

A Fantastic Flying Machine

Words you'll need to know

fantastic hard to believe; excellent

hovering hanging in the air

nectar sweet liquid in flowers

What came to your mind as you read the title, “A **Fantastic** Flying Machine”? Was it a picture of a sleek air-force fighter plane? Was it an image of a helicopter? Was it a huge jet airliner? The title could apply to any of these. There is, however, a flying machine that is more fantastic than any of these. It is a tiny creature called the hummingbird.

There are about 320 species of hummingbirds in the world today. They live in North America, South America, and the Caribbean Islands. All of them are small. The largest of the species is only 8 inches long and weighs less than an ounce. The smallest, called the bee hummingbird, is about 2 inches long and weighs only a fraction of an ounce. It—together with the pygmy shrew—is the smallest of all warm-blooded animals.

Hummingbirds are tiny but mighty. Most of their body weight is muscle and bone. They can remain in the air for hours without resting. Some species even cross the Gulf of Mexico each year on a nonstop flight. Because they are so active, they use a lot of energy. They get this energy from the **nectar** in flowers. A hummingbird has to visit about 5,000 flowers a day to meet its energy needs.

Why is the hummingbird called a fantastic flying machine? Why is it the most fantastic of all? The answer lies in its flying skills.

Hummingbirds can fly forward and backward. They can fly straight up and straight down. They can fly upside down and sideways. They can remain perfectly still in mid-air. Flying machines invented by humans can do some of these things, but none can do all of them. This little bird is in a class by itself.

The hummingbird can do things with its wings that other birds can only dream of. Most birds move their wings up and down while in flight. In contrast, the hummingbird beats its wings back and forth. Each beat of its wing forms a figure eight. The figure-eight pattern gives its flight greater stability. The hummingbird is also able to keep its wings level with the ground at all times. This holds true even when its body is pointing up, down, or upside down. It can also move its wings at a very fast rate. The wing speed of one species has been clocked at more than 80 beats per second. This rapid movement of its wings allows quick darting movements and **hovering** in midair. No other bird can perform such feats.

Without its fantastic flying ability, the hummingbird could not get the food it needs. To feed on nectar, it must poke its beak into the center of the flower while in flight. Because some flowers point downward, the humming-

bird must approach them from underneath. At the same time, it must be able to remain motionless in midair. Other birds do not have the flying skills to get food in this way.

Studying the flight of the hummingbird has helped scientists build better airplanes. But the humanmade machines are still very simple when compared with this tiny bird.

Questions and Discussion

1. Circle T if the statement is true. Circle F if the statement is false.
 - T F a. The article provides evidence that small birds fly faster than large birds.
 - T F b. The article provides evidence that hummingbirds can fly farther than other birds.
 - T F c. The article provides evidence that hummingbirds eat only nectar.
 - T F d. The article provides evidence that hummingbirds are active.

2. Hummingbirds are fantastic flyers. Find three sentences in the article to support this. Write your answer on the lines below.

a.

b.

c.

To search the Web for more information, use the following key words or phrases:

Hummingbirds