

# Bats AY Honor

## Unofficial Answer Key



### 1. Why are bats classified as mammals and not birds?

Here are some identifiers for Mammals, Birds, and Bats. After examining the list, it should be rather obvious how much more like Mammals Bats are.

#### Mammals:

- Fur
- Bear Live young (except Platypus)
- The babies nurse from their mother
- They are Warm-blooded
- Four legs often with toes and/or “hands” and “feet”

#### Bats:

- They have fur or hair.
- A baby bat is born live.
- The babies nurse from their mom.
- Bats have arms, hands and feet.
- They are warm blooded.

#### Birds:

- They are hatched from eggs.
- Birds have feathers, not fur or hair.
- Babies are fed from mom's mouth.
- They have wings, but no hands and fingers.

### 2. What is the main characteristic that separates bats from all other mammals?

Bats are the ONLY Mammal that can truly fly (others can “glide” but not fly).

### 3. What is the name of the order that bats belong to and what does it mean?

Chiroptera. In Latin, (the language scientists use when naming animals) this means "hand-wing". They got this name when scientists noticed that they fly with a modified hand. There are two sub-orders of bats: mega-Chiroptera and the micro-Chiroptera. They navigate and hunt by a system called echolocation. The bats emit sound waves that humans can not usually hear. These waves bounce off of objects and come back to the bat (echo), allowing it fly about safely and to catch insects and other prey.

### 4. What are the largest and smallest bats and where do they live?

Largest: The biggest flying mammals are the flying foxes (family Pteropodidae), particularly those living in southeast Asia. Several species have a length of 45 cm (17.7 in), a wingspan of 1.7 m (5 ft 7 in), and a weight of 1.6 kg (3.5 lb).

Smallest: The world's smallest mammal is the bumblebee bat of Thailand, weighing less than a penny.

### 5. How many different types of bats are there worldwide?

Here's some stats on different types of bats worldwide:

19 families, 187 genera, 951 bat species

### 6. Bats are divided into 2 suborders. What are their names?

There are two sub-orders of bats: mega-Chiroptera and the micro-Chiroptera.

### 7. Which suborder of bats uses echolocation and which suborder use eyesight to find their food?

Microbats use echolocation, Megabats use eyesight.

**8. What is the diet of the Megabats? 9. What is the diet of the Microbats**

The mega-bats, about 150 species, are called fruit bats because many of them eat fruit, nectar, and pollen. (They're the ones people sometimes call "flying foxes" because they have big eyes that they use for navigation and locating food. Their face also looks a lot like that of a fox. The micro-bats, about 800 species, are the insect-eating bats.

**10. How many babies does a bat have each year and what are the babies called?**

Most bats have one baby per year, though some have twins or triplets. Baby bats are called pups.

**11. Find three Bible texts that mentions bats. Which text uses bats in an end time prophecy?**

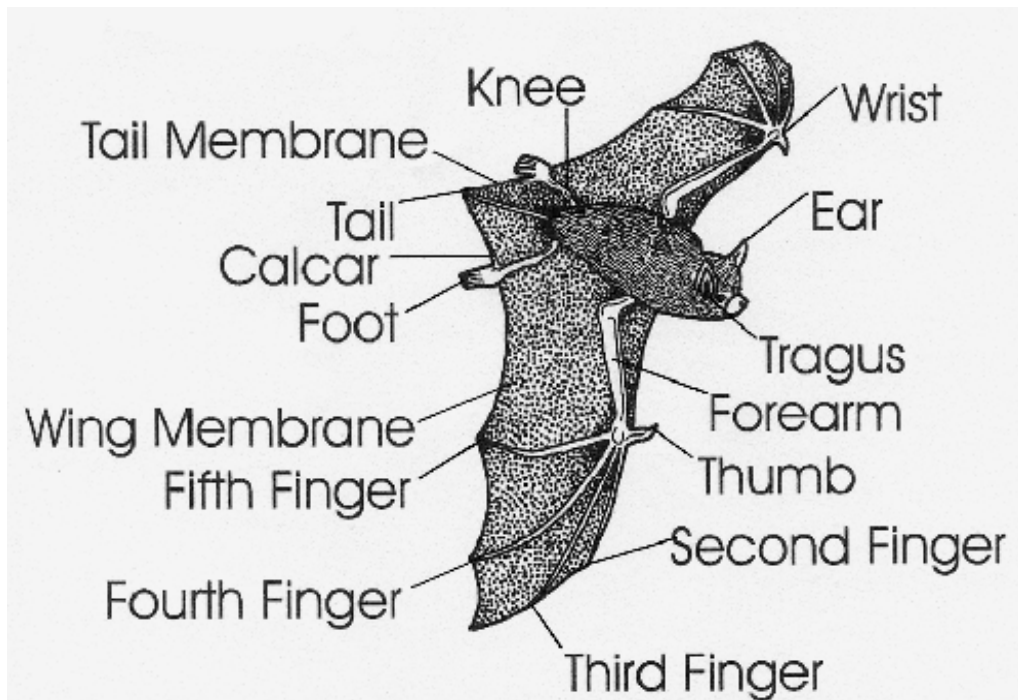
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**12. Do bats hibernate or migrate for the winter?**

During the cold winter, some bats migrate to a warmer area. Some bats (like the brown bat) hibernate during the cold of winter, sleeping very deeply until warm weather arrives.

