mystery science

Grades K-5
Mini-Lesson: “What’s worse: a hurricane or a tornado?”

VIDEO TRANSCRIPT

Hi, it's Doug! I recently had a chance to step inside this thing called a hurricane simulator. It's a machine that creates winds up to 80 miles an hour, just like in a real hurricane. Now, unlike a real hurricane, there's no danger involved, so standing in this thing was actually kind of fun. I definitely would not want to experience a hurricane in real life.

Someone named Mira has a question about hurricanes. Let's give her a call now.

[Video Call]
- Hi, Mira!
- Hi, Doug!
- I have a question for you. What's worse, a hurricane or a tornado?
- That's a great question.

Before I say anything, stop and think about this. Which one do you think is worse, a hurricane or a tornado?

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

Okay. You ready?

When I first thought about this question, I thought for sure a hurricane has to be worse. In a previous episode about hurricanes, I showed you how a hurricane is a huge storm, sometimes bigger than an entire state. We also saw just how strong a hurricane's winds are—strong

enough to knock down power lines, break windows, even rip the roofs off of houses. Look at that.

And that's not all hurricanes do either. Hurricanes cause flooding, both because of heavy rain, and their strong winds push ocean waves far up onto the shore. But are hurricanes worse than tornadoes?

To figure out the answer, we have to look to meteorologists, those are scientists who study the weather. They've thought about this question a lot, and they've noticed that tornadoes and hurricanes are both really bad storms, each in their own ways. To say which one is worse depends on what you mean by worse.

For example, if by worse you mean, which one has stronger winds? Well, you might think hurricanes have stronger winds since hurricanes are bigger storms. Meteorologists measure the wind speed of both of these, and they've discovered that hurricane winds can reach as high as 150 miles an hour.

But here's what's surprising. Even the smallest tornadoes like this one have incredible winds, sometimes winds that blow over 350 miles an hour. That's way stronger. So when it comes to the strength of their winds, tornadoes are actually worse than hurricanes.

But strong winds aren't the only way to consider what's worse. What about how much harm they do? Sadly, both hurricanes and tornadoes harm people every year. But by keeping track of the numbers, meteorologists have discovered that tornadoes cause more deaths than hurricanes.

Partly, that's because tornadoes happen so much more often than hurricanes do. By checking meteorologist websites, we can find out that there are over 1,000 tornadoes every year. But each year, only about 10 hurricanes happen.

There's another reason why tornadoes might harm more people. And that's because tornadoes are hard to predict. They happen so suddenly that people don't always have time to get out of the way. So tornadoes have stronger winds and they do more harm to people than hurricanes do.

So far, it's sounding like tornadoes are worse than hurricanes. But there's still one way that hurricanes could be considered worse than tornadoes. We have to think about what happens after a hurricane or a tornado, when people come back and find their cars, their homes—sometimes almost everything they own—just gone.

That's when they have to clean up the mess and start rebuilding. Sometimes people even have to rebuild entire cities. All of that is the damage caused by a hurricane or tornado. Because hurricanes are so much bigger in size than tornadoes, they wind up doing more damage to homes and buildings.

In fact, it costs more money to fix the damage from one hurricane than it does to fix the damage from all the tornadoes in an entire year.

So in summary, hurricanes and tornadoes are both storms you wouldn't want to mess with. Hurricanes are larger, so they cause more damage to people's homes and buildings. But tornadoes have stronger winds and they harm more people. Which is worse? The answer really depends on which of these different things you consider.

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