

Senior High School

Department of Education
National Capital Region
SCHOOLS DIVISION OFFICE
MARIKINA CITY

Disaster Readiness and Risk Reduction

First Quarter-Module 1 **Concept and Nature of Disaster**

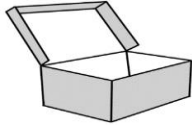


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What I Need to Know

This module was designed and written with you in mind. It is here to help you master the concept and nature of disaster. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course.

The module includes only one lesson, namely:

Lesson 1 – Concept and Nature of Disaster

After going through this module, you are expected to **explain the meaning of disaster. DRR11/12-Ia-b-1**

Specifically, students should be able to

1. define disaster;
2. identify the different types of disaster; and
3. enumerate examples of the types of disaster.



What I Know

Read each statement carefully. Then, encircle the letter of the correct answer.

1. Which of the following statements **DOES NOT** define disaster?
 - A. It is only caused by natural phenomena.
 - B. It is catastrophic and may happen anytime such as volcanic eruption.
 - C. It may cause great damages and brings harm to people in nearby places.
 - D. It is a serious disruption of the functioning of a society involving widespread of human, material, economic, or biological losses.
2. Which of the following is an example of natural disaster?
 - A. War
 - B. Earthquake
 - C. Spread of virus
 - D. Forest fire caused by humans
3. Which of the following types of disaster involves a sudden onset of contagious disease that affects the health of the community?
 - A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency



4. Which of the following types of disaster includes floods, hurricanes, and volcanic eruptions that have immediate impacts on human health?
 - A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency

5. Which of the following types of disaster includes a breakdown of authority?
 - A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency

6. Which of the following analogies is **CORRECT**?
 - A. Natural disaster: war
 - B. Complex emergency: earthquake
 - C. Man-made disaster: industrial accident
 - D. Pandemic emergencies: forest fire caused by humans

7. Which of the following types of disaster includes attacks on strategic installations, including conflict situations and war?
 - A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency

8. Which of the following is **NOT** an example of pandemic emergencies?
 - A. COVID-19
 - B. Industrial accident
 - C. HIV/AIDS pandemic
 - D. Swine and Spanish flu

9. Which of the following is **NOT** an example of man-made disaster?
 - A. Tsunami
 - B. Forest fire caused by human
 - C. Technological or industrial accident
 - D. Accident on the use or transportation of hazardous material

10. What type of disaster is described in the situation below?

Valir and Wanwan shared their experience with typhoon Ondoy. They called their experience a nightmare. They tried to go outside the village to buy water for their children. Then they saw that many of the families in their area were also waiting for relief goods. Others were looking for open stores to buy food. It was a terrible experience for them. They had to go back without anything. They waited until somebody came to their house and asked them if they could buy us potable water or any food.

 - A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency



11. Which of the following is an example of man-made disaster?
- A. Accident
 - B. Earthquake
 - C. Flood
 - D. Tsunami
12. Which of the following includes the events or phenomenon like geological or meteorological phenomena that can cause the death and loss of property?
- A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency
13. Which of the following is described as catastrophic and may happen anytime such as volcanic eruption?
- A. Disaster
 - B. Earthquake
 - C. Hazard
 - D. Tsunami
14. Which of the following types of disaster is defined as extensive outbreaks of infectious disease that can greatly increase the rate of disease in a population?
- A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency
15. What type of disaster is described in the situation below?
- World War II veteran Porfirio G. Laguitan was an informer for guerillas, reporting enemy position and activities during the war. After WWII, he worked for the US forces looking for deserters in the Japanese army for turn-over to the USAFFE headquarters and worked under the US military police command to maintain peace and order.
- A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency



Lesson

Concept and Nature of Disaster

The Philippines is home to many islands, majestic mountains, seas, and oceans teeming with different life forms. These attributes are some of the many reasons why our country is considered as one of the best places in the world. However, our country is not exempted with some phenomena which could be considered perilous to its dwellers. In this module, you are going to know more about the nature of disaster.



What's In

In your previous Science subjects, you have learned about the concepts of earthquakes, tsunamis, and other phenomena. Before you proceed to the lesson of this module, take time to read the following phenomena related to disaster:

1. (World Bank Blogs 2018) stated that the estimated cost of damage of Typhoon Ondoy to infrastructure, such as the school buildings and health facilities, was about 4.3 billion pesos and damage to the agricultural sector cost about 6.6 billion pesos.
2. (World Bank Blogs 2018) stated that typhoon Yolanda created over 6,300 deaths and affected 1,472,251 families. The overall damage and loss were estimated at \$12.9 billion.
3. Between 2000 & 2012, natural disasters all over the world cost \$1.7 trillion in damage and affected 2.9 billion people.
4. "Earthquakes" are disasters that start other natural disasters such as landslides, tsunamis, and avalanches.
5. (Booksrup nd) stated that landslides usually accompany earthquakes, floods, storm surges, hurricanes, wildfires, or volcanic activity which are often more damaging and deadly than the triggering event.



