



Tornado

STEM Sims

Lesson 1: Under Pressure

Tornadoes annually cause hundreds of millions of dollars of damage in the United States. Atmospheric scientists often collect pressure data associated with tornadoes. How do you think atmospheric pressure affects the severity of a tornado?

Doing the Science

1. Start the Tornado Simulation by clicking on the “Sim” tab.
2. Make sure the Pressure is set on 750 millibars. Leave the Temperature Difference on “0°C” and the Funnel Width on “Narrow” 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 Pressure to 800 millibars and rerun the experiment repeating steps 3 – 4.
6. Continue collecting data for pressures of 850, 900, 950, and 1,000 millibars. Make sure to keep Temperature Difference and Funnel Width constant.

Table 1.

Pressure (millibars)	Wind Speed (mph)	Damage Rating
750		
800		
850		
900		
950		
1,000		

Do You Understand?

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

2. How does pressure impact the damage caused by a tornado?