

Spinning Storms

This article is provided courtesy of the American Museum of Natural History.

On a spring night in 2007, disaster struck a small town in Kansas called Greensburg. Shortly before 10 p.m., a siren went off. A mile-wide tornado was approaching Greensburg. Its winds were estimated to be more than 200 miles per hour. In less than ten minutes, the town was destroyed. Ten people lost their lives.

When the storm had passed, people climbed out from their storm cellars through the rubble. Cars and trucks had been thrown about. Homes were crushed, or simply ripped from the ground. "I'm in downtown Greensburg. There's really nothing left," said one resident.



Credit: FEMA Photo by Michael Raphael

The tornado destroyed much of the town. Many residents needed temporary housing.

How do tornadoes form?

A tornado is a swirling, funnel-shaped column of wind. It starts with a thunderstorm. Thunderclouds form when warm, wet air collides with cool, dry air. Then, strong winds form a wide tube of spinning air. When the tube touches the ground, it becomes a tornado.



Credit: NOAA

A tornado is a swirling, funnel-shaped column of wind. It starts with a thunderstorm. Thunderclouds form when warm, wet air collides with cool, dry air. Then, strong winds form a wide tube of spinning air. When the tube touches the ground, it becomes a tornado.



Credit: The Field Museum

The 200-plus-mph winds of a tornado can bend a stop sign.

Kansans are used to tornadoes. The people of Greensburg live smack in the middle of “Tornado Alley.” It is an area that spans eight states in the central United States. This region has just what tornadoes need to get started: cool, dry air from the Arctic mixing with warm, humid air from the Gulf of Mexico. There is a lot of wide open space, called the Great Plains, for tornadoes to form. These conditions give rise to more than 600 tornadoes, on average, in “Tornado Alley” every year.



Credit: The Field Museum

Most tornadoes in the world take place in “Tornado Alley.”

How do scientists predict dangerous storms?

Meteorologists are scientists who study and forecast weather. They use a technology called radar to track storms, including tornadoes. Radar gives them information about how far away the tornado is and how fast it is moving. Although tornadoes have fast swirling winds, tornadoes themselves move relatively slowly (18 to 30 miles per hour). So their paths can be predicted with reasonable confidence. A system of tornado watches and warnings is used to alert the public to danger. A tornado “watch” means thunderstorm conditions exist that could set off a tornado. A “warning” means a tornado has touched down and been spotted.

This system saved many lives in Greensburg. After the tornado sirens shrieked, people had 20 minutes to escape to their basements and storm shelters before the tornado destroyed their town.

Name: _____ Date: _____

1. What happened to the town of Greensburg in 2007?

- A It was destroyed by a fire.
- B It was destroyed by a tornado.
- C It was destroyed by an earthquake.

2. What does this article explain?

- A how to become a scientist who studies weather
- B how the town of Greensburg was rebuilt
- C how tornadoes form

3. Studying weather can help save lives.

What information in the article supports this statement?

- A Scientists who study weather are able to gather information about tornadoes. This information can then be used to warn people of danger.
- B A tornado hit the town of Greensburg, Kansas on a night in 2007. The tornado threw cars and trucks around. It pulled some homes out of the ground. After 10 minutes, it had destroyed the town.
- C Some scientists study and predict weather. They use radar to help them. Radar gives scientists information about how far away a storm is and how fast it is moving.

4. Based on the information in the article, what is a safe place to go during a tornado?

- A a basement or cellar
- B the backseat of a car
- C a wide, open space outdoors

5. What is the main idea of this article?

- A Scientists who study weather use radar to help them predict storms.
- B Tornadoes are spinning thunderstorms that can be very dangerous.
- C Tornado sirens warned people in Greensburg about the tornado before it arrived.

6. Read the first two sentences of the article: "On a spring night in 2007, disaster struck a small town in Kansas called Greensburg. Shortly before 10 p.m., a siren went off."

Why might the author not tell readers what the "disaster" was at the very beginning of the article?

- A to make readers want to keep reading and find out
- B to explain to readers how a tornado is formed
- C to let readers know how important it is to be prepared for a tornado

7. Select the word that best completes the sentence.

Sirens went off in Greensburg, _____ the people there knew a tornado was coming.

- A but
- B because
- C so

8. What is a tornado?

9. Describe how a tornado forms. Support your answer with information from the article.

10. Describe what the weather was probably like around Greensburg when the tornado formed. Be sure to mention what kinds of air may have been present. Support your answer with information from the article.
