mystery science

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

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# VIDEO TRANSCRIPT

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## VIDEO 1

**[Video Call]**

- Hi, Doug!

- Hi, Landhon!

- I have a question for you. How can you tell if a plant is poisonous?

- That's a great question.

There's probably lots of food from plants that you love to eat. Maybe you like strawberries or carrots or raspberries. You might have heard that some plants out there are really poisonous. Here's a great example. It's called the manchineel. This plant is considered to be one of the world's most dangerous trees. If you barely touch it or even stand under it to keep dry from the rain, the sap from this tree can burn your hands and give you huge blisters. Even using its wood in a campfire isn't safe because the smoke can make you go blind. In the country of England, some people have put together a collection of some of the most poisonous plants in the world. It's called The Poison Garden. You can visit there, but be careful not to touch or smell any of the flowers. That's because they're all poisonous, so poisonous that some visitors have actually fainted. They didn't follow the no-smelling, no-touching rules. Seriously. Now, these are really extreme examples. To be honest, there's probably nothing that poisonous near where you live.

Still, there might be some poisonous plants. Do you know of any plants near you that might be poisonous?

## VIDEO 2

Well, here's one you might've thought of. This plant called poison ivy. Or maybe this one called poison oak. If you accidentally touch the leaves of either of these plants, you'll probably get a terribly itchy rash. That's because each of these plants are covered in a poisonous oil that they make. Now, after thinking about all of these poisonous or dangerous plants, it could be tempting to think that all plants growing in the wild are dangerous—that it would be best to just stay super far away from them. But nothing could be further from the truth. The world is full of incredible, safe, and delicious plants, plants in the wild that we can eat. Like these kids are picking berries in the country of Sweden. The forests in Sweden are full of amazing berries with names like cloudberries, lingonberries, and blueberries. And Sweden takes its berry picking so seriously, there's even a law in Sweden that lets you pick berries wherever you want, even if it's on someone else's land. But what if you accidentally pick a poisonous berry and you got sick? That's why this question is so important. How can you tell if a plant is poisonous? When it comes to plants like poison ivy or poison oak, you may have heard this rule: Leaves of three, let it be. If you haven't, that's a good rule to know. The first part of that rule, the leaves of three part, is actually telling you to notice a pattern in the leaves. You see, poison ivy and poison oak leaves both grow in patterns of three. Look closely, see how there are three leaves coming out of the same stem. So by learning this pattern, you can know to stay away from them. Learning patterns doesn't just help with the poisonous plants either. It's what also helps you figure out which plants you can eat. Like, check out this plant. If you've ever eaten a candy cane or tasted

mint gum, you already know what this plant tastes like. It's called a peppermint plant. And it's where we get the flavoring for a lot of mint-flavored things. Do you notice the stem? It's got a square shape, not a round shape like most other plants. That's because peppermint is part of the mint family, and almost all of the members of the mint family have square-shaped stems. The cool thing about plants in the mint family, plants like peppermint, basil, and oregano, is that almost none of them are poisonous. So knowing this pattern about the square-shaped stems can help you tell which plants are safe to eat. But the problem is no one pattern is perfect. For example, if you only follow the leaves of three pattern to stay away from poison ivy, you're going to miss out on some awesome fruits like strawberries and raspberries. They also have three leaves on each stem. Ah, so if no one pattern is perfect, how do you get really good at knowing which plants are poisonous? Well, there's only one way. You just learn more and more patterns to look for. Take a look at this raspberry plant. It can have the same three-leaf pattern that poison ivy and poison oak have. But knowing more patterns can help you tell the difference. See how the raspberry plant has tiny thorns on its stem? A poison ivy plant will never have a thorny stem. Also, notice how the raspberry leaves are more sharp and pointy around the edges. A poison ivy leaf is smoother and more rounded looking. So in summary, you can learn to tell poisonous plants from non-poisonous ones by learning different patterns. No one pattern can tell you whether a plant is poisonous or not. You'll want to learn lots of patterns. But you can do that by getting the help of a plant expert who can teach you. Chances are there are local groups of experts in your area who go looking for wild plants they can eat, called foraging groups, where you can get to meet some of these plant experts and start learning the patterns. There are also some great books on this you can buy or check out from the library. That's all for this week's question. Thanks, Landhon, for asking it!