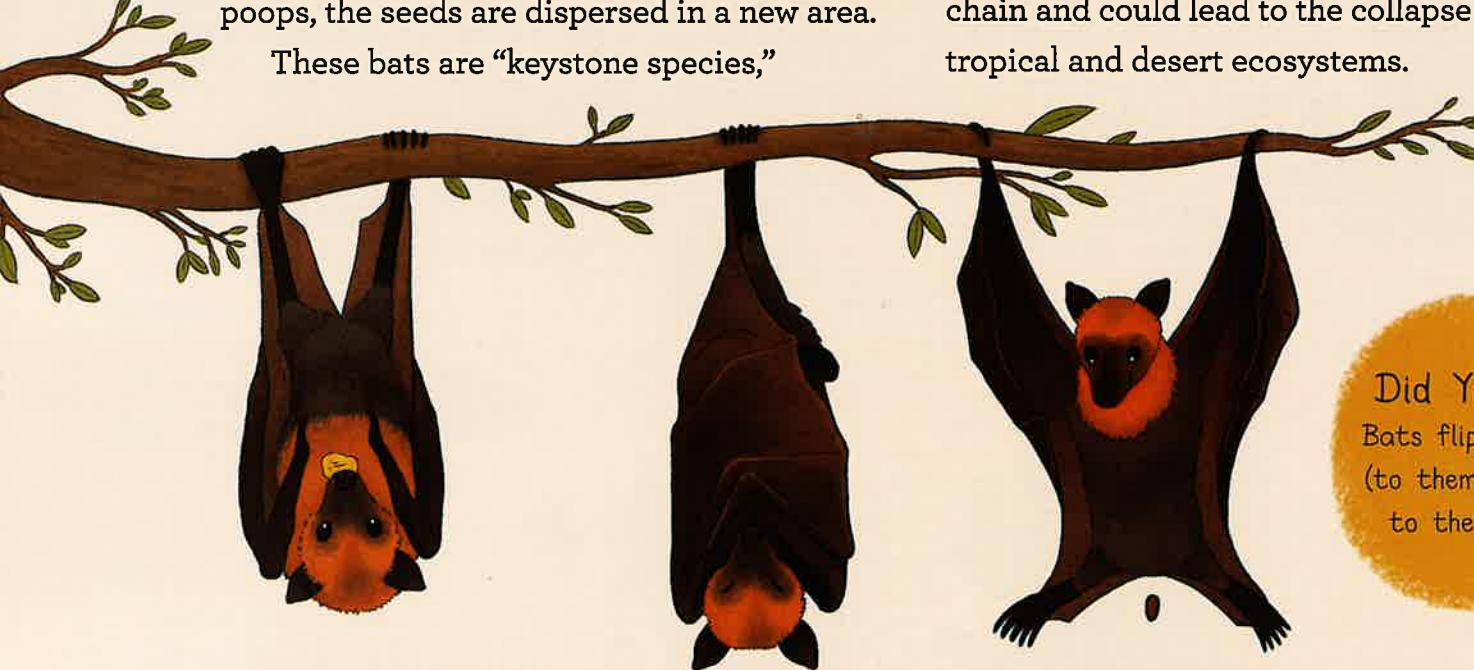


Even More Bat Facts!

Many megabats play an important role in spreading the seeds of plants and trees through their guano (or bat poop)! When a bat eats fruit from a tree, the fruit is digested but the seeds remain whole. When the bat poops, the seeds are dispersed in a new area.

These bats are “keystone species,”

meaning other animals and plants rely on them to survive. Without bats dispersing seeds far and wide, some plants would not grow. This would then affect other animals in the food chain and could lead to the collapse of entire tropical and desert ecosystems.



Did You Know?
Bats flip upside down
(to them) when going
to the bathroom!

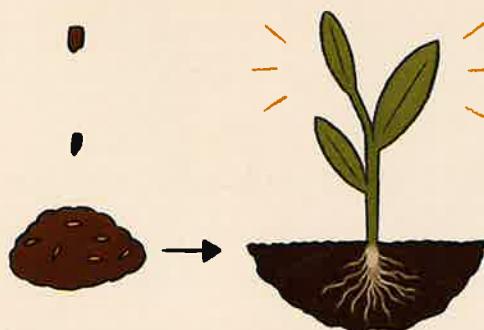
1. Bat eats the fruit.



