

Tornado

STEM Sims

Lesson 3: Is Wider Better?

Tornadoes come in a variety of sizes and shapes. Some tornado funnels are narrow and tall, while others are wide and short. Does the shape of the funnel affect the amount of damage a tornado creates?

Doing the Science

1. Start the Tornado Simulation by clicking on the “Sim” tab.
2. Make sure the Funnel Width is set on “1-Narrow.” Leave the Pressure on “1,000 millibars” and the Temperature Difference on “0°C” for this entire lesson.
3. Click the “Run Simulation” button.
4. Note and record in Table 1 the Wind Speed and Damage Rating.
5. Click the “Reset Simulation” button. Change the Funnel Width to “2” and rerun the experiment repeating steps 3 – 4.
6. Continue collecting data for Funnel Widths of 3, 4, and 5-Wide. Make sure to keep Pressure and Temperature Difference constant.

Table 1.

Funnel Width	Wind Speed (mph)	Damage Rating
1-Narrow		
2		
3		
4		
5-Wide		

Do You Understand?

1. How are funnel width and the wind speed associated with a tornado related?

2. How does the width of the funnel impact the damage caused by a tornado?

3. What factors most affect the wind speed of a tornado and the damage caused by a tornado?