



Be Disaster Safe 6–8

In the Community



Visit the American Red Cross Web site
at www.redcross.org/disaster/masters

LESSON PLAN 6

Getting Prepared: Assess the Risk

Young people hear scary words—tornado, earthquake, hurricane and flood—but adults rarely talk about them. Discussing these potentially frightening events calmly will help young people understand that being prepared and knowing what to do can keep them safe. With accurate information about what can happen and the knowledge that families and communities are prepared, young people will feel more secure.

Key Terms and Concepts

cascading disaster	lightning	tertiary
communication	magnitude	tornado
disaster	primary	tsunami
earthquake	prepare	wildland fire
flood	residential fire	winter storm
frequency	responsibility	
hurricane	secondary	

Purpose

To guide students to understand the process of preparing for a disaster and to identify the risks for which the people in their community must prepare

Objectives

The students will—

- Write class definitions of the steps of preparedness and discuss the importance of each.
- Research, report on and evaluate actions taken within the community to address preparedness.
- Use *Get Prepared* to write public service announcements for local radio programs to inform the community about the need to follow the steps of preparedness. (Linking Across the Curriculum)
- Create banner ads for the school or district Web site that promote the steps of preparedness. (Linking Across the Curriculum)
- Compile a list and share stories about disasters that have occurred or could occur in the community.
- Define terms and use *Danger Signs* in creating a chart to assess the magnitude and frequency of disasters possible in their community.
- Use *Danger Signs* at home and interview older family members and friends about the types of disaster they have experienced. (Home Connection)



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- Play a game of community preparedness on the Web site of the United Nations. (Linking Across the Curriculum)
- Refer to the National Climatic Data Center to learn about the types of billion dollar disasters that have occurred in the United States since 1980. (Linking Across the Curriculum)
- Define and describe “cascading disasters” and their primary, secondary and tertiary effects.
- Apply the concept of cascading disaster to an occurrence of pandemic flu. (Linking Across the Curriculum)
- Read and create a class bibliography of books about disasters that can occur in their area. (Linking Across the Curriculum)

Activities

“Getting Prepared”

“Assess the Risk”

“Extreme Disaster”



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Materials

- 6 pieces of chart paper
- 6 markers of different colors
- Internet resources or local newspaper and magazines



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"Getting Prepared"

SET UP 10 minutes **CONDUCT** 55 minutes, plus research and presentation

Language Arts: Vocabulary, Writing and Media Literacy; Social Studies: Civics

Before class: Write the following terms, one each on the six pieces of chart paper and hang them around the room.

ASSESS RISKS
REDUCE HAZARDS
MAKE A PLAN
BUILD A KIT
PRACTICE
VOLUNTEER

1. Divide the class into six groups and give each a different color marker. Tell students that the charts represent actions for getting prepared and that the class needs to provide a definition for each that conveys meaning and importance. Then, without class discussion, direct each group to a different chart.
 - Allow five minutes for the students in their group to talk about and write a definition for the term at the top of their chart.
 - Next, have groups rotate through the charts, allowing three to five minutes for them to edit wording and add concepts or terms to the previous definition on the chart.
 - Continue until the groups have had a chance to focus on all the charts.
2. Lead a class discussion of the definitions and concepts highlighted on each chart. Is anything missing? What words are most effective in conveying meaning and importance? What words have the greatest impact?
3. Assign one step to each group. Have each group research to find out ways the community is addressing the step the group was assigned. What are the problems? What solutions are being tried? Students may find information in news articles; online at sites for local emergency management; from first responders, such as local police or firefighters; or by calling the Department of Transportation, the mayor's office or the city council.



Wrap-Up

Each group must then prepare a report, pointing out both successes and problems. If problems are cited, students must offer possible solutions.



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Getting Prepared: Assess the Risk

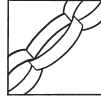


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Challenge groups to present their reports using visual aids, such as posters or computers. As a class, critique each report for its clarity, accuracy, positive focus and its call to action.

Have the groups make suggested changes. Then, invite local emergency management representatives and city officials to join the class to review and respond to the students' comments.



Linking Across the Curriculum

Language Arts: Writing and Media Literacy; Science: Health; Social Studies: Civics

For this activity you will need Get Prepared, 1 copy per group.

Identify local radio stations and make calls to see if they would be interested in working with the class to produce public service announcements on taking action to get prepared. If you find support, have student groups use *Get Prepared* to write their announcements clearly for submission to the station. Work with the station to determine if a professional announcer will deliver the script or if students can be involved in the production.

Language Arts: Media Literacy; Social Studies: Civics



Take your message about the community and the importance of the steps for preparedness to the Internet. Have the students create banner ads for the school or district's Web site, promoting one or more of the six steps of preparedness.



