

OH, TO BE A BEE!

Presented by

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How many kids, as there were growing up, have wished that they could fly? Wouldn't it be cool to be able to fly—**without being in an airplane**?! Imagine yourself as an eagle, and being able to soar over wide-open spaces like forests or the tops of mountains. Or, imagine yourself as a hummingbird, and being able to hover in mid air like a helicopter over a flower while you drink its nectar. Or, imagine being a bumblebee.

Wait a minute! **A bumblebee?! A big, fat, hairy, bumblebee? Yes—a bumblebee!** When scientists first examined the bumblebee, they had trouble believing that the creature could even **get off the ground**, much less actually **fly**. You see, bumblebees have wings that are quite small in relation to the size of their bodies. An airplane built with the same proportions as a bumblebee would **never** be able to fly. At first glance, bumblebees do indeed seem to be a poor choice to join elegant eagles and hovering hummingbirds as wonders of the air.

But bumblebees are just that—**wonders of the air!** A bumblebee does not have fixed wings (like an airplane). Rather, its wings are more flexible, sort of like those of a helicopter. A bee's wings also can bend and twist as they flap up and down to empower its flight. A moving airfoil—like the one the bumblebee generates when its wings go up and down—produces much more lift than a rigid one. Did you know that a bumblebee can flap its wings at a rate of **130 times per second** by contracting and relaxing muscles in its abdomen? Alterations in the stroke patterns result in a variety of air-related forces. Insect wings do not flap like doors on hinges. Rather, the tip of each wing traces a thin oval at a steep angle. Also, the wings “flip” during each beat: The topside of the wing faces up during the downstroke, and down during the upstroke. As a result, air moves rapidly over the wings and lifts the tiny bumblebee into the sky. By changing the angle of its wings, the plump bumblebee can choose to hover, fly very slowly, or zoom forward at a speed of more than six miles per hour!

The elegant eagle has **nothing** on the humble bumblebee! Size isn't everything. An insect that scientists once thought **couldn't** fly, **can** fly—and very well! Did the bumblebee's incredible design “just evolve by chance”? Or, instead, is it the result of a built-in design provided by God? Do **airplanes** “just evolve by chance”? Hardly! They require a lot of intense planning and design. The bumblebee did not merely “evolve by chance” either. Genesis 1:21 tells us that on day five of Creation, God formed the creatures of the seas and those that fly in the air. Evolutionary scientists may not be able to explain how a hairy, plump bumblebee can fly. But God can! As the Bible says, “He who built all things is God” (Hebrews 3:4).

When we see the amazing things that God has created, they should remind us of God's existence and power. As the apostle Paul reminded us in Romans 1:20, "Since the creation of the world, God's invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse." From eagles to insects, God designed every one of them! Remember that, the next time you see a hairy, plump, humble bumblebee whizzing through the air around you. And remember the God who created them—and you!