



4th - 8th Grade

4-H PROJECT

LESSON

PLANS:

4-H Helps

YOUTH

into the

21st Century



Series

2

“Whirling Winds”

LSU
AgCenter
Research & Extension

Dear Project Helper,

This lesson, “Whirling Winds,” is part of an effort by the 4-H Youth Development Department of the LSU AgCenter to provide teaching activities that are fun as well as educational. We are pleased you have agreed to work with youth as they learn and grow. You will help them learn scientific concepts that they will use for many years.

This lesson addresses Louisiana Content Standards Science and Social Studies Benchmarks; therefore, what you do with this activity should help strengthen students for LEAP testing. We appreciate your being part of this effort.

- SI-M-A3: using mathematics and appropriate tools and techniques to gather, analyze and interpret data (1,2,3,4,5)
- SI-M-A6: comparing alternative explanations and predictions (1,3,4)
- PS-E-B4: investigating and describing how the motion of an object is related to the strength of the force (pushing or pulling) and the mass of the object (1,2,3,4)
- ESS-E-A4: investigating, observing, measuring and describing changes in daily weather patterns and phenomena
- G-ID-E3: describing the locations, causes and effects of natural disasters on the environment and society (1,2,3,4)
- G-ID-M4: identifying problems that relate to contemporary geographic issues and researching possible solutions (1,2,3,4,5)



Learning Activity: “Whirling Winds”

Key Concepts:

1. Although tornadoes are potentially deadly and can be highly destructive, timely precautions can save lives and reduce property damage.
2. Because tornadoes happen quickly, warning time is limited; therefore, it’s important to pay attention to weather clues around you.

How Can Members Apply this Information?

Teach and practice tornado awareness, preparedness and safety.

Getting Ready:

1. Familiarize yourself with all the background information provided.
2. Read the lesson thoroughly, and get a full understanding of the activities.
3. Gather all supplies needed.
4. Prepare necessary handouts and visual aids.

What You Need for the Lesson:

1. Paper Spiral Demonstration:
 - a. 3-inch paper circle to cut into a spiral (provided)
 - b. 10-inch piece of thread
 - c. A heat source, preferably a light bulb in a small lamp or work light
2. “Get Ready, Get Set ...” Activity:
 - a. Cards with individual action steps for four different action categories (provided)
 - b. Poster with “Get Ready,” “Get Set,” “Get to Safety” and “Get Together” headings. Coat with spray adhesive. (Do NOT coat cards.)
3. Disaster Kit Activity:
 - a. Individual cards with “Need-to-Have” items and cards with “Nice-to-Have” items (provided)
 - b. Brown bag or tote bag to use as grab bag
 - c. Poster with “Need-to-Have” and “Nice-to-Have” headings. Coat with spray adhesive. (Do NOT coat cards.)
4. Top Ten Tornado Ranking visual (provided)
5. Situation scripts (provided)
6. Handouts:
 - a. Family Disaster Plan (provided)
 - b. Fujita-Pearson Scale of Intensity (provided)

Track:
 Science/Hazard Mitigation

Life Skills:
 Communication, Decision Making, Planning and Organizing, Personal Safety

Character Focus:
 Responsibility and Caring

Project Skill:
 To gain awareness of the causes, conditions, preparations, warning signs and procedures for tornado watches and warnings.

Louisiana Content Standards

Benchmarks:
 SI-M-A3; SI-M-A6;
 PS-E-B4; ESS-E-A4;
 G-ID-E3; G-ID-M4

Delivery Mode:
 4-H Club Meetings,
 Project Groups,
 After-school Programs, School Enrichment

Time Allotted:
 30-45 minutes

Minimum Number of Participants:
 15

Background:

What Are Tornadoes and What Causes Them?

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The strongest tornadoes can have winds of up to 250 miles per hour. These storms can uproot trees, damage property and sometimes even move buildings. A tornado can also turn harmless objects into deadly missiles. Tornadoes develop from severe thunderstorms in warm, moist, unstable air along and ahead of cold fronts. These storms can also generate large hail. Some landfalling tropical storms also generate tornadoes. These are most common to the right and ahead of the storm center as it comes ashore. For example, Hurricane Beulah produced 148 tornadoes as it made landfall in south Texas.