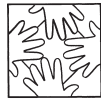
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Getting Prepared: Assess the Risk

Materials

- Chalkboard and chalk or chart paper and markers
- *Danger Signs*, 1 copy per student



"Assess the Risk"

SET UP 10 minute CONDUCT 55 minutes

Language Arts: Storytelling; Science: Earth Science; Mathematics: Classification

1. Have students make a list of the types of disaster that could happen or have happened in the community:

earthquake
flood
hurricane

lightning
residential fire
tornado

tsunami
wildland fire
winter storm

Ask the students to share stories of disasters they remember. When and where did each one occur? What was the impact on their family and the community?

TEACHING NOTE The students may also provide answers such as a giant asteroid falling or killer bees. If so, talk about the chances of such disasters occurring and then move on to those most likely to happen in your community.

2. Next, as a class, define the terms "magnitude" and "frequency." How do these terms apply to disasters that can happen in a community? (Magnitude refers to the impact and breadth of a disaster; frequency refers to how often it can occur. For example, a hurricane rated 4 or 5 on the intensity scale rarely hits land, but when it does, the impact of the disaster is tremendous, causing deaths, floods and great wind damage.)
3. Divide the class into groups and distribute *Danger Signs*. Ask the groups to decide where each disaster belongs on the chart. Instruct the students to be ready to share their reasons.



Wrap-Up

As groups present their classifications, create a class chart on the chalkboard. If groups disagree on classifications, have them discuss their reasons and have the class come to a consensus.



Make sure the students are realistic as they assess the risk for their community: If your community is not on a coast, tsunamis are not a threat; earthquakes can and do happen in many states other than California.

Write the word PREPARE in large letters at the top of the class chart.



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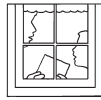
Getting Prepared: Assess the Risk



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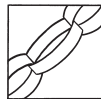
As you lead a class discussion about preparedness, listen to make sure students are able to identify why being prepared removes much of the risk from even the greatest dangers.



Home Connection

Have students take home *Danger Signs* to share with family members, discussing both risk and preparedness. Ask the students to interview older family and friends to gather stories about disasters they have experienced. Ask them to talk about—

- What happened?
- When did it happen?
- Where did it happen?
- Who was affected?
- Why did it happen, and why was the experience better or worse than expected?
- How did it affect the person and his or her family?



Linking Across the Curriculum

Social Studies: Geography and Civics; Science: Earth Science

The United Nations International Strategy for Disaster Reduction (<http://www.unisdr.org/>) has an excellent online game at



<http://www.stopdisastersgame.org/> to help young people learn how to build villages and cities that will be safer in case of disaster. Invite small groups of students to play through one of

the disaster scenarios: tsunami, hurricane, wildfire, flood or earthquake. Afterward, have the groups come together to discuss what they learned and how the lessons might apply to their own community.

Social Studies: Geography and History; Science: Earth Science



The National Climatic Data Center lists the billion dollar weather disasters in the United States in the years 1980 to 2006 on their Web page, <http://www.ncdc.noaa.gov/oa/reports/billionz.html>. Ask the students to use the charts and maps to

review and discuss the information. Did any of these disasters occur in your state? What weather disasters are most likely to happen there? Now, consider other disasters, human-caused or natural, that are not weather-related, such as earthquakes, volcanoes, fires and bombings. Search the Internet to discover where, when and how these have occurred. What has been the cost in life and property?

Challenge: In what other ways do all these disasters have hidden costs that affect people and their community? (Answers will vary, but may include—the psychological effects on families; the loss of jobs that require people to leave a community; and the loss of conventions and tourism that support many sectors of the community.)



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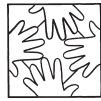
Getting Prepared: Assess the Risk

Materials

Chalkboard and chalk or chart
paper and markers



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"Extreme Disaster"

SET UP 10 minutes CONDUCT 55 minutes

Language Arts: Storytelling; Science: Earth Science; Mathematics: Classification

1. Explain to the students that Hurricane Katrina was one of the most costly disasters in United States history, in lives lost and in damage to a large area. The hurricane's immediate impact was only the beginning of a cascading disaster.



Write the term "cascading disaster" in the center of the chalkboard. Divide the class into small groups and give them five minutes to discuss the widening circle of problems that occurred after Hurricane Katrina blew across southeastern coastal areas.

