Are bats related to birds?  
Bats and birds both can fly, yet they developed this ability independently. They belong to different animal classes; birds are in a class called Aves while bats are in the class Mammalia. Bats are mammals, just like humans, which means that all bats are warm-blooded, have hair, bear live young and feed their babies milk.

How do flying bats maneuver in the dark?  
All bats can see, but some use a special biosonar system called echolocation. These bats emit high-frequency calls out of their mouths or noses and then listen for echoes to bounce from the objects in front of them. They are able to form pictures in their brains by listening to reflected sounds just as we form pictures in our brains by interpreting reflected light with our eyes. In this way, bats are able to comfortably move around at night, avoiding predators, maneuvering around obstacles, locating their food and capturing insects in total darkness.

Why do bats hang upside down?  
Unlike the bodies of other animals, a bat’s body is adapted for hanging upside down. The bat’s hind limbs are rotated 180 degrees so that its knees face backwards. This rotation aids in the bat’s ability to navigate in flight and to hang by its feet. Bats actually have specialized tendons that hold their toes in place so they can to cling to their roosts without expending energy. In fact, bats must flex their muscles in order to let go of the roosting surface. These adaptations are helpful for a flying mammal, since bats only need to let go of the roost in order to drop into flight. Hanging upside down also allows bats to roost away from predators in the safety cave ceilings, in trees and buildings that few other animals can use because they have not evolved to hang upside down by their feet.

What do bats eat?  
There are over 1,250 species of bats in the world, living on every continent except Antarctica. Each species has developed special adaptations for how it lives and what it eats. For example, about 70 percent of bats eat insects, and many use echolocation to find hunt in the dark. Many insectivorous bats eat an average of half their entire body weight in insects each night, and pregnant or nursing female bats eat much more than that. They eat so much because they have high metabolisms and expend a lot of energy in flight. Frugivorous bats living in tropical climates use very good eyesight and an acute sense of smell to finding ripe fruit to eat. In deserts, there are nectar-feeding bats that use long noses and tongues to harvest nectar from flowers, as well as special enzymes for digesting the high-protein pollen that accumulates on their faces. Carnivorous bats have sharp claws and teeth for catching small vertebrates such as fish, frogs, birds or rodents. A few Latin American bats, the vampires, eat only blood.

How do vampire bats suck blood?  
Vampire bats do not actually suck blood. They lap it up like a dog drinking water from a bowl. To begin feeding, the bat first must prick the animal with its two large front teeth, often in the foot or leg of a sleeping mammal or bird. An anticoagulant in the vampire’s saliva causes the blood to flow without clotting, allowing the bat to lick up its nutritious, protein-filled diet. Vampires take only 2 tablespoons of blood while the host animal continues to sleep. There are just three species of vampire bats in the world, and they all live in Latin America. Vampire bats are gentle creatures that will adopt orphans and regurgitate and share food with other bats that could not find a meal. The anticoagulant from these bats’ saliva has been synthesized and is used in medication for human heart patients, showing that even vampire bats can be helpful to humans. When these bats feed on livestock, however, they can spread diseases and must be controlled.

How do scientists study bats?  
Just like scientists who put radio collars on wolves and dolphins, bat biologists also tag bats with tiny transmitters designed for use on bats. Once the bat has been tagged, researchers can follow it as it forages and returns to its roost. Scientists also use sophisticated night-vision equipment, similar to that used by the military, to spy on night-flying bats without disturbing them. Researchers can eavesdrop on bat echolocation calls by using “bat detectors” that pick up their high-frequency sounds and let the scientist know if bats are just passing through an area or are actively hunting insects.
How long do bats live?
The oldest bat caught in the wild was a banded Brandt’s myotis in Siberia (Russia) that was at least 44 years old at the time of recapture. To put this in perspective, a bat living longer than 30 years is equivalent to a human living longer than 100 years. Bats, for their size, are the world’s longest-lived mammals. Yet unlike other mammals of their size, bats have very low reproductive rates: females of most species produce just one pup per year.

Where do bats live?
Not all bats spend their days roosting in caves. Some roost in trees, abandoned mines, buildings, bridges – the list goes on and on. The wide variety of bat roosts reflects the amazing diversity of bat species. Bats are highly opportunistic and have adapted to their environments in creative ways in order to take advantage of the many shelters available to them. Southern yellow bats (Lasiusus ega) roost in the dead fronds of palm trees. Other bats, such as Honduran white bats (Ectophylla alba), chew through the ribs of heliconia leaves so they collapse into waterproof tents. Evening bats (Nycticeius humeralis) raise their young under the bark of trees. Some bats even take shelter in the abandoned homes of other animals. For example, the big brown bat (Eptesicus fuscus) occasionally lives inside woodpecker holes in giant cacti. In Southeast Asia, tiny club-footed bats (Tylonycteris sp.) roost inside the hollow joints of bamboo stems once occupied by beetles. In Africa, small woolly bats (Kerivoula sp.) use spider webs as roosts. Many bat populations are threatened due to loss of their specific roosting habitats. Scientists have studied the roosting requirements of a number of bat species to provide appropriate artificial homes for bats. These “bat houses” have proven to be very successful for some species, if placed in appropriate locations.

How large are bats?
The largest bat living in the United States is the greater bonneted bat (Eumops perotis), which weighs approximately two ounces. It has a wingspan of nearly two feet. Some bats in other countries are much larger. One fruit-eating flying fox (Pteropus vampyrus) has a wingspan of up to six feet. The smallest bat lives in Thailand: the bumblebee bat (Craseonycteris thonglongyai) weighs less than a penny.

What are flying foxes?
The common name “flying fox” refers to a group of bats in the Old World tropics of Australia, Africa, Asia, and the South Pacific Islands. These bats received the name because their faces resemble those of little foxes. They have large eyes because they do not use echolocation. Instead, they depend on vision and their keen sense of smell to find ripe fruit. Flying foxes contribute to their ecosystems by pollinating flowers and spreading seeds to new locations, a critical service for regenerating rainforests.

Do bats make good pets?
It is important for people to remember that bats are wild animals and should be allowed to live in their natural environments. In fact, it is illegal in many countries to have a bat as a pet. Bats that can be caught are most likely sick and should not be handled.

What is guano?
Guano is the collective term used for bat or bird droppings or feces. For many years, people all over the world have been using guano to fertilize their crops. Scientists, meanwhile, have extract enzymes from bacteria that live only in guano and used them in laundry detergents and other valuable products.