While tornadoes are potentially deadly and can be highly destructive, timely precautions and preparations can save lives and reduce property damage. During active weather, stay alert by listening to radio or television or by using a NOAA weather radio.

Awareness Information

- **A National Weather Service WATCH** is a message indicating that weather conditions are favorable for the occurrence of a certain type of weather. For example, a severe thunderstorm watch means that a thunderstorm is expected in the next six hours or so within an area approximately 120 to 150 miles wide and 300 to 400 miles long (36,000 to 60,000) square miles. The National Weather Service is a nationwide tracking service. Each local forecast office usually covers a state or a portion of the state.

- **A National Weather Service WARNING** indicates that a hazardous event is occurring or is imminent in about 30 to 60 minutes. Again, the local forecast offices issue warnings on a parish-by-parish basis.

1. Tornadoes may appear nearly transparent until dust and debris are picked up. Stay alert for high winds, even if you do not “see” a tornado.
2. Tornadoes often occur when it is not raining.
3. Tornadoes are often preceded by hail.
4. Waterspouts are weak tornadoes that form over warm water and are most common along the Gulf Coast and southeastern states.
5. Damage happens when wind gets inside a house through a broken window, door or damaged roof. Houses do not explode because of air pressure differences. That is simply a myth. Keep windows closed. Stay away from windows; flying debris is dangerous.
6. Damage can also occur when wind flowing over the roof accelerates and causes low pressure (like wind flowing over the wing of an airplane), lifting the roof off.
7. The safest spot is on the lowest level of your home away from windows. A small room, such as a bathroom or a closet near the center of your house, is best. The closer walls will provide more support to the roof, and each wall between you and the outside will provide further protection.



What to Tell Children

1. Identify safe places in your home and classroom.
2. Wherever you are, if you see or hear a tornado coming, take cover right away.
3. If you are in a house or apartment building, go to the middle of the lowest level and stay away from windows.
4. Get under something sturdy, such as a heavy table, and hold on.
5. Use your other hand to protect your head and neck from falling objects.
6. If there is no building nearby, lie flat on the ground in a low spot. Use your arms and legs to protect your head. Do not stay inside a vehicle.

How to Protect Your Property

1. Make a list of items to bring inside in the event of a storm/tornado watch. (However, once a tornado warning is issued, you have time only to seek personal shelter.)
2. Keep trees and shrubbery trimmed. Dead or weakened limbs can fall on the house or become flying missiles.
3. Remove any debris or loose items from your yard.
4. Strengthen garage doors.



4th-8th Grade “Whirling Winds”

What You Say:

(Experience)

Have you seen the movie about a tornado chase team? How about the television show about survivors? Today you'll divide into teams to see if you can chase down enough information and learn enough skills to survive a tornado! How many of you have ever experienced a tornado or very bad weather? Did you have enough warning time to prepare? A tornado is a violently rotating column of air extending from a thunderstorm to the ground. Tornadoes develop from severe thunderstorms in warm, moist, unstable air along and ahead of cold fronts. Some warning signs of a tornado are a dark, often greenish sky, large hail, a wall cloud, a cloud of debris, a funnel cloud and a roaring noise like a train. What shape does a tornado resemble? (cone, funnel, inverted triangle, etc.) Now, observe as I do this wind maker activity, and tell me what you notice. First, I will take a sheet of paper and cut out a 3-inch circle. Now I am cutting that circle into a spiral. Next, I must tie a 10-inch piece of thread to the center of the paper spiral. Now, observe as I hold the paper up without a heat source, and then with a heat source.

What You Show or Do:

Show students an ice cream cone, funnel, etc. (things resembling a funnel cloud). Show the spiral-shaped paper without the heat. Then show the spiral-shaped paper over the heated light bulb. Then repeat without the heat. Allow time for discussion and replies. If time is limited, prepare spiral before lesson.

What Participants Do:

Discuss and respond. Observe and discuss what happened.