2. Fruit is digested and seeds are carried inside the guano, or bat poop.

Who knew bat poop
was so important?!

3. Poop! The seeds fall to the ground inside the bat's homemade fertilizer, which helps the seeds grow.



4. Ta-da! New plant!

Amara's Guide to Bat Houses

Bats are losing their natural habitats all over the world, but artificial roosts called bat houses can be built for them to make their home.

Bats like to roost in old trees, in caves, and

in buildings. But when bats don't have any of these roosts available, bat houses can encourage bats to live in a new area, as long as there is a nearby source of food.

Setting Up Your Bat House (Ask an Adult for Help!)

Every bat species in the world is different, and needs the ideal bat house to suit them. In North America, it is best to mount bat houses on tall poles at least twelve to twenty feet off the ground and away from trees. Another good place is on the outside walls of buildings, up by the eaves, with a clear area underneath for the bats to drop and take flight.

In general, bat houses should be placed in an area protected from strong winds and facing in a direction that gets at least six hours of sunlight each day.

Visit Merlin Tuttle's Bat Conservation (merlintuttle.org) for more information on bat houses. You can make your own bat house by following their instructions or by purchasing a premade house from a certified vendor.

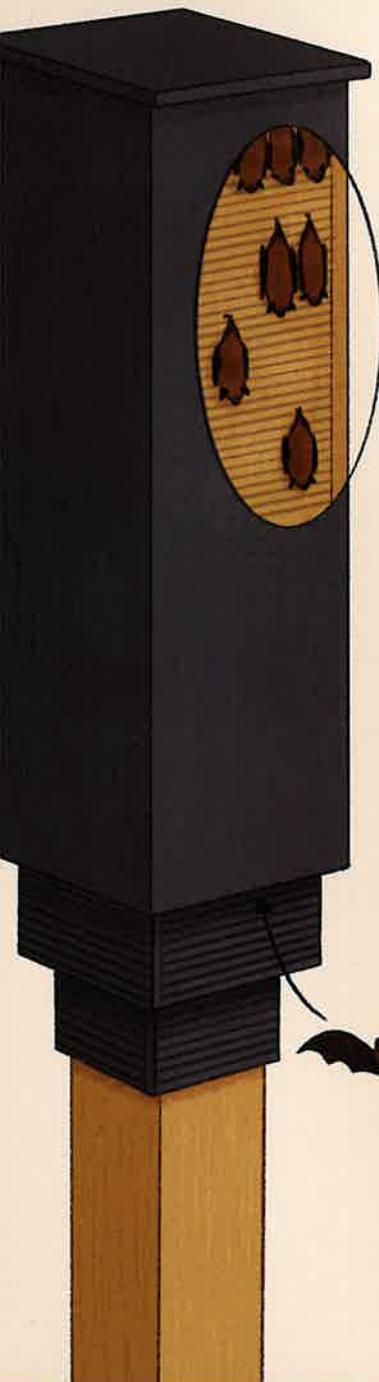
Things to Remember

- If you have a cat, try to keep them inside at night, especially in the summer when bat mothers are caring for their baby bat pups.
- Once a bat house is occupied, make sure it's not disturbed! You should never shine a flashlight into the house, make lots of noise, or touch a bat. Depending on the style of bat house, you can look up carefully during daylight hours and see if bats are roosting.

Some Signs Your Bat House Has Bats

- Droppings on the "bat ladder," which is the flat part leading up into the chamber. And, of course, seeing bats fly around at sunset or sunrise!
- It can take weeks, months, even years for bat houses to be used—so cross your wings and be patient!

All snuggly!
Looking up into a bat house.



Start Your Bat Adventure

Have You Seen a Bat in the Wild?

Bats fly around to look for food at night, so the best time to see them is at sunset or sunrise. If you're very quiet and don't shine any bright lights, you might be lucky enough to see one flying above you!



Bats Need Our Help!

Bats are amazing creatures, but many are endangered and losing their homes due to deforestation, climate change, habitat loss, white nose syndrome, and misguided human fear.

Bats are vital for pollinating plants and dispersing seeds for forest growth. Did you know that bats are responsible for 70 percent of the tropical fruit we eat? They also help control insect populations and consume harmful insects like mosquitoes. Even a small bat can eat more than three thousand insects in one night, so they are Earth's natural bug repellent.

