

Tornado Safety

Program Name The Miami Valley Literacy Council

Staff Responsible for Lesson Katie Kersh

Date(s) Used	05/20/2010
Civics Category	II. Civic Participation
Civics Objective	#16: Community Resources—Security
Time Frame to Complete Lesson	1 hour
EFL(s)	NRS 3-6
Standard(s)/Components of Performance	Listen actively Speak so others can understand Read with understanding
Benchmark(s)	Speaking: 2.1, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.5 Listening: 2.1, 2.3, 2.4, 2.5, 3.1, 3.4, 3.5 Reading: 3.1, 3.3, 3.5, 3.6
Materials	www.enchantedlearning.com (for tornado safety tips and tornado comprehension quiz), tornado videos available on www.youtube.com or www.nationalgeographic.com ,
Activities	Introduce students to tornado and hurricane weather, formation and safety through videos from either YouTube or National Geographic's website Review vocabulary pertaining to severe weather with students and complete the activities from www.enchantedlearning.com Teachers discussed proper safety procedures in severe weather: how to look for warnings on TV and on the radio, where to go in the case of a tornado, etc. Optional: Students can watch the "twister" scene from the movie <i>The Wizard of Oz</i> .
Assessment/ Evidence	Enchantedlearning.com provides several different types of vocabulary activities, such as exercises with analogies, cloze exercises and others, which allow students to study vocabulary in different ways. These worksheets can be used for assessments
Reflection	Students enjoyed this lesson, particularly the mix of visual, written and spoken components. The worksheets from enchantedlearning.com provided many opportunities for application of new material.



Introduction to Tornadoes

A tornado is a violent, column-like system of rapidly-rotating air that is in contact with the ground. Most tornadoes are funnel-shaped. Although tornadoes are short-lived (they usually last for a few minutes), they can be very destructive and even deadly.



In the Northern Hemisphere (north of the equator), most tornadoes rotate in a counterclockwise direction.



In the Southern Hemisphere (south of the equator), most tornadoes rotate in a clockwise direction.

Tornadoes form in thunderstorms, when unstable hot air near the ground rises and meets cooler air above in thunderclouds. Tornadoes can form at any time of the year, but most form from March to August (in the Northern Hemisphere).

Tornado Watch and Warning

Meteorologists (scientists who study the weather) can sometimes warn people when conditions are right for tornadoes in a particular area, but the ability to predict tornadoes is very limited. People usually only have a few minutes warning (if that much). When you hear a tornado warning, find shelter IMMEDIATELY!

The following are tornado warning terms:

Tornado Watch -- This means that tornadoes may form in the area, because conditions are favorable for their formation. People should stay tuned to radio or TV weather and listen for local warning sirens (but these are only available in some areas).

Tornado Warning -- A tornado has formed in the area! Find shelter immediately! A basement is best, but if that isn't available, go to an interior room or closet in a house, and stay far away from windows. If there aren't any buildings around, lie face-down on the ground in a low lying area (like a ditch) and cover your head with your hands for protection.

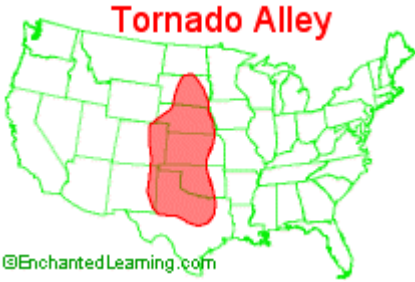
How Long Does a Tornado Last?

Tornadoes usually last just a few minutes. The shortest last for only a few seconds, but the longest (and most dangerous) can last for over an hour (but these are extremely rare)!

Wind Speed in a Tornado

The average wind speeds in most tornadoes are about 112 mph (180 km/h) or less. Winds in the most extreme tornadoes can be over 300 mph (500 km/h).

Tornadoes are ranked using a scale called the Fujita Scale, five categories of wind speed that are estimated the damage left behind (these are not wind speed measurements, since



most wind-speed measuring devices are destroyed during tornadoes, and since the tornadoes die out so quickly, Doppler radar wind measurements are not usually done).

F-5 tornadoes are the most dangerous type (and the rarest type).

- F-0 40-72 mph, Light damage, chimney damage, tree branches broken
- F-1 73-112 mph, Moderate damage, mobile homes pushed off foundation or flipped over
- F-2 113-157 mph, Considerable damage, mobile homes demolished, trees uprooted
- F-3 158-205 mph, Severe damage, roofs and walls torn down, trains overturned, cars thrown around
- F-4 207-260 mph, Devastating damage, well-constructed walls leveled
- F-5 261-318 mph, Violent damage, homes lifted off foundation and carried considerable distances, autos thrown as far as 100 meters.

Tornado Alley

Tornadoes form all over the world, but some areas are more prone to tornadoes than others. The USA gets many tornadoes. In the USA, there are an average of over 1,000 tornadoes every year. killing about 60 people. Tornadoes have formed in every state of the USA, but **Tornado Alley** is an area in plains of the mid-USA that has a very high number of very destructive tornadoes.

Tornado Alley extends from central Texas northward to Illinois and Indiana. The heart of Tornado Alley includes parts of [Texas](#), [Oklahoma](#), [Kansas](#), [Nebraska](#), eastern [Colorado](#), and [South Dakota](#). Less intense areas of Tornado Alley include parts of [Arkansas](#), [Louisiana](#), [Mississippi](#), [Iowa](#), [Tennessee](#), [Kentucky](#), [Wisconsin](#), and [Minnesota](#).

The Most Deadly US Tornado:

The Tri-state Tornado of March 18, 1925 was the deadliest tornado in U.S. history (according to the National Weather Service Storm Prediction Center). 689 people were killed by this tornado (it may have been a series of tornadoes, and not a single giant tornado).