4th-8th Grade “Whirling Winds”

What You Say:	What You Show or Do:	What Participants Do:
<p>(Share) What happened when the spiral-shaped paper was not over the heat? (nothing) What happened when I placed the spiral-shaped paper over the heat? (movement, swirling) What happened when the spiral-shaped paper was removed from the heat? (stopped swirling) Why do you think this happened? (When the air around the heat source is heated, the warmer air rises and the cooler air drops down, causing air movement.) How is this similar to the way a tornado forms? (Tornadoes develop in moist, warm air.)</p>	<p>Allow time for discussion.</p>	<p>Discuss and respond.</p>

4th-8th Grade “Whirling Winds”

What You Say:

(Process)

Why is it important to learn about tornadoes? (Tornadoes can be deadly and highly destructive.) This handout shows the intensity of tornados and the danger they pose. Let’s chase down the information we need to survive a tornado. For this activity you will divide into two teams. Each team will take turns deciding where a piece of important information fits into the four stages of survival shown on this poster – **Get Ready** (how to prepare before bad weather), **Get Set** (what to do during bad weather), **Get to Safety** (action steps to take when a tornado has been sighted) and **Get Together** (what to do in the aftermath of a tornado). The blue team will take a card and place it under one of the four categories. If placed correctly, your team will get a point. Then the orange team will take a turn. You will alternate until all cards have been placed. Let’s get started!

What You Show or Do:

Distribute Fujita-Pearson Scale of Tornado Intensity Handout. Discuss the strengths and possible destructiveness of a tornado, using background information. Discuss Myths and Facts.

Have them read the information card aloud as they place it on the poster. If necessary, explain why it belongs in its category. Move it if placed incorrectly. Add information to clarify. Appoint scorekeepers to award points to teams. (You can divide large group into two teams and let representatives from their teams place the cards.)

What Participants Do:

Divide information into four categories of survival by placing cards on poster sprayed with adhesive spray.

ANSWER KEY:

Get Ready: Learn weather clues. Understand radio/TV “watch” vs. “warning” signals. Draw up a family disaster plan establishing a safe place, a meeting place and a check-in phone number. Include ways to accommodate disabled family members and pets. Make a disaster kit. Learn who to contact to find out evacuation route after a tornado.

Get Set: See green hue in sky following a severe thunderstorm with hail. Receive Tornado Watch signal from radio/TV (conditions favorable for tornado). Alert family members to Tornado Watch status. Gather disaster kit close by. Listen for weather updates until storm has passed.

Get to Safety: Receive Tornado Warning signal from radio/TV (tornado sighted in near vicinity or within 30 minutes). Alert family to Tornado Warning status. Leave doors and windows closed. Go to small room in center and on lowest level of house or building. Get under heavy piece of furniture; hold on with one hand and protect your head with the other arm. Leave mobile home and head for nearest substantial building or lie flat in ditch or low area. If vehicle in path of tornado, get out, lie flat in nearest low area and protect head with arms.

Get Together: Leave house or building as soon as tornado has passed. Escaping gas can cause explosion and fire. Avoid downed power lines. Get help for people who are trapped. Meet family members at place designated in family disaster plan. Use disaster kit. Tune radio to emergency frequency for instructions. If told to leave the area, follow evacuation route designated after the tornado by emergency management or law enforcement officials.



4th-8th Grade “Whirling Winds”

What You Say:	What You Show or Do:	What Participants Do:
<p>A disaster kit can save lives. Now, teams, you can earn more points by deciding which items you would need to have in the kit and which items are extra items that would just be nice to have in the kit. Each team will take turns grabbing a card from the bag and placing it on the poster either under “Need to Have” or “Nice to Have.” You’ll get a point for each one you place correctly. (Share)</p> <p>What are some items you think belong in a disaster kit that are not listed on the poster? What are some items in your kit that would have to be up-dated from time to time?</p>	<p>Place all cards in grab bag. Display poster sprayed with spray adhesive. (Do NOT store or transport two sprayed posters face-to-face. They will form a permanent bond.)</p>	<p>Pick cards from the grab bag and place items where they think they belong.</p> <p>ANSWER KEY:</p> <p>“Need to Have” items:</p> <ul style="list-style-type: none"> Portable battery-operated radio Flashlight Batteries First Aid manual Sterile bandages Safety pins Tape Disinfectant Latex gloves Non-prescription and prescription medications Scissors Antibacterial towelettes Cash Identification Extra keys Map 3-day supply of water 3-day supply of food Blankets Manual can opener Toilet paper <p>“Nice to Have” items:</p> <ul style="list-style-type: none"> Battery-operated lantern Battery-operated book light Battery-operated compact disc player and CDs Trophy Favorite shoes Posters Makeup Jewelry Favorite magazine Battery-operated video games Stuffed animal Playing cards Board games Cell phone Pillows Candy Photo album Camera

