

Staying Safe During Severe Weather and Natural Disasters

What You'll Learn

1. List five ways to prepare for severe weather and natural disasters. (p. 651)
2. Discuss ways to stay safe during a landslide, flood, earthquake, tornado, hurricane, wildland fire, electrical storm, winter storm, and terrorist attack. (p. 651)

Why It's Important

Severe weather, natural disasters, and national alerts can happen with little to no warning. It is important to know what to do if you must deal with any of these situations, so you can be ready and safe.

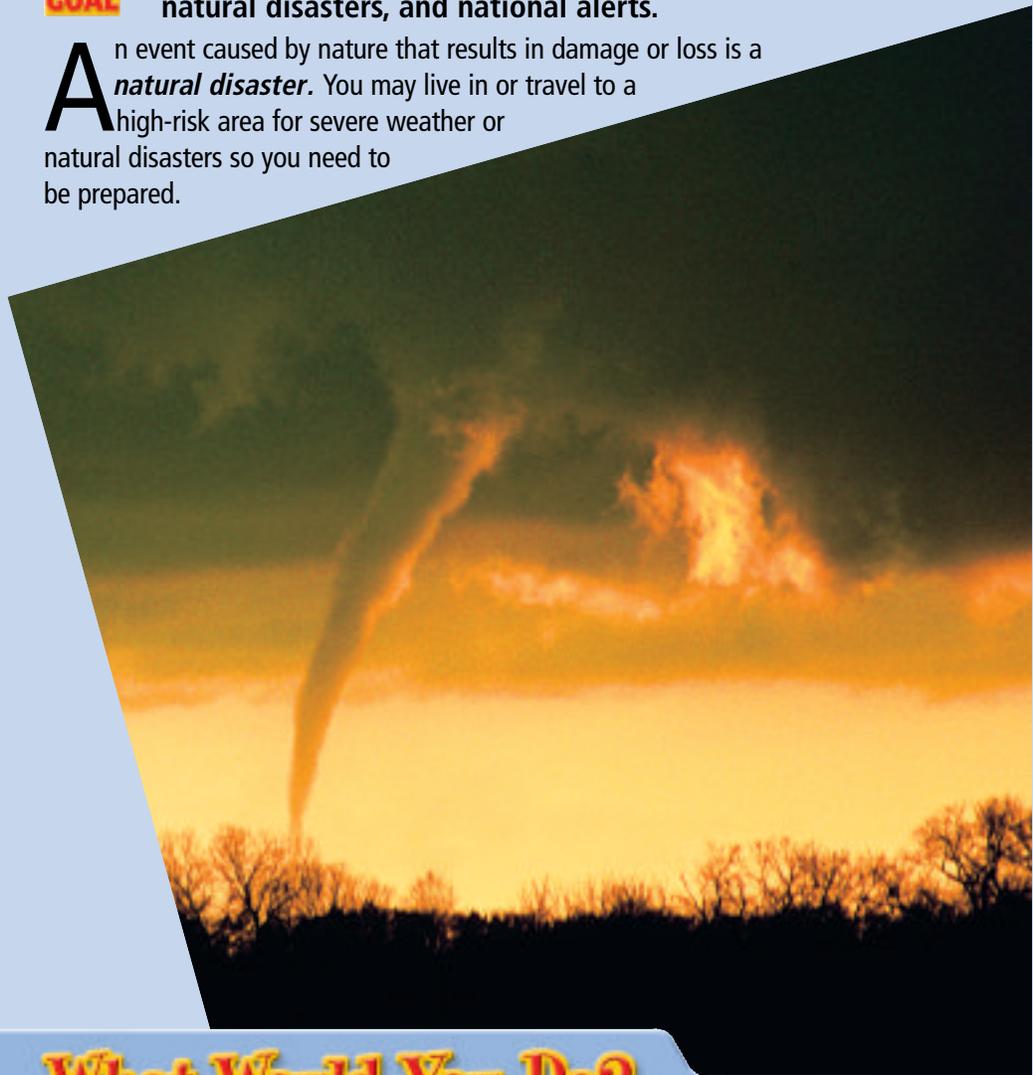
Key Terms

- natural disaster
- landslide
- flash flood
- hurricane
- tornado watch
- tornado warning
- wildland fire
- severe thunderstorm watch
- severe thunderstorm warning
- Homeland Security Advisory System

HEALTH GOAL

- I will follow safety guidelines for severe weather, natural disasters, and national alerts.

