mystery science

Grades K-5
Mini-Lesson: “Why do bears hibernate?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! This looks like just a hole in a tree trunk, right? But, watch carefully. Do you see that there? Inside that tree trunk is a bear waking up from its winter hibernation. This is a video taken from cameras set up last spring by park rangers at Glacier National Park, in Montana. Now, I would have assumed that when a bear wakes up from hibernation, it just wakes up and walks off. Nope! Turns out, they're really groggy. It takes them a while to feel totally awake. You can see this one just doesn't look ready. Apparently, it can take a bear a few weeks to fully wake up from its winter hibernation. Someone named Anthony has a question about hibernation. Let's give them a call now.

[Video Call]

- Hi, Doug!

- Hi, Anthony!

- I have a question for you. Why do bears hibernate?

- Oh, that's a great question.

In books and stories, you might have heard about bears that live in cold, snowy places, sleeping through the entire winter. The idea of hibernating, it's kind of weird when you think about it. I mean, people living in cold, snowy places don't hibernate. And there are plenty of animals that are out during wintertime, too. They don't seem to hibernate. You can still see birds, sometimes

squirrels, deer. So why is that? Why do bears hibernate in the winter but these other animals don't? Before I say anything more, what ideas do you have?

VIDEO 2

Have a look at these animals that don't hibernate in winter, and pay attention to the kinds of things they eat. Like this cardinal, or this squirrel. You see that? Notice that they're eating things like seeds and nuts, either that they've stored up from earlier in the year, or that people have put in feeders for them. In wintertime, there's definitely not as much food around for these animals as there would be in summertime. But there are still enough things like seeds and nuts that are around or in the case of deer, enough twigs, stems and dried grasses for them to keep their bodies going through the winter. Now, let's have a look at bears. No, not when they're hibernating, but earlier in the year to see what they eat. Things like grass, insect larvae, mmm delicious! Fish, berries—many of the foods that bears eat aren't foods that are available anymore once it gets to be cold and snowy in wintertime. Some bears do eat acorns and hazelnuts which are available in winter but there's just not enough of these around to keep an entire bear fed through the winter. And it's not just bears that hibernate, too. Other animals that depend on foods that aren't available in wintertime also tend to hibernate. Animals like skunks—they hibernate. And groundhogs. They normally eat grass which isn't available in winter. Bats hibernate too. These are just a few examples of animals other than bears that also hibernate in winter. So, hibernation seems to be a way that some animals deal with there being not enough of their food available in the wintertime. But, how exactly does this work? Like, are animals that are hibernating really asleep all winter? I mean, it's one thing to sleep in for a couple of hours one day, but imagine to sleep for weeks or months. Don't they get hungry? Well, hibernation seems to work a little differently depending on the animal. But scientists have found

out that in general, hibernation isn't exactly the same thing as sleep. In fact, it can be helpful to think of hibernation less like sleep, and more like an animal being able to put its body on pause—like a pause button. Animals that go into hibernation in winter have bodies that are able to slow down. Their heartbeat slows down. Their breathing slows down. Their bodies wind up needing less of everything then they would normally need—less oxygen, less water, less food. How do their bodies do this? Well, so far most of this is still a mystery. We're only just beginning to figure some of it out. There's lots we don't yet understand. But keep in mind, even though a bear hibernating is a bit like putting its body on pause, it doesn't mean a bear's body stops completely. Its body still has needs. It may not need to eat while it hibernates, but its body still uses nutrients stored up from before it went into hibernation. Scientists think this is probably why bears eat as much as they can and get so big in late summer and fall before winter comes. A lot of scientists find the idea of hibernation super interesting and important, not just because it's fun to know, but because think about it—just imagine if we could figure out how to put our own bodies on pause. That would give us the ability to pause someone who's sick or injured and get them to the doctor in time. Or maybe even the ability to one day pause ourselves, wait a few hundred years and get un-paused, having traveled through time.

So, in summary, bears hibernate as a way to deal with not having enough food in winter. Hibernation looks like sleeping, but in some ways, it's more like an animal being able to put its body on pause.

That's all for this week's question. Thanks, Anthony, for asking it.