For Creative Minds

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Bat Facts

Bats are a type of mammal. Like other mammals, bats are vertebrate animals (have a spine or spinal column), they breathe oxygen from the air, they are warm-blooded, they have fur or hair, give birth to live young, and their young drink milk from their mothers. But bats are a special type of mammal: they are the only mammal that can fly.

Most bats, like humans, have one pup at a time. But, also like humans, they can sometimes have more.

There are 1,200 to 1,300 different species of bats. Bats make up about 20% of all the mammals in the world. There are two main types of bats.

Megabats are also called fruit bats. They live in warm, tropical climates, and usually roost in trees. They use their large eyes to find food in the dark. Megabats usually eat fruit or drink nectar from plants.

Microbats are usually smaller than megabats. They use their ears to find food. They make a high-pitched squeak as they fly. This sound bounces off objects and the bats listen to the echo to learn about their surroundings. This is called **echolocation**. Microbats live in warm and cold climates all around the world. They roost in caves, crevices, buildings, and trees. Many microbats eat insects (insectivores). They can also eat fruit, nectar, blood, and fish.

Many people think that bats are blind. Have you ever heard the phrase, “blind as a bat”? But bats can actually see very well. They just can’t see color. But that doesn’t slow them down at all. Since bats are active at night (nocturnal), they don’t miss seeing a lot of color.

There are 40 to 50 different species of bats in the United States. Before the bats were affected by white-nose syndrome, little brown bats were the most common bat in the United States. A little brown bat eats half its body-weight in insects every night!

Bat Bodies

Match the body part to its location on this little brown bat. Do you have any body parts similar to a bat's? Does a bat have any body parts that you do not?

The **forearm** is the part of the arm between the elbow and where the fingers begin.

Bats use their **ears** to listen.

The **elbow** is a joint. It connects the forearm with the upper arm.

The bony **tail** helps support the wing membrane.

Bats use their **feet** to grip things. They have five toes on each foot.

Bats use their **nose** to smell and to breathe. Some bats use their nose to echolocate!

The **shoulder** is a joint. It connects the arm with the rest of the body.

Bats have a claw on each **thumb**. They use their thumbs to climb, crawl, or fight.

Bats have a thin layer of skin (membrane) that stretches between their long fingers, arms, and legs. Bats use these **wings** to fly.

Answers: A-wings, B-feet, C-tail, D-elbow, E-thumb, F-ear, G-shoulder, H-nose, I-forearm

White-Nose Syndrome

Healthy bat

Bat with WNS

White-nose syndrome, or WNS, is a disease that affects hibernating bats. It is caused by a fungus that grows in cold, wet environments like caves, mineshafts, and rock crevices. Many bats hibernate in these places through the winter. The fungus grows on bats' noses, wings, and ears.

Bats squeeze together to stay warm when they hibernate. If one bat is sick with WNS, the fungus can spread to other bats hibernating in the same space.

When bats have WNS, they act strangely. They wake up and move around a lot, even when they should be sleeping. They move closer to the entrance of the cave or mineshaft. Sometimes bats with WNS even fly out into the cold, winter air.

Hibernating bats usually sleep through the winter. When they wake up and move around, they burn through the body fat that they had stored. This body fat was supposed to sustain them through the winter. There is nothing for the bats to eat until spring, so their bodies grow weak. This makes the bats vulnerable to other kinds of sickness as well.

When WNS is introduced to a place where bats are hibernating, it can kill as many as 90-100% of the bats. WNS has killed millions of bats since it was first discovered in New York in 2006. Since then, WNS has spread across eastern and central United States and Canada, and even to the west coast in Washington State.

You can help bats!

- Build a bat house. Look up directions online or at your library. Your bat house will provide a safe place for bats to roost or have pups in the summer.
- Participate in a Bat Count. Help scientists track the bat population in your area.
- Do not explore caves or mines where bats are hibernating. If you see bats hibernating, leave them alone.
- If you see a bat in the wild, do not try to touch it. If the bat looks sick or injured, contact a local wildlife rescue organization. Wild animals don't know that you are trying to help them, and can be dangerous if they are scared. If a bat accidentally touches you, tell your doctor.