A natural disaster is an event caused by nature that results in damage or loss. You may live in or travel to a high-risk area for severe weather or natural disasters so you need to be prepared.



What Would You Do?

Writing About Tornado Safety Suppose that while babysitting young children at a neighbor's house, you hear on the radio that a tornado warning has just been issued by the National Weather Service. You are concerned about the safety of the children under your care. Review the information about tornado safety on page 652 and write an entry in your health journal about what you would do in this situation.



Health TEKS covered by Lesson 62: 2D, 5D, 7F, 16A, 16B

Safety Guidelines

Prepare yourself and your family for severe weather, natural disasters, or

national alerts by taking the following actions:

Contact your local emergency management office or chapter of the American Red Cross for a copy of their emergency plans. Know which emergencies could occur in your area. Know the warning signals for your community, such as sirens or announcements. Know your city's evacuation routes. Develop a family emergency plan. Include an escape plan, two meeting places (one near your home in case of fire, and one outside your neighborhood in case of evacuation). Identify emergency contact numbers (one in your area and one out of town). Make sure all family members know the name and phone number of these two people. Teach all family members how and when to turn off gas, electricity, and water. Prepare an emergency kit.

What to Know About Safety Guidelines

The following items should be in your emergency kit at all times: a flashlight with extra batteries; a radio with extra batteries; a first-aid kit; important papers, including family records, a list of emergency contact numbers, and a copy of your family's emergency plan; waterproof bags for valuables and mementos; rubber gloves; and rain gear and sturdy shoes.

The following items should be put into your emergency kit when severe weather, natural disasters, or national alerts are predicted: a supply of medication; candles and waterproof matches; a supply of water (one gallon per person per day); nonperishable food and a nonelectric can opener; any special requirements for babies, older adults, or disabled

individuals; cash and credit cards; and blankets or sleeping bags.

During all of the following severe weather situations, listen to the radio or watch TV for the latest emergency information, and keep your emergency kit close by. Evacuate immediately if instructed to do so.

Landslides A movement of a mass of earth or rock is a *landslide*. Water from rain and melting snow is absorbed into the ground at the top of a slope and seeps through cracks in the underlying sandstone. When it comes to a layer of shale or clay that is on the slope, the water collects along the upper surface of this layer, and softens it. If the support is weak, a mass of earth and rock slides down the slope.



▲ A hurricane is a tropical storm with winds in excess of 73 miles per hour.

If you are indoors, look for landslide warning signs such as doors or windows cracking; new cracks in walls or foundations; cracks widening on the ground or pavement; water breaking through ground surface in new locations; fences, utility poles, or trees tilting or moving; and a faint rumbling sound increasing in volume. Stay inside. Move to the second story, if possible. Stay out of the path of the landslide.

If you are outdoors, try to get out of the path of the landslide. Run to the nearest high ground in a direction away from the path. Run to the nearest shelter, such as a building or group of trees, if debris is approaching. Curl into a tight ball and protect your head if escape is not possible.

Floods A temporary condition of partial or complete deluge of normally dry land by an overflow of inland or tidal waters, or the rapid accumulation of surface waters from any source is a **flood**. A flood that occurs suddenly is a **flash flood**. Flash floods are the number one weather-related cause of death in the United States.

If you are indoors and if time permits, bring outdoor belongings indoors. Move valuable possessions to the second story, if possible. Turn off utilities at the main switch and turn off the main gas valve if instructed to do so.

If you are outdoors, climb to higher ground and stay there. Avoid walking through flood waters of more than a few inches.

If you are in a motor vehicle, do not drive through flood waters. Abandon the vehicle if it stalls and climb to higher ground. Do not attempt to move a stalled vehicle.

Hurricanes A tropical storm with heavy rains and winds in excess of 73 miles per hour is a **hurricane**. If there is a risk of a hurricane, take the following actions: Secure buildings by boarding up windows and checking tiedowns. Turn the refrigerator and freezer to the coolest settings and open them only when necessary. If you are in a mobile home, evacuate immediately.

If you are indoors, stay inside, away from windows. Avoid using open flames, such as candles, as a source of light or heat. Open flames can easily become a fire hazard.

If you are outdoors, seek shelter indoors.

Tornadoes A tornado is a violent, rapidly spinning windstorm that has a funnel-shaped cloud. A **tornado watch** is an emergency alert that is issued when the weather conditions are such that a tornado is likely to develop. A **tornado warning** is an alert issued when a tornado has been sighted or indicated by radar.

