mystery science

Grades K-5
Mini-Lesson: “Why do we sweat when we play sports?”

VIDEO TRANSCRIPT

Hi, it's Doug! Have you ever seen a dog pant like this when it's hot outside or when they've been running around? Well, you might've heard that dogs pant like this because they can't sweat. I did some research and found out that that's partly true. Dogs can sweat, but only on their paws.

Someone named Aditya has a question about sweating. Let's give him a call now.

[Video Call]
- Hi, Doug!
- Hi, Aditya!
- I have a question for you. Why do we sweat when we play sports?
- That's a great question.

You might've heard before that sweating helps cool you off, but does it really? When you're running around and playing sports and you get sweaty, do you really cool down? Sometimes it seems like all sweating does is make you feel all sticky and gross. Plus, sweating can make you smell bad. If sweating is so uncomfortable, why do our bodies do it? Why do you think we sweat?

Now would be a good time to pause the video and discuss.

Okay. You ready?

People say that sweating is good because it cools us down, but we don't have to take their word for it. We can figure out whether sweating really works by seeing what happens if people don't sweat. There are some people who naturally don't sweat. Their bodies actually can't sweat.

Now, that might sound pretty great but listen to this man, who can't sweat, describe what his life is like.

[Video Clip]

- I cannot cool down when I get hot. My sweat glands are not being activated. My temperature doesn't go up, I don't get a fever, but my body core is just raging hot. It's painful. It feels like I'm cooking from the inside out.

That's a really serious problem. Your body needs to be at a certain temperature. If it gets too hot or overheats, you can start feeling really sick, having muscle cramps, or maybe even passing out. Normally, as soon as your body starts to get too hot, it sends signals to your skin to release sweat to cool you down. But for someone like this man, who can't sweat, that never happens. He can't cool down naturally, so it can be dangerous for him to do things like exercise or even go outside on a hot day.

This dad has a son who can't sweat.

[Video Clip]

- He just gets too warm, and he starts to get tingling sensations in his limbs, and then it just kind of spreads from there.

He uses water misters and ice to stay cool, but when his son gets too hot, he has to jump in the pool or even pour water on himself. For people who can sweat, it's like your body has a natural way of pouring water on itself by sweating. In fact, sweat mostly is water.

So, in summary, sweating may be kind of gross, but it's also really important. It's one way our bodies stay at the right temperature. People who can't sweat have to come up with other ways to cool themselves off or else they may be in danger of overheating.

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