mystery science

Grades K-5
Mini-Lesson: “How high can birds fly?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Esther! I love watching birds. It's so amazing how they can soar through the air, like this eagle. It's flying off the top of the Burj Khalifa, the tallest skyscraper in the world, and it's making it look so easy. In case you're wondering, the eagle didn't fly up there on its own. He was released by a trainer to promote the conservation of endangered birds. Pretty cool. Someone named Nova has a question about birds in flight. Let's give Nova a call now.

[Video Call]

- Hi, Esther.
- Hi, Nova.
- I’ve got a question for you. How high can a bird fly?
- That's a great question.

Birds fly for all sorts of reasons, but one of the main reasons is to hunt. See this hawk? It's looking for food. Though hawks like these can see amazingly well from up high, it's choosing to fly pretty close to the ground. That way, it can swoop down quickly and surprise the animals it wants to hunt. Though most birds, like hawks, are able to fly really high, it's pretty normal for them to fly low when they're hunting. And that makes sense. Their food is down there. But there are many times when a bird would want to fly high. Can you think of any? Before I go on, I'm curious. When would a bird need to fly high?

VIDEO 2

I don't know how you answered, but you may have mentioned that birds need to fly high to escape danger. And you're right. There are lots of animals like foxes and coyotes and even larger birds that wanna eat them for lunch. And flying high can keep them safe. I mean, when's the last time you saw a flying coyote? But that's not the only reason a bird might want to fly high. Each winter, certain types of birds fly thousands of miles looking for better weather or just the right place to build a nest. It's called migration, and it's definitely not easy. It can take some birds more than a month to get to where they're trying to go. Imagine having to fly for that long. I'm getting tired just thinking about it. Luckily, flying high can help with that. For one thing, it's a lot cooler up there. Just like you and me, birds get hot when they move a lot, and the cold air up high can keep them from overheating from all that flapping. Another reason birds fly high during migration is wind. Wind can blow in different directions as you go up higher and higher. For example, down low, it can be blowing this way, but way up high, it might be blowing this way. If a bird wants to fly in the direction of those winds, they'll fly way up high to get to it. That way, the wind can help push them along so they don't get as tired on the long trip. It's kind of like if a friend was pushing you on your bike so you don't have to pedal as much. Oh, and get this. Sometimes, birds can even get pushed along by air that's moving up instead of sideways. Check this out. Notice how this bird is going higher and higher without flapping its wings? High-flying birds use towers of rising warm air called thermals to get higher and higher without getting tired. It's kind of like hopping on an elevator of air. You can actually observe birds using thermals on your own. Next time you're outside on a warm day, watch for birds flying in circles with out flapping their wings. If they're getting higher and higher, they're probably circling in a thermal. Pretty cool. Because of energy-saving thermals and the power of their flapping wings,

birds can fly pretty high when they need to. And when I say high, I'm not talking about this high, or this high, or even this high. I'm talking way up there. I'm serious. Birds like Whooper Swans and even Mallard Ducks have been spotted flying over twenty thousand feet. Mountain climbers have even reported seeing migrating birds like the bar-headed geese soar over some of the tallest mountains on Earth. And believe it or not, airplane pilots have even seen birds flying way higher than that, like a type of griffon vulture that was flying at over 36,000 feet, the highest anyone's ever discovered a flying bird. Humans can't survive at altitudes like that unless they're in a warm plane. It's too cold and there's not enough air to breathe. But amazingly high-flying birds can. So, in summary, birds fly high for a lot of reasons, like to escape from predators or to get a helpful push from the wind. High-flying birds like vultures and geese have been spotted flying higher than the tallest mountains on Earth and even by pilots flying planes, like this type of griffon vulture that was reported flying at over 36,000 feet, the highest a bird has ever been observed flying. That's all for this week's question. Thanks, Nova, for asking it.