Myth Busting

- Bats are often blamed for spreading disease to humans without sufficient evidence. This stokes unnecessary fear and puts bats and their safety at risk. Experts have said: "Bats don't host any more disease-causing viruses than any other group of animals (mammals and birds) of similar species diversity" (bats.org.uk).

- Trained bat handlers are vaccinated against rabies, just like a regular vet is for animals like cats and dogs, but bats contract rabies far less than other animals. "Less than one-half of one percent of all bats may contract the disease" (batworld.org).

- There is no risk of disease if you don't touch or handle a bat, which is why bats are able to live so well alongside humans.

How You Can Help Bats

- Share the truth about bats! Bats are often misunderstood, and their biggest threat is fear based on false information. Sharing the facts in this book will help others know how important bats are to all life on earth, and encourage others to save them.
- Put up a bat house with the help of an adult.
- Make your garden or local area a bat-friendly space. Let some areas grow a little wild to attract insects for the bats to eat.
- Support a bat charity.
- Join a local bat group and meet other bat fans.
- Become a bat ambassador and show your friends how incredible these creatures are!

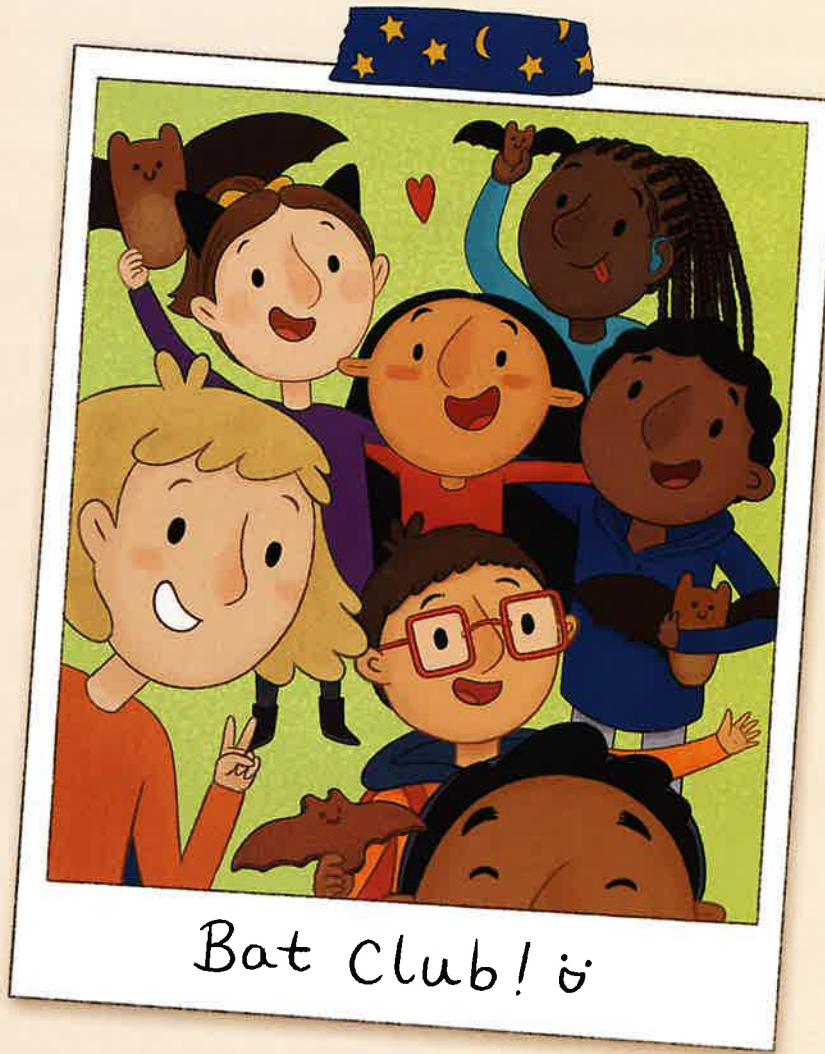
Our world is changing, and together we can create a future where all bats and humans live happily side by side.

Useful Bat Websites

batcon.org
merlintuttle.org
bats.org.uk
batworld.org

Thank you!





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She found lots of stories and videos online about kids
taking action to help animals and the planet.

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And she had an idea!



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