

Student Tools for Emergency Planning (STEP) Program

Supplemental Hazard Lesson: Severe Weather
Instructor Guide



FEMA



STEP SUPPLEMENTAL HAZARD LESSON: SEVERE WEATHER



The STEP Severe Weather Supplemental Hazard Lesson will help students to:

- Identify different kinds of severe weather in their community
- Understand the dangers caused by various types of severe weather
- Pinpoint what kinds of severe weather they are most likely to encounter in their community
- Learn what steps to take to stay safe no matter what weather conditions impact them

Time: (30 min)

Key Messages



- Many different kinds of severe weather may impact students.
- Severe weather can cause an array of dangers, from flooding to high winds.
- Depending on where you live, you will be more impacted by weather events common to your region. For example, those on the East and Gulf Coasts are more likely to be affected by hurricanes, while those in the Midwest and South are likelier to have severe tornadoes.
- Knowing about what kind of weather can happen helps you to be prepared and to stay safe. Keep emergency supplies on hand, be ready to evacuate if local authorities tell you to do so, or to move to a basement if there's a tornado warning.

Skills



- Science
- English
- Writing
- Preparedness
- Identification
- Real World Problem Solving

Activities



- Watch and discuss Disaster Dodgers Video: Severe Weather (15-20 min.)
- Staying Ahead of the Storm Matching Activity (10 min.)

Materials



- AV and internet for video
- Copies of matching activity
- Pencils for each child

SEVERE WEATHER LESSON

This lesson takes a closer look at severe weather hazards. The activities will allow students to increase their awareness of severe weather and discuss how to be more prepared for local weather hazards they may encounter.



Safety Tip: *Discussing disasters can trigger a strong emotional response in some students who have experienced a devastating severe storm. Let the students know that it's normal to feel anxious or stressed out sometimes and that everyone reacts differently to stressful situations. Suggest they talk to parents or other trusted adults if they are feeling upset. See page 7 of the Instructor Guide for advice on safeguarding students as well as the book list on page 42 for resources on emotional resilience.*

Activity 1: Disaster Dodgers Severe Weather Video

Instructor Script: *The video we're going to watch is about severe weather. Severe means that something is very harsh or causes pain and hardship. Severe weather can cause many kinds of emergencies or cause a disaster over a large area.*

Action: Go to the FEMA YouTube Disaster Dodgers video channel, and play the **Severe Weather** video. You can also access it at www.youtube.com/watch?v=kXw1feTnkU4.



Discussion Questions

Instructor Script: *The Disaster Dodgers talked about floods, hurricanes, and tornadoes — three severe weather events that can come and go quickly and still be very harmful to people and property. They discussed the dangers of extreme heat and extreme cold, which may last for days.*



One of the most powerful kinds of severe weather they talked about is hurricanes, tropical storms that form in the ocean. They collect heat and energy through contact with warm ocean waters and then move toward land. Hurricanes rotate in a counter-clockwise direction around an “eye,” which is the center of the hurricane.

When hurricanes come onto land, their heavy rain, strong winds, and large waves can damage buildings, trees, and cars. Hurricanes are called by different names in different parts of the world. Depending on their location in the Pacific Ocean, some are called “typhoons,” and others are referred to as “tropical cyclones.” No matter the name, they all are the same kind of storm. Not everyone experiences hurricanes because they usually are strongest where they come onshore from the ocean, such as along the East Coast and the Gulf Coast, which includes Texas, Louisiana, Mississippi, and Alabama.

But no matter where you live, you might experience flooding. Flooding is when a lot of water overflows onto land that is normally dry. Flooding can happen during heavy rains, when rivers overflow, when ocean waves come on the shore, when snow melts too fast, or when dams or levees break. Flooding may be only a few inches of water, or it may cover a house to the rooftop. Floods that happen very quickly are called flash floods. Floods can cause power outages, damage buildings, and create landslides.

Let's talk about the kind of weather that might occur in our community and weather we've experienced.

Action: Begin a general group discussion on types of weather events that happen in your community. If there has been one of the severe weather events recently, begin with that as an example.

