SEVERE WEATHER SAFETY

2024 Guide

Ohio Insurance Institute

Representing Ohio's property/casualty insurance industry

ABOUT TORNADOES

HOW DOES A TORNADO FORM?

1. Cold, dry air meets with warm, moist air.
2. A funnel is created by a gust of warm air rising in a spiral motion. Air pressure inside the funnel is very low.
3. Cold air whirls around the outside of the funnel.
4. Outside air spins into the hole, carrying with it anything in its path.

TORNADO FACTS

- Can spin up to speeds of more than 200 miles per hour as they move across land
- Feed off of energy created by thunderstorms
- Are usually accompanied by hail, severe thunderstorms and wind
- Usually lasts only minutes
- Are also known as cyclones, twisters and funnel clouds because of their shape
- Have a peak season in Ohio of April through mid-July
- Usually occur between 2 p.m. and 10 p.m.
- Can strike anywhere, at any time if the conditions are right
- Ohio averages 19 tornadoes annually

BEFORE A TORNADO

LOOK FOR THESE DANGER SIGNS

1. Dark, often greenish sky
2. Large hail
3. a large, dark, low-lying cloud (particularly if rotating)
4. Loud roar, similar to a freight train

If you see approaching storms or any of the danger signs, take shelter immediately.

HOW TO PREPARE FOR A TORNADO

TORNADO WATCH VS. TORNADO WARNING: KNOW THE DIFFERENCE!

The National Weather Service, which tracks storms on radar, will issue a tornado **WATCH** or **WARNING** as needed. Whenever there is danger of a tornado, it's important to act quickly. Some communities have special sirens to warn of an approaching tornado. Radio and television stations will broadcast information about severe weather through special weather bulletins, newscasts, and station websites and weather apps.

A tornado **WATCH** means a tornado could occur:

- The climatic conditions are right for a tornado.
- Be prepared to seek shelter and stay tuned to the radio or television for weather updates.

A tornado **WARNING** is your signal to seek shelter immediately:

- A tornado has been sighted in the area.

SEEK SHELTER

When severe weather threatens, the Ohio Committee for Severe Weather Awareness encourages you to DUCK:

D — Go **DOWN** to the lowest level
U — Get **UNDER** something sturdy
C — **COVER** your head
K — **KEEP** in shelter until the storm has passed

Some places are safer than others when a tornado strikes. Follow these tips so you know where to go no matter where you are.

HOMES AND OTHER SMALL BUILDINGS

Go down to the lowest level and get as close to the center of the building as possible. A basement is best. If none exists, seek shelter in a windowless closet, bathroom, or inside hall. Stay away from windows, doors, and exterior walls.

SCHOOLS

Follow your teacher's directions. Go to an inside wall on the lowest floor. Kneel on the floor facing the wall with your hands covering your head and neck. Avoid places like auditoriums, gymnasiums, or other areas with large roofs that could collapse.

VEHICLES

If you see a tornado developing while in a vehicle, the best thing to do is to pull over and evacuate the vehicle. Seek shelter in the nearest sturdy building or storm shelter; do not hide under the vehicle. If you can't get to a building, buckle up and keep your head low. Never try to outrun a tornado in a vehicle.

MOBILE HOMES OR OUTSIDE

Move to the closest shelter and protect yourself from flying debris. If you live in or frequently visit a mobile home, be sure to know where the tornado shelter is located. If you can't reach a shelter or building, lie flat in a ditch or low area, covering your head and the back of your neck with your hands.

MALLS OR LARGE BUILDINGS

Many public buildings have designated shelter areas. Become familiar with signs posted in these buildings. If you can't locate the designated area, go to a middle hallway on the lowest level.

HIGHWAY OVERPASSES

They offer no protection from a tornado's direct hit and should not be used as shelter. The safest course of action is to get out of the tornado's path, seeking shelter in a sturdy building.