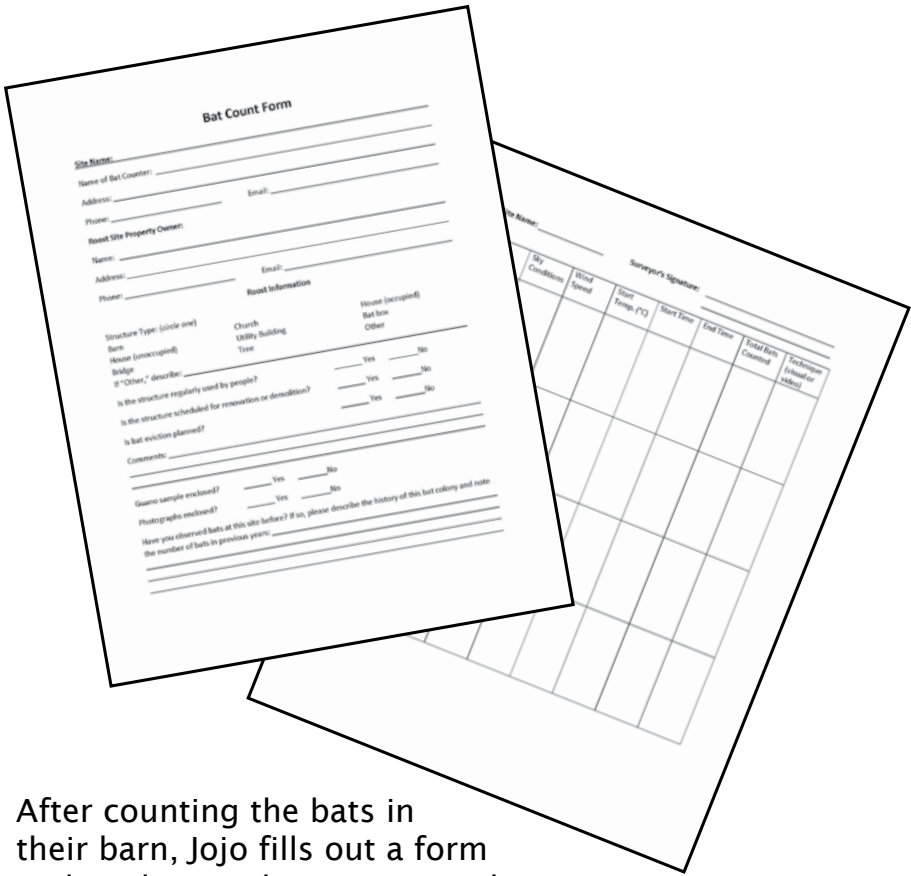
Bats affected by WNS in 2016

Citizen Science

Scientists are studying WNS, but they cannot do it all alone. They rely on **citizen scientists** to help. Citizen scientists, like Jojo and her family, are volunteers who make observations and gather data. They can help professional scientists in their research. There are many different projects, all around the world and online, where citizen scientists can help with research. *Would you like to be a citizen scientist?*

Bat counts, like other citizen science activities, are carefully planned by the scientists conducting the research. These scientists need to make sure that the data they get is usable and reliable. Often the scientists create simple forms or worksheets for citizen scientists to fill in. This makes sure that the scientists get all the information they need about the bats and where they were counted.

Many different organizations participate in bat counts. If you want to get involved in a bat count, contact your local Department of Natural Resources, Fish and Wildlife Department, Game Commission, nature center, or bat conservation organization. They can tell you more about the bats in your area and train you to participate in bat counts.



After counting the bats in their barn, Jojo fills out a form and mails it to the scientists who are studying WNS. Soon these researchers will know that Jojo's bat had twins!