4th-8th Grade “Whirling Winds”

What You Say:	What You Show or Do:	What Participants Do:
<p>(Generalize) Do tornadoes occur in Louisiana? The answer is yes, tornadoes can occur wherever the conditions are favorable. Tornadoes have been reported in every state. Tornadoes generally occur during the spring or the summer, but can happen at any time. Tornadoes are also known to happen in the early morning hours, but they can also happen at any time of the day. On June 8, 1989, a tornado ripped through East Baton Rouge and Iberville parishes. It injured 88 people and killed two. On April 8, 1993, what was probably a waterspout struck land near the middle of Grand Isle, Jefferson Parish, killing three and injuring 39. On April 3, 1999, about 400 buildings were damaged or destroyed in a swath across Benton. Seven died and 90 were injured. All deaths were in mobile homes. This poster shows how Louisiana ranks by total tornadoes, by killer tornadoes and by annual tornadoes per square mile. Can you recall a recent tornado in Louisiana?</p>	<p>Show poster.</p>	<p>Discuss and respond.</p>

4th-8th Grade “Whirling Winds”

What You Say:

(Apply)

Now let's see how much information you absorbed and how you apply it to several mock situations. For each of the following scenarios, imagine that a tornado warning has been issued. The “actors” are a family: father, mother, sister and brother. They have been given scripts. You will decide whether they take the correct action steps.

Situation 1. The family lives in a mobile home together. Watch them carefully, and see if they take the proper actions.

Situation 2. The family is in a vehicle and sees the sky turn a dark, greenish color. Even though the air is still, debris is beginning to swirl. Suddenly, in the rear view mirror, a funnel cloud appears in the distance.

What should the family do?

Situation 3. The parents are in their two-story house.

The children are at school.

What do they do?

Situation 4. The tornado has passed. The family has survived and now must take some safety steps. What should they do?

How did these scenarios help you relate to the dangers of a tornado? Did seeing these practice situations help heighten

What You Show or Do:

Select four different “families” to act out the situations using the script cards provided. Audience points out what is wrong or right. Be sure to incorporate the correct answers in the discussion if they were not brought to the surface. Ask participants to apply what they have learned by teaching others.

What Participants Do:

Observe and give feedback.

ANSWER KEY:

Situation 1. The family should NOT stay inside the mobile home. They should leave immediately for a sturdy building nearby or lie flat in a ditch or low area.

Situation 2. The family should leave the vehicle immediately. If they cannot reach a nearby building, each should lie down in a low spot, using arms and legs for head and neck protection. Most deaths and injuries associated with tornados have involved people in mobile homes or vehicles.

Situation 3. The safest spot is on the lowest level of your home away from windows. A small room, such as a bathroom or a closet near the center of your house, is best. A central room or hall on the lowest floor of the school is best. Crawl under a heavy table or desk. Hold on with one hand and cover your head with the other arm. Small desks can become projectiles.

Situation 4. Leave area immediately to avoid gas explosion or downed power lines. Don't use candles if danger of gas leak exists. Use a flashlight. Meet or contact family according to Family Disaster Plan. Use Disaster Kit. Listen to emergency instructions on radio. Evacuate to shelter, if necessary.



4th-8th Grade “Whirling Winds”

What You Say:

continued:

your awareness of the need to be prepared? If your family does not already have a disaster plan, this is a great opportunity for you to show **responsibility** and **caring** by stressing to your family the importance of having a disaster plan. It can mean the difference between life and death. It is very important to research natural disasters, to establish a plan and to drill that plan. Preparing for a natural disaster is just like any other learning experience; it takes practice and repetition. Which team ended up with the most points? Let's give them a cheer! But you're all winners today because you've learned something that can save your life!

How will you teach your family and perhaps others in your community to be prepared for a tornado?