QUESTIONS	POTENTIAL ANSWERS
What are some severe weather examples that you have experienced?	Depending on your area of the country, discuss: <ul style="list-style-type: none"> • Blizzards, extreme cold (East, Mountain West, Midwest) • Tornadoes (Midwest, South) • Hurricanes (East Coast, South) • Extreme heat (most areas of the country) • Flooding (anywhere)
What can you do to prepare for this kind of weather?	Discuss preparation ideas, including having flashlights if the storm knocks power out and clothing that's helpful to have, such as mittens and hats for extreme cold. Identify when preparing in advance has had a positive outcome.
What should your family do if you hear about a weather watch?	Keep a TV, battery-operated or hand-crank radio, or cell phone on for weather alerts.
What should your family do if you hear about a weather warning?	Some examples to tailor for regional weather events: <ul style="list-style-type: none"> • For tornadoes, go to a safe place for protection and cover your head and neck. Safe places differ depending where you are. If you are in a house, go to a windowless room on the lowest level or basement. If you are in an apartment building and can't get to a low level, find a closet or hallway. Those in manufactured or mobile homes should leave and go to a sturdy storm shelter. • For floods and hurricanes, you may be instructed to evacuate—which means leaving your home. • If you have to leave your home quickly, you'll be glad you prepared an emergency kit ahead of time. Listen for instructions from local emergency management personnel.
Sometimes storms can be frightening. How does knowing about them ahead of time help you be less afraid?	You know where to go, whether an area of your house or a shelter. Your emergency kit includes items to keep you warm or dry, battery-operated radios so you can learn important information if electricity and cell service is knocked out, and flashlights so you have light if you don't have power.
Closure to discussion questions: We learned about a lot of kinds of weather. What is the most important thing you'd like to tell your family about what we learned?	Knowing what kind of dangers a severe storm can bring can help get you prepared. Knowing what kinds of weather, we might experience can help you get ready.

Activity 2: Staying Ahead of the Storm Matching Activity



Teaching Tip: For simple recall of information, the matching activity provides a change of pace, and is a good way to measure your students' ability to identify the relationship or association between similar items.

Instructor Script: *In the video we saw kids getting prepared for several severe weather events, including tornadoes and hurricanes and very hot and cold temperatures. Let's play a Matching Game called Staying Ahead of the Storm. You can work on this by yourself. In the matching activity I'm going to hand out, match the description from the "Clues" column on the right with the "Severe Weather" item on the left by writing the correct letter in the larger box. Put a check mark in the small box if the weather condition could happen where we live.*

Action: Hand out copies of the activity or direct students how to access the fillable PDFs on their computers or tablets.

STEP SUPPLEMENTAL HAZARD LESSON

SEVERE WEATHER



Staying Ahead of the Storm Matching Activity

Match the description from the “Clues” column on the right with the “Severe Weather” item on the left by writing or typing the correct letter in the larger, magenta box.

Put a check mark in the smaller, blue box if the weather condition could happen in your community.

Severe Weather

1. Winter Storm



2. Thunderstorm



3. Hurricane



4. Extreme Heat



5. Tornado



6. Extreme Cold



7. Flooding



Clues

- A.** This causes fast-moving water that rises in streets and buildings and can lead to drowning. It can cause landslides.
- B.** During this weather event, very high winds spin in a circle and touch the ground, and objects as large as cars can be picked up by the wind. They are sometimes called twisters.
- C.** When this weather happens, frostbite and other damage to the body can occur as temperatures fall below freezing. The coldest temperature ever recorded in the United States was 80 degrees below zero in Prospect Creek, Alaska in 1971.
- D.** When this takes place, it's cold, and snow makes it difficult to travel. Really bad ones are called blizzards and have winds over 35 miles per hour, making it hard to see.
- E.** This kind of storm has high winds and heavy rain. It can cause flooding and falling trees. There are often very high waves and tides. The center of this storm is called an “eye.”
- F.** When this weather happens, there's rain and lightning. Hail can also fall. Lightning strikes somewhere on Earth every second of every day.
- G.** This causes very high temperatures that can cause people to get ill. The official highest temperature ever recorded in the world was 134 degrees Fahrenheit in Death Valley, California in 1913.

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SEVERE WEATHER



Staying Ahead of the Storm Matching Activity

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Severe Weather

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D

2. Thunderstorm



F

3. Hurricane



E

4. Extreme Heat



G

5. Tornado



B

6. Extreme Cold



C

7. Flooding



A

Clues

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