mystery science

Grades K-5
Mini-Lesson: “Is a tomato a fruit or a vegetable?”

VIDEO TRANSCRIPT

VIDEO 1

Hey, it's Jay, and this is my mango tree. It's still small, but someday going to grow my absolute favorite fruit—mangos! Someone named Mary Ann is curious about fruits and vegetables. Let's give Mary Ann a call now.

[Video Call]

- Hi, Jay!

- Hi, Marianne!

- I have a question for you. Is a tomato a fruit or a vegetable?

- That's a great question.

Think for a moment about all the fruits and vegetables you've tried. There are so many kinds. And they can look and taste really different, but all that variety often gets put into two big groups, fruits, and vegetables. I'm guessing you can already think of examples for the fruit group, like maybe apples or my favorite, mangoes. You probably have ideas for the vegetable group too, like broccoli or spinach, and maybe you already know which group you'd put tomatoes in. But why is that? We say fruit and vegetable a lot. But what exactly do those words mean? If we want to figure out which one a tomato is, it would be helpful to know what makes fruits and

vegetables different. What do you think? What makes something a fruit? And what makes something a vegetable?

VIDEO 2

I'm not sure how you answered, but maybe you thought about how fruits and vegetables taste. You may have said that most fruits taste sweeter and juicier. And vegetables, they're tasty too, but usually not as sweet and juicy. At the grocery store, fruits and vegetables do seem to be grouped by how they taste and how people use them as food. Sweeter fruits are over here, and not-so-sweet vegetables are over there. And usually, tomatoes are here with the not-so-sweet vegetables. So a tomato is a vegetable. Right? Well, hold on a minute. Let's say that instead of how they taste, you want to know how fruits and vegetables grow. Something these fruits and vegetables have in common is they all come from plants. Plants like my mango tree. Except mine still doesn't grow any mangoes. My neighbors, though, grows lots. I wanted to know if there was something different about their mango tree. That's when I noticed their tree had all these little flowers. My mango tree doesn't make flowers yet. Could that have something to do with it? I kept checking, and over time, those flowers started to change. See how the center is getting bigger and rounder? Well, they got bigger and rounder and riper until I realized, hey, those are mangoes. So mangoes start out as flowers. In fact, most plants with flowers do something similar. When conditions are right, parts inside the flowers change and ripen and make fruits. There's a lot more to the science, but basically, when you're talking about how plants grow, a fruit means something that forms from a specific part of a flower. So if fruits come from flowers, what about vegetables? Well, some things we call vegetables come from other parts of plants. Like spinach, those are the leaves of this plant. And carrots are this plant's extra plump roots. To know what a tomato is, we need to know if it comes from a flower, like a fruit, or

if it comes from some other part of a plant like a vegetable. See if you can spot how tomatoes grow in this sped-up video. This plant's yellow flowers are starting to change. Look familiar? Yep, that's a tomato! So tomatoes start out as flowers. Just like mangoes, apples, and watermelons. And if it started as a flower, that means tomato is a fruit. If that seems unbelievable, let me show you something else tomatoes have in common with many other fruits. Check it out. They have seeds. When the flower changes from a fruit, it's usually making seeds as well. And those seeds become part of the fruit. The seeds inside a tomato show that it's a fruit. And notice the seeds in this pepper this avocado and this pumpkin. That means they also started as flowers and ripened into fruits. These are fruits too. But wait, all of these are usually in the not-so-sweet vegetable part of the grocery store. So what are they? Is a tomato a fruit or a vegetable? I'd say it's both. A tomato is a fruit and a vegetable. What you call it really depends on what information you want to share. When you're talking about how plants grow, fruit is a helpful word that tells us what part of a plant something comes from. Fruit tells us tomatoes form from a specific part of a flower, but fruit doesn't tell us how tomatoes taste. If you're talking about food, then it's helpful to call tomatoes a vegetable. I mean, you could try to order fruit, leaf, and root soup. But it's probably clear to say vegetable soup instead. So in summary, when you're talking about how plants grow, tomatoes are a fruit. But if you're talking about flavors and food, it makes sense to call them vegetables. Now that you know fruits come from flowers, and usually contain seeds, keep an eye out for seeds in other vegetables. If you spot some, you've probably found another veggie that's also a fruit. And if it doesn't have seeds, see if you can figure out what other part of a plant it comes from—a leaf, a root, or maybe something else. That's all for this week's question. Thanks, Mary Ann, for asking it!