**13. Name the parts of a bat.**

knee, tail membrane, tail, calcar, Foot, wing membrane, fingers, wrist, ear, tragus, forearm, thumb.



**14. How many insects can a microbat eat in an hour?**

A single brown bat can eat 1,200 insects per hour!

**15. What are the 2 main benefits bats provide for man?**

1. Bats serve as food plant pollinators
2. They provide an outlet for medical research. Their echolocation skills have been studied to help medical professionals help the blind.
3. A single brown bat eats 1,200 insects per hour (3,000 - 7,000 per night). Bats eat such harmful insects as lacewings, cockroaches, mosquitos, and gnats. Large colonies of bats can consume many insects that would otherwise harm farmers' agricultural crops.

**16. Build or purchase a bat box, know the best place to put it and install it at a home, church, or your school. Record for 3 months what kind and how many bats have made it their home.**

You can find online house plans to build your own bat house here:

<http://www.batcon.org/bhra/economyhouse.html>

## **Advanced Bats:**

Unofficial AY Honor Answers



### **1. Earn the bat honor.**

### **2. What are caves, attics, bridges, or tunnels where bats hibernate called?**

Roosts.

### **3. Give 3 examples of colonizing bats.**

Brazilian Free-tailed Bat; Big Brown Bat; Little Brown Bat; Rafinesque's Big-eared Bat ; Southeastern Myotis; Evening Bat; Mexican Long-nosed bat; Pallid bat; Pictures of these bats can be found at [www.enature.com](http://www.enature.com)

### **4. Give 3 examples of solitary roosting bats.**

Spotted Bat (rare); Red Bat; Silver-haired Bat; Hoary Bat; Western Red Bat.

### **5. What is meant by delayed implantation?**

The gestation periods of bats are relatively long, ranging from about 44 days to 8 months in various species. Few produce more than a single offspring each year, and the young tend to mature slowly. The reproductive cycles of most species follow general mammalian patterns, but exceptions exist. Most interesting are certain Temperate Zone species that hibernate during the winter months. Copulation occurs prior to hibernation, and sperm are retained within the females throughout the hibernation period. Fertilization occurs when the ovum is released from the ovary after the bats arouse in the spring. This is called delayed fertilization. A variant of this pattern is observed in one European genus, in which copulation, ovulation, and early development of the embryo all occur in normal sequence immediately prior to hibernation, but the embryo experiences developmental arrest before uterine attachment. It remains free and undeveloped until after the torpid mother resumes normal metabolism in spring. This is called delayed implantation.

Quoted from: The Virtual Zoo: <http://library.thinkquest.org/11922/mammals/bats.htm>

### **6. How long is the gestation period for bats?**

44 days to 8 months (see above)

### **7. What is bat guano and why was it important during the war of 1812 and the Civil War?**

Bat Guano is bat dropping (feces). Among bat colonies, thousands of pounds of guano can

accumulate. During the American War of 1812 and the American Civil War, Bat Guano was used to make gunpowder, since the primary component of guano is saltpeter—the primary ingredient in gunpowder.

More info online at: <http://www.chiropteraphilia.com/cavehistory.html>

### **8. What disease can be contracted from large quantities of guano?**

Histoplasmosis, a fungal disease that affects the respiratory systems of humans. (see online sources for more details)

### **9. What is the life-span of a bat?**

Most bats live longer than most mammals of their size. The longest known lifespan of a bat in the wild is 30 years for a little brown bat.

### **10. Do all bats have rabies?**

Many people do not like bats and are afraid of them because they think all bats have rabies. Rabies is a virus that is transmitted to animals and people through animal bites. A study by the University of Florida has shown less than one-half of 1 percent of all bats have rabies. It is more likely for a person to be bitten by an unvaccinated dog or cat.

Excerpted from [www.Pagewise.com](http://www.Pagewise.com)

### **11. How good is the vision of microbats and megabats?**

In addition to their incredible echolocation abilities, bats also process visual information -- contrary to popular belief, most bats have fairly acute vision. They use echolocation in conjunction with vision, not instead of it.

More Bat vision Information at: <http://science.howstuffworks.com/bat2.htm>

### **12. What North American bat is pictured on the honor?**

Brown Bat