mystery science

Grades K-5
Mini-Lesson: “How do flowers bloom in the spring?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! Flowers are known for being pretty, but when I think about them, I also like to think about the extremes. Like, what are the biggest flowers in the world? Well, one of them is this. It's called the Rafflesia flower, and it's found in southeast Asia. You can see it's absolutely huge.

Someone named Yahya has another question about flowers. Let's give him a call now.

[Video Call]
- Hi, Doug!
- Hi, Yahya!
- I have a question for you. How do flowers bloom in the spring?
- That's a great question.

In early springtime, you might have noticed green leaves or stems start growing, little by little, each day. But the amazing thing about flowers is that it's like one day, poof! Almost like magic, it's not just leaves and a stem anymore, but a flower pops open on top. And notice, it's not just small plants either. Many trees have flowers that bloom in springtime too. How do plants do this? I think one thing that makes this question especially interesting is that plants aren't exactly famous for moving or doing anything exciting that catches our attention, the way animals do. Animals have muscles, and muscles are what enable animals to move around all over the

place. In fact, we even use part of the word animal in words like animate or animation, words that involve movement. But plants really do move, as you can see when you watch them in a sped-up video. They not only open up their flower petals, they twist and reach for the Sun. Some plants even capture bugs, like this Venus flytrap, and yet, unlike animals, plants have no muscles. If plants don't have muscles, then how do they move? How do plants do things like make flowers pop open in springtime?

VIDEO 2

One important clue is to notice what else is happening in springtime when most flowers bloom. Springtime might make you think of sunlight and warmth, and plants do need sunlight. But there's something else that happens with the weather in spring, and that's this—lots of rain. It's usually after springtime rains that we see so many flowers start blooming. You probably know that plants soak up water from their roots. Like all living things, plants need that water to live and grow, but could it be that plants also use water in order to move? It's maybe a little weird to think of water as something that can cause movement, but forget plants for a minute. Think of a familiar situation like this. When this paper towel gets dipped into a cup of water, notice how the water moves up the paper towel. Or in this video, someone has put food coloring in water, and just by dipping a paper towel in each cup, the water slowly moves from cup to cup. Water has some surprising properties. It can move up surfaces like a paper towel. Or, as you might have seen if you've ever played with little toy sponge capsules like these, water even has the power to make certain things expand or swell. One way to see for yourself the power of water in plants is to notice what happens when you water a plant that's been really dry. In this sped-up video, you can see how the plant stems were drooping down, but after the plant gets watered, the stems stand up straight again. So even though plants don't have muscles, plants can soak up

water from the ground. Then use some of these surprising properties of water to make some of their parts move.

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