

LESSON 1: WHAT IS A NATURAL DISASTER?



Youth Preparedness Initiative

MATERIALS NEEDED:

- White board or flip chart
- Projector
- Natural disaster pictures pages 6-9
- Disaster match-up cards pages 10-12
- White posters
- Art supplies (construction paper, glue, scissors, colors, markers, ribbon, popsicle sticks, pipe cleaners, cotton balls, etc.)
- Tape
- Computers
- Natural disaster books (if available)
- Dry-erase markers

NOTES

“Denotes instructor statements to class.”

PROJECT AREA:

Disaster Preparedness

LESSON # IN BOOK:

One out of six

TARGET AGE/GRADES:

Fourth through eighth grade

TIME LENGTH REQUIRED:

60 minutes

LESSON OBJECTIVES:

- Youth will be able to define a natural disaster and its characteristics.
- Youth will be able to identify some common natural disasters.
- Youth will be able to research and present on natural disasters.

VOCABULARY WORDS:

- **Natural disaster:** A sudden and terrible event in nature, such as a hurricane, tornado, earthquake or flood, that usually results in severe damage and deaths.
- **Hurricane:** A storm with violent wind, in particular, a tropical cyclone over subtropical waters.
- **Flood:** Overflowing of a large amount of water beyond its normal confines.
- **Tornado:** A mobile, destructive vortex of violently rotating winds having the appearance of a funnel-shaped cloud.
- **Volcano:** A mountain or hill, typically conical, that has a crater or vent through which lava, rock fragments, hot vapor and gas are being or have been erupted from the Earth's crust.

INTRODUCTION TO LESSON:

Before the lesson, write the following questions on the board or flip chart for students to answer. Leave a little space in between questions to let the students brainstorm.

1. What is a natural disaster?
2. What are some characteristics of a natural disaster?
3. How do natural disasters affect us?
4. What triggers a natural disaster?
5. What are some common natural disasters in Louisiana or your local area?

“To begin today's lesson, let's take a few minutes to look at the questions on the board. Silently brainstorm what you think some of the answers to these questions are.”

Wait two minutes.

“Now that we have had time to think, let's see what we think a disaster is.”

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Randomly select students and write their thoughts on the board or flip chart.

“Those are all great answers and will lead us to our topic today: What is a natural disaster?”

EDUCATIONAL BACKGROUND:

“Natural disasters happen every day in all parts of the world. It is a sudden and tragic event that occurs in nature, such as a hurricane, flooding, earthquake or tornado, resulting in severe damage or deaths. It could potentially harm human health, property and critical infrastructure.

Some parts of the world have different natural disasters than others. For example, Louisiana commonly has hurricanes and flooding. California may have more earthquakes, or Taiwan may have tsunamis. According to Statista, in 2020, there were 416 natural disasters worldwide. The Asian Pacific region had the second-highest number of natural disasters that year.

One interesting thing about natural disasters is that they are out of human control. However, we can identify some of the characteristics such as high winds, flood waters, big waves and movement on Earth. Sometimes we can be warned that a natural disaster will occur and how bad the impact will be, but for others, you never know when it will happen until the moment that it does.

Due to the extremity of these disasters, the effects can be severe. They can tear down homes and buildings, cause land loss, destroy properties and cause death to humans and animals. Here are some conditions we can use to predict natural disasters: large masses of snow and ice slide down a mountain to cause an avalanche; warm waters and high winds form hurricanes; rapid moving air touches the ground to form a tornado; large amounts of rain or snow melt and causes overflow of water, which is flooding; or dry vegetation from droughts cause wildfires.

Different things in nature cause these disasters, leaving humans little to no room to help prevent them. However, further in the lesson series, we will discuss how we can prepare for natural disasters and how natural disasters might affect us physically and mentally.”

ACTIVITIES:

ACTIVITY 1

Natural Disaster Infographics

Display the four natural disaster sheets included in this lesson either by printing them and hanging them in different sections of the classroom or meeting space or by projecting them onto a screen.

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NATURAL DISASTER PICTURES:

See pages 6-9.

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Larger versions of these images can be found on pages 6-9.

“Now we are going to dive into the world of natural disasters. I’ve set up an interactive activity for us to explore hurricanes, floods, tornadoes and volcanoes. We’re going to take a look at each of these disasters. Let’s get started!”

Walk to the posted hurricane picture or display it on the screen.