HAVE A PLAN AT HOME

- Hold a family meeting to discuss tornadoes and other types of severe weather events that are common to your area.
- Develop a family shelter plan.
  - Sketch an overhead view of your house.
  - Determine where to shelter during a tornado.
  - Conduct safety drills so everyone is prepared.
  - Practice the plan.
- Create your disaster preparedness kit including:
  - A flashlight
  - A battery-operated radio
  - Extra batteries
  - A spare house and car key
  - Water and nonperishable foods
  - A charged portable phone charger
  - A blanket

ACCORDING TO THE OHIO COMMITTEE FOR SEVERE WEATHER AWARENESS, TORNADOES ARE MEASURED BY THE FUJITA TORNADO DAMAGE SCALE.

ENHANCED FUJITA SCALE

EF #	Wind Speeds
EF0	65-85 mph
EF1	86-110 mph
EF2	111-135 mph
EF3	136-165 mph
EF4	166-200 mph
EF5	>200 mph

ACTIVITY: TORNADO IN A JAR

WHAT YOU DO:

1. Fill the jar with water.
2. Make the water swirl by stirring it with a spoon.
3. Add in a few drops of food coloring.
4. Tightly cap the jar.
5. Give the jar a quick twist with both hands.
6. Watch the vortex appear in the jar.

WHAT YOU NEED:

- Mayonnaise or mason jar
- Spoon
- Food coloring

The water will create a spiral whirling motion with air in the center, similar to a tornado!

HOW YOU CAN PREPARE FOR A TORNADO

Discuss the difference between a tornado WATCH and WARNING with family members.

Locate the safest area in your home in case a tornado occurs, and practice getting to that area with your family

Prepare a severe weather safety kit.

Download weather apps for real-time weather forecasts and warnings.

Listen to the radio or watch one of the local news or cable weather channels for information when a storm is forecasted or when skies turn threatening.

Check out weather-related online resources like weathersafety.ohio.gov to gather information and participate in a variety of activities.

ADDITIONAL RESOURCES

Ohio Committee for Severe Weather Awareness
weathersafety.ohio.gov

The Ohio Emergency Management Agency
ema.ohio.gov

National Oceanic and Atmospheric Administration
Storm Prediction Center
spc.noaa.gov

ABOUT THUNDERSTORMS

THUNDERSTORM FACTS

- Ohio averages 30–50 thunderstorm days a year.
- A typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes.
- Nearly 1,800 thunderstorms occur at any moment around the world—that's 16 million a year.
- Of the estimated 100,000 thunderstorms that occur in the U.S. annually, about 10 percent are classified as severe.

ABOUT LIGHTNING

WHAT CAUSES LIGHTNING?

1. Air rises and descends within a thunderstorm.
2. Positive and negative charges are separated.
3. As a result of the buildup and discharge of electrical energy, a spark is formed.

LIGHTNING SAFETY TIPS

OUTDOORS

- Avoid water, especially swimming pools.
- Avoid metal objects such as electrical wires, fences, and golf clubs.
- Unsafe places during lightning include tents, golf carts, small open-sided shelters, and under tall, isolated trees.
- Avoid wide open spaces and high terrain such as hilltops.
- When possible, get to a building or fully enclosed shelter like a vehicle and close the windows.
- If lightning strikes are nearby, avoid direct contact with others. Remove metal objects from your pockets and crouch low to the ground on the balls of your feet. Place hands on your knees with your head between them.
- If you're in the woods, take shelter under the lowest tree or under a bush.

INDOORS

- Avoid contact with water including showers, baths, or laundry.
- Stay away from open doors and windows.
- Avoid using a landline phone during a lightning out break because the lightning charge can travel through electrical lines. A cellphone is a safer means of communication.
- As an extra precaution, unplug computers, electronics, and other unnecessary appliances.
- Use surge protectors for electronics.
- Stay in shelter until the storm subsides.

FIRST AID FOR LIGHTNING VICTIMS

- Call 911 immediately.
- Begin first aid procedures.
- If the victim is not breathing but has a pulse, administer mouth-to-mouth resuscitation.
- If there's no pulse, begin CPR.

A person struck by lightning may be burned, but does not carry an electric charge.