What You Show or Do:



What Participants Do:

Ways to Help Members

Learn More:

1. Distribute all handouts, including the Fujita-Pearson Intensity Scale, myths and facts, and definition of terms used to describe tornadoes and their force.
2. Find additional resources and activities to reinforce this lesson. The American Red Cross/Masters of Disaster activities “Storm Cloud,” “Tornado in a Bottle,” “Wind Shear,” “Hail Maker” and “Word Search Puzzle” are all appropriate.
3. Have students research their community’s efforts on disaster preparedness.



Resources:

American Red Cross Masters of Disaster 3-5 Curriculum

“The Notagains” Interactive CD-ROM

Web sites:

<http://disastercenter.com>

<http://www.fema.gov>

<http://www.discoveryschool.com>

<http://www.tornadoproject.com>

<http://www.spc.noaa.gov/faq>

<http://www.redcross.org/>



Career Options:

Meteorologist,
TV weather forecaster,
storm researcher,
climatologist,
mathematician,
computer modelers,
civil engineers

Acknowledgments:

American Red Cross,
*Masters of Disaster, 3-5
Curriculum*

*Louisiana Content
Standards*, published by
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ment of Education

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Get Ready

Get Set

Get to Safety

Get Together

<p>Make a disaster kit.</p>	<p>Learn weather clues.</p>
<p>If told to leave the area, follow evacuation route designated after the tornado by emergency management or law enforcement officials.</p>	<p>Understand radio/TV “watch” vs. “warning” signals.</p>
<p>See green hue in sky following a severe thunderstorm with hail.</p>	<p>Draw up a family disaster plan establishing a safe place, a meeting place and a check-in phone number. Include ways to accommodate disabled family members and pets.</p>

Listen for weather updates until storm has passed.

Receive Tornado Watch signal from radio/TV (conditions favorable for tornado).

Receive Tornado Warning signal from radio/TV (tornado sighted in near vicinity or within 30 minutes).

Alert family members to Tornado Watch status.

Alert family to Tornado Warning status.

Gather disaster kit close by.

<p>Leave mobile home and head for nearest building or lie flat in ditch or low area.</p>	<p>Leave doors and windows closed.</p>
<p>If vehicle in path of tornado, get out, lie flat in nearest low area and protect head with arms.</p>	<p>Go to small room in center and on lowest level of house or building.</p>
<p>Leave house or building as soon as tornado has passed. Escaping gas can cause explosion and fire.</p>	<p>Get under heavy piece of furniture; hold on with one hand and protect your head with the other arm.</p>

Use disaster kit.

Avoid downed power lines.

Tune radio to emergency frequency for instructions.

Get help for people who are trapped.

If told to leave the area, follow evacuation route designated after the tornado by emergency management or law enforcement officials.

Meet family members at place designated in family disaster plan.

Need to Have

Nice-to-Have

“Need to Have” items:

Portable battery-operated radio	Sterile bandages	Latex gloves
Flashlight	Safety pins	Non-prescription and prescription medications
Batteries	Tape	Scissors
First Aid manual	Disinfectant	Antibacterial towelettes



“Need to Have” items:

Cash	Map	Blankets
Identification	3-day supply of water	Manual can opener
Extra keys	3-day supply of food	Toilet paper

“Nice to Have” items:

Battery-operated lantern	Battery-operated book light	Battery-operated compact disc player and CDs
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“Nice to Have” items:

Trophy	Jewelry	Playing cards
Favorite shoes	Favorite magazine	Board games
Posters	Battery -operated video games	Cell phone
Makeup	Stuffed animal	Pillows