“Here we have information on hurricanes. Hurricanes are massive storms with strong winds and heavy rain that form over warm ocean waters. Please take a moment to look at the information on and discuss it among yourselves.”

Walk to the posted flood picture or display it on the screen.

“Now, onto floods. Flooding occurs when there’s an overflow of water onto normally dry land. It can happen for various reasons, such as heavy rain, storm surges or the melting of snow. Check out the points shown here and share any questions or thoughts you may have.”

Walk to the posted tornado picture or display it on the screen.

“Here we have tornadoes. Tornadoes are powerful columns of rotating air that extend from a thunderstorm to the ground. Look at the information and let me know if anything surprises you.”

Walk to the posted volcano picture or display it on the screen.

“Finally, we have volcanoes. Volcanoes are openings in the Earth’s crust that allow magma, ash and gases to escape. They can be both destructive and awe-inspiring. Explore the points on the poster, and don’t hesitate to ask if you’re curious about anything.”

Return to the front of the classroom.

“Later, your task will be to get into groups and choose one natural disaster type to present on. You will be equipped with a poster board and markers to create your own infographic and then you will present it in front of the class as a group.”

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VIDEO LINKS:

Natural Disaster Topics
(Tornadoes, Floods,
Volcanoes, Earthquakes)
[https://www.youtube.com/
watch?v=DNq8J7meT38](https://www.youtube.com/watch?v=DNq8J7meT38)

Hurricanes
[https://youtu.be/
LIXVikDkyTg](https://youtu.be/LIXVikDkyTg)

Wildfires
[https://youtu.
be/5hghT1W33cY](https://youtu.be/5hghT1W33cY)

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CARDS TEMPLATE:

See pages 10-12.

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ACTIVITY 2

Natural Disaster Match-Up Cards

Have disaster match-up cards printed and cut for each group. See the card template to make copies.

“After learning about specific natural disasters, let’s test our knowledge. Students should get into pairs and try to match the description of the natural disaster with the image. To do this, you will flip all the cards upside down so that nothing is showing. Flip one card at a time, then another, to see if they match. If they do not match, turn them back over so that the blank side is up. Continue to do this until all images and descriptions are paired up. Discuss whether the card fits with your partner if you need clarification. We will go over the answers after all groups are done. Good luck!”

ACTIVITY 3

Natural Disaster Gallery

Have white posters and assorted art supplies available for students (construction paper, pipe cleaners, colors, markers, cotton balls, ribbon, foil, popsicle sticks, etc.). Write the following requirements for the activity on the board for students to see.

Requirements:

1. Name of natural disaster.
2. List three characteristics of the disaster.
3. Where does the disaster mostly occur?
4. How does the disaster occur?
5. Create a visual representation using art supplies.
6. Put your name on the back of a presentation.
7. Present as a group.

“Now that we have learned more about natural disasters and played a matching game, let’s educate others about natural disasters by making our classroom a natural disaster gallery. In groups of three, you will research a natural disaster that interests your group. On the board is a list of requirements you should include in your final poster presentation.

On your poster, you should the name of a title of the natural disaster, three characteristics of the disaster, where the disaster mainly occurs, how the disaster occurs and a visual using art supplies. You may use computers, books and any other supplies available to complete this project.

Once all groups are done, each will present their poster, and we will hang them around the room to set up our gallery. Once our gallery is done, others can learn about the different types of natural disasters.”

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REFERENCES:

The annual number of natural disaster events globally from 2000 to 2020. (2021, Feb. 2). Retrieved From <https://www.statista.com/statistics/510959/number-of-natural-disasters-events-globally/> (accessed October 2023).

Types of Natural Disasters. (n.d.). Retrieved From <https://www.storyboardthat.com/lesson-plans/natural-disasters/types-of-disasters> (accessed October 2023).

EVALUATION AND REFLECTION:

As a review, have students present their group presentations. After all of the presentations, have students go to the board and write down one thing they learned about natural disasters. They cannot duplicate answers so give them time to think creatively. After all of the students have presented, briefly review the ideas on the board and answer any further questions.



HURRICANE FACTS:

- Hurricanes are giant storms that spin around a calm center called the eye. It's like a super strong tornado over the ocean.
- These storms have really fast winds and bring in a lot of rain.
- Hurricanes are placed in categories from 1 to 5. The higher the number, the stronger the hurricane.
- Hurricanes usually happen in certain months – typically from June to November.
- Hurricanes can cause big waves and rising water, called storm surges, which cause flooding in areas near the coast.
- When a hurricane is coming, it's important to have a plan. Families prepare by stocking up on supplies and might have to evacuate.