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ACTIVITY: LEARN HOW LIGHTNING FORMS

WHAT YOU NEED:

- Two balloons
- Fabric made of wool or synthetic materials that can create a static charge (such as a wool sock)
- A dry day with little humidity

WHAT YOU DO:

1. Inflate both balloons.
2. Charge one of the balloons by rubbing the fabric against it.
3. Place the charged side of the balloon against a wall.
4. Try pressing the balloon against different surfaces to see if it sticks.
5. Try pressing the charged balloon against the second balloon. Did they stick together?
6. Charge both balloons and make a hypothesis: Will the balloons stick together when both are charged? Try it together to find out.

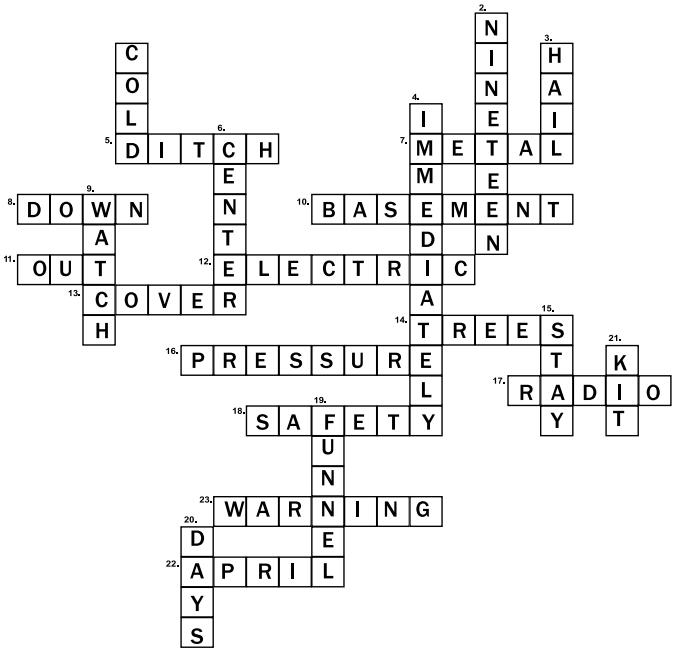
Rubbing the balloon with a piece of fabric gives it a negative charge, also known as static electricity. Enough static electricity will force the balloon to stick to neutrally charged surfaces, such as walls, by attracting the positive charge to the surface. The balloon is light, so this charge is enough to cause it to stick to the wall.

If you try to leave the balloon on the wall, eventually it will fall to the ground. In this case, the static charge dissolves over time, causing the balloon to lose its negative charge and unstick itself.

The two balloons will stick together if one is charged in the same way the balloon sticks to the wall. However, two negatively charged balloons will repel each other.

Lightning is like static electricity, except on a much bigger scale. Both lightning and static electricity happen because of the attraction between the opposite charges.

ANSWER KEY: CROSSWORD



ANSWER KEY: WORD SEARCH

T	H	T	S	R	E	T	L	E	H	S	P	H	H	W
Y	Y	H	U	R	A	D	A	R	N	L	T	L	F	Y
S	L	U	O	M	E	C	R	O	F	G	D	E	L	T
P	S	N	R	T	Q	M	D	V	N	I	F	N	A	S
B	E	D	E	F	O	L	M	E	A	G	I	N	S	E
L	I	E	G	L	J	R	R	U	D	T	S	U	H	W
A	R	R	N	E	L	T	N	O	S	P	J	F	L	O
N	E	S	A	V	S	N	P	A	R	M	D	D	I	L
K	T	T	D	E	S	P	C	I	D	X	G	J	G	A
E	T	O	Z	L	L	E	N	L	I	O	Z	D	H	E
T	A	R	S	E	R	G	S	A	F	E	T	Y	T	V
U	B	M	R	O	C	Y	F	W	A	R	N	I	N	G
B	Q	B	F	Q	I	G	N	I	N	T	H	G	I	L
T	S	I	G	O	L	O	R	O	E	T	E	M	S	N
W	E	A	T	H	E	R	R	A	D	I	O	M	I	I