If you are indoors, go to the basement, storm cellar, or an inner hallway or small inner room on the lowest level of the building away from windows and corners. Get under a piece of sturdy furniture and hold on to it. Protect your head and neck. If in a mobile home, evacuate immediately.

Did You Know?

Hurricane Rotation

Hurricanes rotate counterclockwise around their centers in the northern hemisphere and clockwise in the southern hemisphere.

If you are outdoors, seek shelter indoors. Lie in a ditch or low-lying area or crouch near a building, if you cannot get indoors. Use your arms to protect your head and neck.

If you are in a motor vehicle, do not try to out-drive a tornado. Get out of the vehicle immediately. Seek shelter indoors. Lie in a ditch or low-lying area or crouch near a building if you cannot get indoors. Use your arms to protect your head and neck.

Earthquakes A violent shaking of Earth's surface caused by the shifting of plates that make up Earth's crusts is an **earthquake**.

If you are indoors, take cover under a piece of heavy furniture or against an inside wall and hold on tightly. Stay inside. Do not try to leave a building. Be prepared for aftershocks.

If you are outdoors, move into the open, away from buildings, street lights, and utility wires. If you are on a bridge, get off of it as soon as possible. Be prepared for aftershocks.

Wildland fires A fire that occurs in the wilderness is a **wildland fire**.

If you are indoors, close windows, doors, and vents. Take down flammable window coverings and close all nonflammable window coverings. Close gas valves and turn off pilot lights. Open fireplace damper and close fireplace screen. Move flammable furniture to the center of the room. Turn on a light in each room for visibility in heavy smoke. Place valuables that would not be damaged by water in a pool or pond. Aim sprinklers on roofs and on anything that might be damaged if adequate water is available.

If you are outdoors, do not attempt to outrun the fire if you are trapped.



▲ Earthquakes can cause severe damage to buildings.

Crouch in a body of water if possible. Cover your head and upper body with wet clothing. Seek shelter in a cleared area of rocks if water is not available. Breathe the air close to the ground through a wet cloth.

Electrical storms A storm that has lightning and thunder is an **electrical storm**. An emergency alert that is issued when the weather conditions are such that a severe thunderstorm is likely to develop is a **severe thunderstorm watch**. An alert that is issued when a severe thunderstorm has been sighted or indicated by radar is a **severe thunderstorm warning**. If there is a risk of electrical storms, review the safety guidelines for tornadoes and flash floods, which may accompany thunderstorms.

Secure outdoor objects, such as lawn furniture, that could blow away or cause damage or injury. Take light objects inside. If you are indoors, close windows and outside doors. Unplug electrical items and disconnect cable and telephone lines because lightning could follow wires. Avoid bathtubs, water faucets, and sinks because metal pipes can transmit electricity.

If you are outdoors, seek shelter inside a building or car. If no structure is available, go to an open space and squat low to the ground as quickly as possible. If you are in the woods, find an area protected by a low clump of trees—never stand underneath a single large tree.

Did You Know?

Wildland Fires More than four out of every five wildland fires are started by people.



Crouch with hands on knees. Avoid tall structures, such as towers, tall trees, fences, telephone lines, and power lines. Stay away from natural lightning rods, such as golf clubs, tractors, fishing rods, bicycles, and camping equipment. Stay away from rivers, lakes, and other bodies of water. Be aware of the potential for flooding in low-lying areas.

If you are isolated in a level field or prairie and you feel your hair stand on end, which indicates that lightning is about to strike, bend forward, and put your hands on your knees. A position with feet together and crouching while removing all metal objects is recommended. Do not lie flat on the ground.

If you are in a motor vehicle, pull safely to the shoulder of the road

away from any trees. Stay in the car and turn on the emergency flashers until the rain subsides. Avoid flooded roadways.

Winter storms A storm in the form of freezing rain, sleet, ice, heavy snow, or blizzards is a **winter storm**.

If you are indoors, remain indoors until the storm has passed. Close all windows and doors.