FLOODING FACTS:

- Flooding happens when there's too much rain or when rivers, lakes or oceans overflow.
- Floods can happen slowly or quickly. Some happen over a few days as waters rise while others can happen very suddenly and are known as flash floods.
- Floods cause a lot of damage to homes and can also be life threatening.



TORNADO FACTS:

- Tornadoes are strong winds that spin really fast in a funnel-shaped formation. They form during thunderstorms when warm, moist air meets cold, dry air. This clash creates swirling winds.
- Tornadoes are classified by their strength using the Enhanced Fujita (EF) Scale. They range from EF0 (the weakest) to EF5 (the strongest).
- Tornadoes can reach speeds of more than 200 miles per hour!
- When a tornado warning is issued, it's important to find a safe place such as a basement or an interior room without windows.



VOLCANO FACTS:

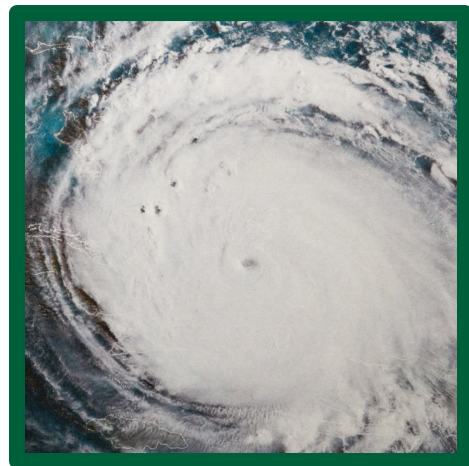
- A volcano is typically a mountain or a hill with an opening into the Earth's crust where molten rock, ash and gases can erupt onto the surface.
- Volcanoes aren't all the same. Some are tall and pointy, while others are flat.
- A volcanic eruption can be either big and explosive or slower and gentle.
- A volcanic eruption can change the landscape. They create new land when lava cools and hardens.

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NATURAL DISASTERS MATCH-UP CARDS



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NATURAL DISASTERS MATCH-UP CARDS

Volcanic eruptions occur when magma is pushed out onto the Earth's surface due to high pressure.

An avalanche occurs when a large mass of snow and ice slides down a mountain at high speed.

Hurricanes, also known as tropical cyclones, are giant, swirling tropical storms with high-speed winds.

A heat wave is a period of excessively high temperatures, often with high humidity.

A drought is when the rainfall in an area is less than average to the point where it harms the water supply.

Also known as forest fires, wildfires are large uncontrollable fires fueled by dry vegetation. Wildfires often occur alongside a drought.

Blizzards are a type of dangerous snowstorm where there are powerful winds with a minimum speed of 35 mph.

A flood is where water covers land that is typically dry. This occurs when a large amount of precipitation or melting ice causes bodies of water to overflow.

Tornadoes are also known as twisters, whirlwinds or cyclones. They are a funnel of rapidly moving air in contact with the ground.

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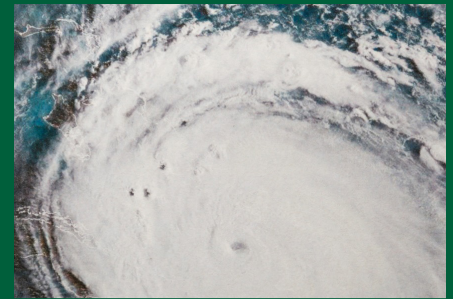
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NATURAL DISASTERS MATCH-UP CARDS - ANSWER SHEET

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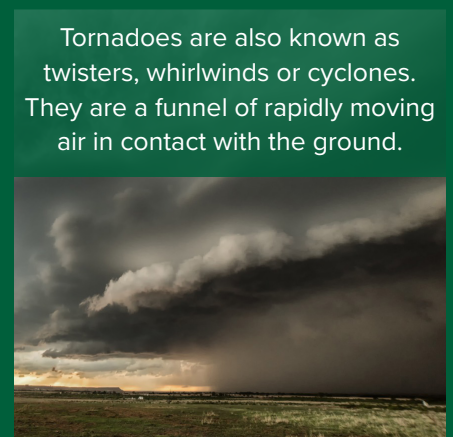
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