mystery science

Grades K-5
Mini-Lesson: “How can you tell if a mushroom is poisonous?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! Have you ever found a mushroom growing in the wild? Well, this guy, in the country of Zambia, found what might be one of the biggest mushrooms in the world. And best of all, it's one that's not poisonous. He could eat it.

Someone named Isaiah has a question about mushrooms. Let's give him a call now.

[Video Call]
- Hi, Doug!
- Hey, Isaiah!
- I have a question for you. How do you know if a mushroom is poisonous or not?
- Ooh, that is a great question.

Mushrooms aren't just something you can find at the grocery store. They grow in the wild, too. And if you pay attention to the world around you, sometimes you can find some really interesting ones.

Like, one time, I remember walking out into the yard behind my house. I was going to mow the grass like I did every week when suddenly, I noticed something that looked just like this—it was one of the weirdest mushrooms I've ever seen. You can see, it's not a single mushroom at all.

It's an entire ring of mushrooms. There were dozens of them. This ring of mushrooms had popped up overnight in my backyard. It was so interesting that I couldn't bring myself to mow it down. I let the grass stay long that week.

I learned it's what's called a fairy ring. In ancient times, some people believed that this ring of mushrooms marked the spot where a fairy had been dancing in the night. Today, scientists have a different reason for thinking why they grow like this. We know it has to do with a circle-shaped pattern of the part of these mushrooms growing under the ground. But I love that we still call them fairy rings.

Or, here's another one of my favorites. I remember in about 5th grade, I was walking along the edge of a field behind my school when I saw what looked like this weird, deflated soccer ball sitting there in the grass. When I went to kick it, it gave off like a cloud of smoke, or so I thought.

I found out later that this deflated soccer ball thing was actually a type of mushroom called a puffball. And by the way, that cloud of smoke was actually millions of microscopic particles called spores. They're the seeds of the mushrooms. By kicking a puffball, you're actually helping it to spread its seeds into the wind.

Fairy rings and puffballs are just two fun examples of interesting mushrooms you can find growing in the wild. But are these mushrooms you could eat? You might've heard that certain wild mushrooms are poisonous, even deadly. Is it true? And if it is, is there any way you can tell? What do you think?

VIDEO 2

Well, I wish I could tell you there was an easy way to tell whether a mushroom is poisonous or not. Like if only the poisonous mushrooms were always a certain color, or if they always had a certain shape or something. Unfortunately, it doesn't work like that at all.

In fact, one of the deadliest mushrooms in North America looks like this. By comparison, here's the kind of mushroom that we put on pizza. You can hardly tell these apart. The mushroom on the left is called a destroying angel. A single bite of a destroying angel is enough to kill a human being.

But now, check this out. Here's a mushroom that looks really weird. You might think, oh, this one's got to be poisonous. But guess what? This one is called a morel. And not only is it not poisonous, lots of people consider it to be one of the best-tasting mushrooms in the world. One pound of these mushrooms sells for as much as $40 or $50 dollars.

But even morel mushrooms aren't always easy to tell from poisonous ones. You see this one here? It looks like a morel, but it's not quite the same. It's what's called a false morel, or a brain mushroom. And it will make you really sick if you eat one.

So, how can anyone ever tell a poisonous mushroom from the kinds of mushrooms that we can eat? The answer—you have to become a mushroom expert.

Mushroom experts are people who get really good at identifying mushrooms, knowing what each of the different kinds of mushrooms looks like. They learn that each kind of mushroom has its own special traits, which can help tell it apart from other mushrooms.

For example, there are a few mushrooms that actually turn blue when you cut them. Isn't that weird? Some of these are poisonous and will make you sick. Others are safe to eat. So, knowing if it turns blue isn't enough. But using this trait helps a mushroom expert narrow down the list of possible kinds of mushrooms it might be.

Or here's another amazing trait—there are some mushrooms that actually glow in the dark. Here, in North America, where I live, one of the more common ones is this, called the jack o' lantern. Jack o' lantern mushrooms are poisonous. So the fact that it glows in the dark can help a mushroom expert know what it is.

Or check out this kind of mushroom. It's called chicken of the woods. These are always bright yellow-orange, and they grow in this unusual clump of one on top of another. Chicken of the woods is a good example of a wild mushroom that's not poisonous. And it doesn't have any poisonous lookalikes. But some people do get sick if they eat it raw. So mushroom collectors always cook it really well before eating.

As for that funny-sounding name, that's because they say once you do cook it, it tastes like chicken.

So, in summary, there's no one way to tell whether a mushroom is poisonous or not. There are thousands of different kinds of mushrooms. So if you want to eat a wild mushroom, you need to get the help of a mushroom expert. But if you're interested, you can learn to become one. There are mushroom-hunting clubs where you can meet some of these experts, and lots of books about all the different kinds of mushrooms.

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