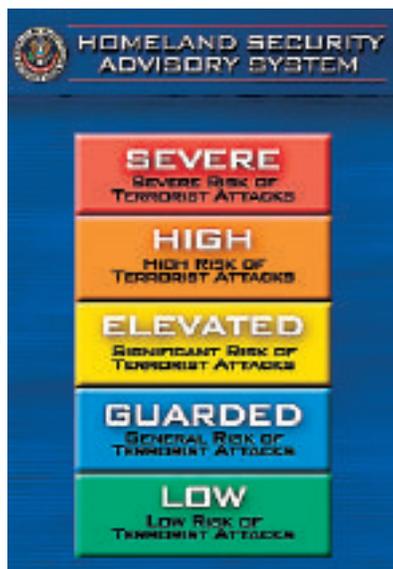
If you are outdoors, seek shelter immediately.

If you are in a motor vehicle, travel only if necessary. Keep winter storm supplies in your motor vehicle—sand, shovel, rope, scraper, flares, heavy blanket, warm clothing, nonperishable food items—in case you become stranded. Do not leave your vehicle.

Mini-Review

1. What should you do if you are outdoors during a thunderstorm?
2. What should you do if you are indoors during an earthquake?

The Homeland Security Advisory System



The world changed on September 11, 2001 when our nation was attacked by terrorists. Our nation is at risk for terrorist acts now and most likely, in the future. Individuals and organizations must be watchful, prepared, and ready to respond to terrorist acts. The **Homeland Security Advisory System** is a system of the United States federal government to inform federal, state, and local authorities and the

American people of the risk of terrorist acts. Risk includes both the likeli-

hood of a terrorist attack occurring and the possible severity of the attack. This national alert system has five warnings, known as threat conditions. Each threat condition has a description and a corresponding color.

This system helps people to make rational decisions about how to react to the threat. A specific threat condition means that organizations need to take specific actions to reduce being vulnerable to terrorist attacks. When the threat condition increases to a higher level, organizations need to be ready to respond in the event of a terrorist act. Threat conditions can apply to the entire nation, a geographic region, or an industrial area.

earthquake
 electrical storm
 flash flood
 Homeland Security
 Advisory System
 hurricane
 landslide
 natural disaster
 severe thunderstorm
 warning
 severe thunderstorm
 watch
 tornado warning
 tornado watch
 wildland fire



Key Terms Review

Complete these fill-in-the-blank statements with the lesson Key Terms on the left. Do not write in this book.

1. An event caused by nature that results in damage or loss is a(n) _____.
2. A(n) _____ is issued when weather conditions are such that a severe thunderstorm is likely to develop.
3. A(n) _____ is issued when a tornado has been sighted or indicated by radar.
4. An emergency alert issued when weather conditions are such that tornadoes are likely to develop is a(n) _____.
5. A(n) _____ is a tropical storm with heavy rains and winds in excess of 73 miles per hour.
6. A fire that occurs in the wilderness is a(n) _____.
7. A(n) _____ is given when a severe thunderstorm has been sighted or indicated by radar.
8. A(n) _____ occurs suddenly and is the number one cause of weather-related deaths in the U.S.
9. The _____ is a system used to warn of the risk of terrorist acts.
10. Movement of a mass of earth or rock is a(n) _____.

Recalling the Facts

11. List items to include in your emergency kit.
12. Explain what to do if you are in a motor vehicle during a tornado.
13. What should you do if you are outdoors during a landslide?
14. Describe what to do if you are indoors during a tornado.
15. Explain what to do if you are in a motor vehicle during a winter storm.
16. Describe what to do during wildland fires.
17. Explain what to do if you are indoors during an earthquake.
18. What should you do if you are outdoors during an electrical storm?

Critical Thinking

19. Discuss the Homeland Security Advisory System. Describe the coding of the threat conditions.
20. Describe how severe weather conditions could possibly lead to a natural disaster.
21. Explain how to prepare for severe weather, natural disasters, or national alerts.
22. Discuss why you should not evacuate a building during a tornado or an earthquake.

Activities

Responsible Decision Making

27. **Write** Your younger brother is watching TV when a severe thunderstorm warning is issued. He wants to finish watching his show. Write a response to this situation. Refer to the Responsible Decision-Making Model on page 61 for help.

Real-Life Applications

23. What would you do if you were driving and there was a flash flood?
24. While vacationing in a coastal town, a hurricane approaches. Describe what your family should do.
25. Why should you review the safety guidelines for tornadoes and flash floods during an electrical storm?
26. What would you do if you were in a mobile home during a tornado?

Sharpen Your Life Skills

28. **Advocate for Health** Write a public service announcement (PSA) identifying the safety guidelines for severe weather that might affect your community. Obtain permission from your principal to read your PSA over the school PA system.