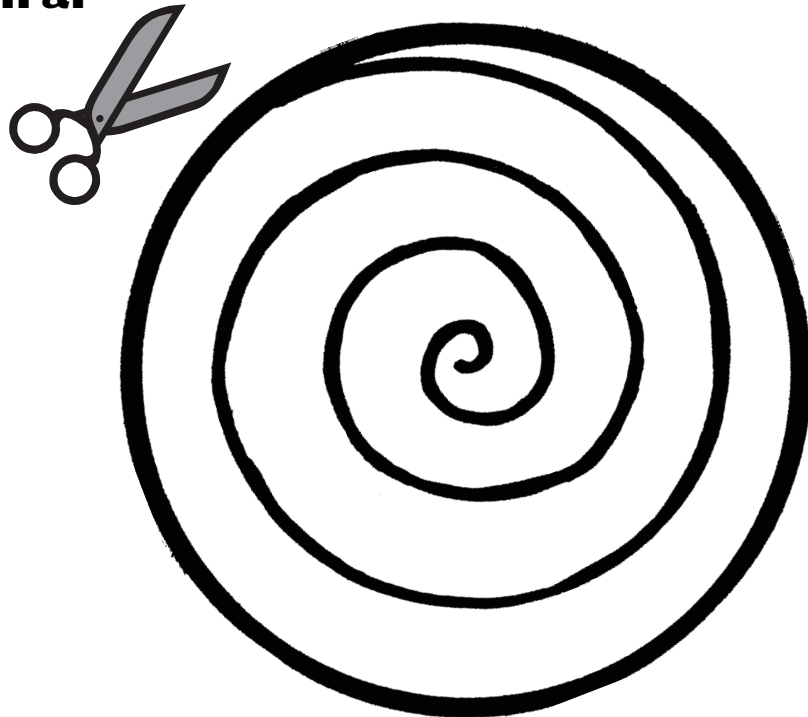


“Nice to Have” items:

Candy	Photo album	Camera
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Visual

Cut into spiral



Total Number of Tornadoes

1. Texas
2. Oklahoma
3. Florida
4. Kansas
5. Nebraska
6. Iowa
7. Missouri
8. Illinois
9. South Dakota
10. **LOUISIANA**



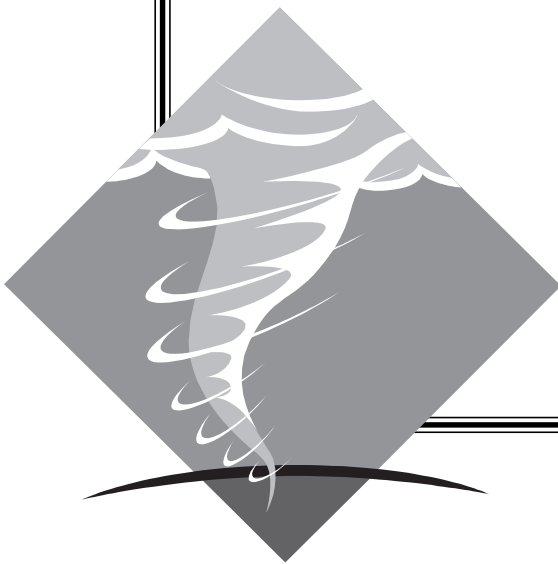
Number of Killer Tornadoes

1. Texas
2. Oklahoma
3. Arkansas
4. Alabama
5. Mississippi
6. Illinois
7. Missouri
8. Indiana
9. **LOUISIANA**
10. Tennessee



Annual Number of Tornadoes per 10,000 Square Miles

1. Florida
2. Oklahoma
3. Indiana
4. Iowa
5. Kansas
6. Delaware
- 7. LOUISIANA**
8. Mississippi
9. Nebraska
10. Texas



Situation Scripts

Situation 1.

Your family lives in a mobile home together. A tornado warning is given. The mother and daughter leave, saying they're going to the laundry room because it's made of concrete blocks. The father and son stay and shut themselves in a bathroom.

Situation 2.

Your family is in a vehicle and sees the sky turn a dark, greenish color. Even though the air is still, debris is beginning to swirl. Suddenly, in the rear view mirror, a funnel cloud appears in the distance. The dad steps on the gas, saying he can outrun it.

Situation 3.

The parents are in their two-story house. The children are at school. They learn of a tornado warning. The parents go to a large closet in the center of their first floor. The children stay in their classrooms and get under their school desks.

Situation 4.

The tornado has passed. The family has survived and now must take some safety steps. Mother lights candle. Father keeps calling for son who had been playing basketball at the playground when the warning came. Daughter has scrapes and scratches. She keeps wandering around the wreckage looking for her belongings.