2. Invite the groups to share their discussion, as they write key terms and concepts on the chalkboard. Answers will vary, but may include—
 - Levees were damaged and massive flooding occurred.
 - People were unable to evacuate the city because roads were either inundated or clogged with traffic.
 - Power failures spread through the region.
 - Damaged roads made it impossible to send disaster responders and maintenance workers to the area.
 - Water supplies were contaminated.
 - Food and water could not be brought in.
 - Air, rail, river and road traffic were all stopped or impeded.
 - Waste could no longer be handled, and sewage backed into the streets.
 - People who could not get back to their homes needed shelter.
 - Communications were cut as phone tower operations were disrupted and underground cables were damaged.
 - Hospitals had no supplies, and staff members were unable to get to work.
 - Sensitive electronic equipment was damaged, and industry and offices were shut down.
 - Critical components could not be shipped in, such as transformers and circuit breakers, so it was impossible to restore power.
 - Environmental cleanup delayed reconstruction and repairs.
 - Tourism and planned conventions were halted and moved elsewhere.
 - Many displaced people did not return home.



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Wrap-Up

Have the groups consider the key points in their discussion.

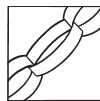


Ask the students to pick out strands of information that illustrate interdependency during an extreme disaster. (For example, **damaged roads** made it impossible to bring in supplies and impossible for people to evacuate to areas where food and water were available. Shelters could not take care of the numbers of people who needed help without supplies and volunteers from other areas to help staff them. Hospitals could not take care of the numbers of people who needed help without supplies and without critical staff who could not travel to get to the hospitals.)

As a class, discuss ways these strands fall into secondary and tertiary effects of the primary disaster—Hurricane Katrina.

Discuss—Why is it so difficult to prepare for, respond to and recover from a catastrophic or extreme disaster? Answers will vary, but may include—

- Agencies that are accustomed to independent planning and action must cooperate, communicate and train together to be prepared for an extreme disaster.
- Response cannot be immediate because of the damage to infrastructure, and the damage continues to spread as power stations, bridges and communications break down.
- Recovery from such a disaster is very slow because so much of the infrastructure has to be rebuilt and so many people, jobs and underpinnings of the area economy are relocated and no longer available in the same locale or gone altogether.



Linking Across the Curriculum

Social Studies: Civics

Challenge the students to explain ways that a flu pandemic could have similar secondary and tertiary effects on an area, even though the immediate impact does not affect infrastructure. Answers will vary, but may include—In a pandemic, if 25 to 40 percent of the population is either sick or taking care of sick family members, people are unable to supply the everyday needs of a community.

- If a truck driver is well and able to deliver supplies, his crates of supplies may sit aboard a river barge, unloaded for lack of workers.
- If routine maintenance is not completed at a power station and transformers fail, there may be no one available to repair them or no one able to deliver replacement parts.
- Schools will have closed and parents who are well cannot go to work because there's no one to take care of the children.
- People cannot travel to resort areas or congregate in large crowds, such as arenas or conventions. Economic loss from lack of tourism and the cancellation of large events causes many in the service industry, who are well enough to come to work, to lose jobs.



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Planning and preparedness for a flu pandemic is taking place all over the country, using information from the Centers for Disease Control and the Department of Homeland Security. Guide students to find specific responses to the difficulties they have described by checking government sites online, such as <http://www.pandemicflu.gov>.

Language Arts: Reading

Have students create a bibliography of books about disasters that can occur in their area. Students are to add reviews and a five-star rating system in their reviews, where 5 stars denote “great” and 1 star denotes “not good.” Post the bibliography in the media center to share with other classes.



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Get Prepared

Page 1 of 2

Name _____

Directions: You are part of a radio production team. You have been assigned to write a 10-, 20- or 30-second public service announcement for one of the steps for preparedness. Follow these steps to prepare and present your announcement.

1. Step # ____: _____

2. Words and concepts to include:

3. Before writing the script, discuss—

Why should people stop and listen to this message?

How can we focus on the positive?

What is the “hook” that will catch their attention?

What is our “call to action”?





Get Prepared

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Check the facts. Is your information correct?

4. Get to the point. You don't have much time or many words.

Timing	Word Count
10 seconds	20–25 words
20 seconds	40–50 words
30 seconds	60–75 words

5. On another sheet of paper, write your public service announcement. Practice delivering the announcement for clarity and timing. Be ready to present the announcement to the class for critique.





Danger Signs

Page 1 of 1

Name _____

There are many dangers that can affect your community. Look at the list of disasters and discuss whether these disasters can happen where you live. Write the names of the disaster in the correct area in the chart below.

Flood

Drought or heat wave

Hurricane

Large earthquake

Lightning

Residential fire

Small earthquake

Tornado

Tsunami

Wildland fire

Winter storm

High Frequency	High Magnitude	High Frequency	Low Magnitude
Low Frequency	High Magnitude	Low Frequency	Low Magnitude
Unlikely to Occur			

Discuss—What are the most important disasters for which our community must be prepared?

