mystery science

Grades K-5
Mini-Lesson: “Is the five-second rule true?”

VIDEO TRANSCRIPT

VIDEO 1

Hey, it's Esther! So the other day, I was at a party with the most amazing dessert. It was key lime pie with loads of whipped cream. But when I went to take my first bite, splat, it slid off my plate. Has that ever happened to you? Someone named Zyabella has a question about accidents like this. Let's give Zyabella a call now.

[Video Call]

- Hi, Esther.
- Hey, Zyabella.
- I have a question for you. Is the five-second rule true?
- That's a great question.

In that sad moment when your food hits the ground, maybe you've heard some helpful person say, hey, five-second rule. And what they mean is, hey, if you pick that up fast enough, it's still okay to eat. Basically, the rule claims that you have five seconds to rescue your food. But maybe you've heard the opposite. Someone says, throw that away. It touched the ground. Gross. But the food might seem okay. So what's the big deal? Maybe it depends on the situation. Imagine all the different foods you could drop and all the different places they could land. Would that food still be okay to eat if you picked it up before five seconds passed? I'm curious. What do you think?

VIDEO 2

If your ice cream goes splat on the sidewalk, picking it up in five seconds won't change the fact that it's coated with dirt and rocks. No five-second rule here. Sorry. But let's say you're at home and a pretzel bounces off the kitchen floor. It looks okay. No signs of dirt or dust, and the floor seems clean. Could the five-second rule be true in this case? Some scientists were curious about this too. Like you, they thought about possible situations, then chose four foods to test and four surfaces to drop them on. They tested each combination of food and surface dozens of times. And after each test, they examined what stuck to the foods after it fell. They weren't looking for bits of dirt or fuzz though. Instead, they checked for something even smaller, germs. Even when a floor seems clean, there are still things that we can't see with just our eyes. Under a microscope, there are bits of gunk and grime where germy things live. That might sound gross, but a big thing to remember is that we live in a germy world.

Germs are everywhere. From the north pole to the deepest ocean to your kitchen floor.

From time to time, we all come in contact with germs that cause colds, upset stomachs, and other illnesses. And we do our best not to spread those germs. To help you and other people stay well. But the good news is that many germs don't bother us. They just hang around all the time. Okay. So we know there are germs on the ground. The scientists wanted to know if those germs would stick to different foods and how fast Well, here's what they discovered.

All of the dropped foods picked up germs from all the surfaces. Yep. All of them. And the longer the food sat, the more germs they picked up. So time does make a difference. But it turns out five seconds is way too slow in a race against germs. Even one second is too slow. Scientists found that germs get on food almost instantly the moment it touches the ground. So if your food falls on the ground, picking it up within five seconds doesn't mean it's free from germs. Even

when a floor looks clean, germs and tiny bits of grime and gunk are there. And you can assume that some of them are now on your food. But you might still be wondering if it's okay to eat. When food falls, we know it will pick up germs, but we don't know what kind of germs. They might be no big deal germs. Or they could be upset stomach germs. For that reason, some scientists say it's best to throw away food that falls. Just in case it picked up the kind of germs that could make you sick. But others point out that we already live in a germy world. Even though a dropped pretzel picks up some germs, lots of people still scoop them up, brush them off and eat them, and they're totally fine. Personally, if I drop food on the sidewalk or the floor of a bus, it's going in the trash. Some surfaces are just grimier and dirtier than others. And even on my kitchen floor, if a piece of pie with gooey whipped cream falls, sadly, that's going in the trash too. But an uncut apple or an unopened banana, I pick that up and rinse it off and enjoy my snack. While we've been focused on the ground, it's good to remember that there are much germier things that touch our food even when we don't drop it, like our hands. When we touch things around us, we pick up germs, then pass germs onto our food and into our bodies. But by washing your hands for at least twenty seconds with soap and water, you can get rid of harmful germs that might make you sick. And avoid passing them on. When it comes to food and germs, washing your hands before you eat is probably a bigger deal than how long something touched the ground. So instead of the five second rule, focus on the twenty second rule. Don't forget to wash your hands. That's all for this week's question. Thanks, Zyabella.