Family Disaster Plan

- Learn about your tornado risk and the weather clues.
- Discuss how your community will be warned of an approaching tornado.
- Pick a safe place in your home where family members can gather during a tornado. A small room like a bathroom or hall on the lowest level in the center of the house is best.
- If you are in a high-rise building, you may not be able to get to a lower floor in time. Pick a place in a hallway in the center of the building away from windows.
- If you live in a mobile home, pick a safe place in a nearby sturdy building or a ditch to lie flat in.
- Conduct periodic tornado drills, so everyone remembers what to do when a tornado is approaching.
- Pick two places to meet after the disaster in case one is destroyed or is in a danger zone.
- Develop an emergency communication plan.
 - Designate an out-of town relative as your family contact person.
 - *Prepare your family emergency contacts:*
 - In-town meeting place addresses and telephone numbers
 - Out-of-town contact's name and telephone number
 - Local emergency telephone numbers
 - Doctor's name and telephone numbers
 - Emergency telephone numbers for gas, electricity and telephone companies
- Identify officials who will designate evacuation route after a tornado if needed.
- Consider special arrangements for disabled family members.
- Make a plan for pets, identifying shelters or motels that will accept them.
- Make a Tornado Disaster Kit.



Tornado Disaster Kit

1. Battery-powered radio and/or television with extra batteries
2. Flashlight with extra batteries
3. **First Aid kit:**
 - First Aid manual
 - Sterile bandages
 - Sterile gauze pads
 - Safety pins
 - Soap and antiseptic
 - Latex gloves
 - Nonprescription medicine
 - Scissors
4. Prescription medicine
5. Blankets
6. Money
7. Personal Identification
8. Canned foods
9. Bottled water
10. Antibacterial wipes
11. Utility knife and manual can opener
12. Plastic cups, plates and utensils
13. Road map
14. Pet food if needed

Staying Safe After a Tornado

1. **Locate all family members.**
2. **Help any injured or trapped persons.**
3. **Avoid disaster areas.**
4. **Stay out of damaged buildings.**
5. **Avoid fallen power lines.**
6. **Wear sturdy shoes.**
7. **Examine walls, doors and staircases to determine if the building is in danger of collapsing.**
8. **Be aware of possible gas leaks that can cause fire or explosion.**



The Fujita-Pearson Scale of Tornado Intensity

The winds of a tornado are often difficult or even impossible to measure. The Fujita-Pearson scale is a measurement of observed damage caused by tornadoes. This scale includes estimated wind speeds based on damage.

Scale number	Intensity Phase	Wind Speed	Description of Damage
F0	Gale Tornado	40-72 mph	Chimneys, branches, signs destroyed Small trees uprooted
F1	Moderate Tornado	73-112 mph	Moving cars pushed off roads Mobile homes pushed off foundations
F2	Significant Tornado	113-157 mph	Mobile homes demolished Roofs torn off frame houses Large trees uprooted Boxcars overturned Light object projectiles
F3	Severe Tornado	158-206 mph	Roofs and walls torn off well-constructed houses Trains overturned Most trees uprooted Heavy cars lifted and thrown
F4	Devastating Tornado	207-260 mph	Well-constructed houses leveled Houses with weak foundations relocated Cars and large objects thrown
F5	Incredible Tornado	261-318 mph	Strong frame houses lifted off foundations, carried considerable distance and destroyed Automobiles thrown more than 100 yards Trees stripped of bark

Myths and Facts About Tornadoes

Myth: Tornadoes can happen only in “tornado alley.”
Fact: Tornadoes can happen and have happened in every state.

Myth: You should open the windows if a tornado is coming so the building will not explode.
Fact: Research has shown that buildings do not explode from the low air pressure from a tornado. Opening windows can increase the chance of high winds entering and causing more damage to your home and exposing you to injury. Leave the windows alone.

Myth: You should try to “outdrive” a tornado.
Fact: It is not safe to try to outdrive a tornado because tornadoes shift direction so quickly. A tornado can pick up cars and toss them about like toys. If you are in a car during a tornado, you should get out and find a safe place.

Myth: Tornadoes happen only in the springtime.
Fact: Most tornadoes do happen from March through August; however, they can occur in any month.

Myth: Tornadoes never strike big cities.
Fact: Tornadoes do strike big cities. For example, St. Louis has had 22 tornadoes in the past 40 years; Oklahoma City and Salt Lake City have been struck by large tornadoes in the past few years.

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