? What's New

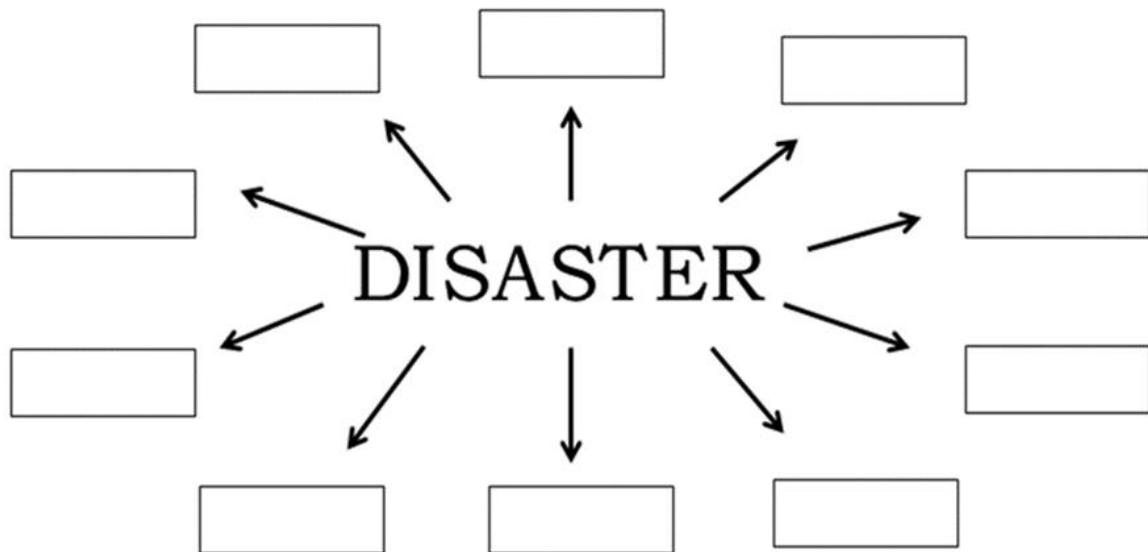
Activity 1 Concept of Disaster

To understand the concept of disaster, complete the activity below.

Word Game:

Procedure:

1. Write down as many words as you can which you think are related to the term provided. You can add boxes if you want.
2. Define the word based on your own past knowledge. You may have learned the word in an earlier grade, or you may be familiar with it because you hear it every day.



Now that you have already written many words related to disaster, make use of these terms to come up with a single sentence which you think can best describe the word disaster.



What Is It

Describe the pictures below? Did you experience any of these phenomena?



Figure 1. Volcanic eruption



Figure 2. Earthquake

These pictures are some of the traces of what we call disaster. According to United Nations Office for Disaster Risk Reduction (UNDRR) formerly known as UNISDR (2009) (adapted by Philippines DRR Law, 2010), disaster is a serious disruption of the functioning of a society involving widespread human, material, economic, or biological losses which allow the ability of the affected community or society to adapt using its own resources. It is also catastrophic and may happen anytime such as volcanic eruption and may cause great damages and bring harm to people in nearby places. But for now, you will not focus on the effects of disaster but instead you will look into the concepts and nature of disaster.

People who experienced a disaster are more vulnerable to emotional distress. These emotions include the feelings of anxiety, constant worrying, trouble in sleeping, and other depression-like symptoms. These are common responses to disasters before, during, and after the event. Many people can recover from disasters with the help and support from family and the community. However, many people who are affected may need additional support to be able to deal with the effects of disaster. Many people could be at risk and these are extended, but not limited to survivors living in affected areas and emergency and recovery workers.

Four Types of Disaster

The following are the types of disasters based on their origin and effects on specific areas.

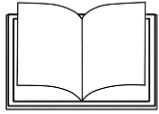
Natural disaster: It is a type of disaster that is natural like geological or meteorological phenomena that can cause death and loss or damage of property. It includes floods, hurricanes, earthquakes, and volcanic eruptions that have immediate impacts on human health and secondary impacts causing death and suffering from floods, landslides, fires, and tsunamis.

Man-Made disaster: It is a type of disaster that is caused by humans or involves an element of human intent, negligence, error, or involving any failure of a system. It includes technological or industrial accidents. It usually involves the production, use or transportation of hazardous material. It occurs where these materials are produced, used, or transported, and forest fires caused by humans.

Complex emergency: (WHO, 2002) stated that complex emergencies are situations of disrupted livelihoods and threats to human life caused by warfare and civil disturbance of people. It involves a break-down of authority, looting and attacks on strategic installations, including conflict situations and war.

Pandemic emergency: (Expresspharma 2020) stated that pandemics are extensive outbreaks of infectious disease that can greatly increase morbidity or the rate of disease in a population and mortality rate. They can cause significant economic, social, and political disruption all over the world. It involves a sudden onset of contagious disease that affects health, disrupts services and businesses, bring economic and social costs. Examples of pandemic outbreak are COVID-19 pandemic, swine and Spanish flu pandemic, and HIV/AIDS pandemic.





What's More

Activity 2

Identify whether the following situations are natural or man-made disasters.
Write **N** if it is natural and write **M** if it is man-made disaster.



1. _____



2. _____



3. _____



4. _____



5. _____



6. _____

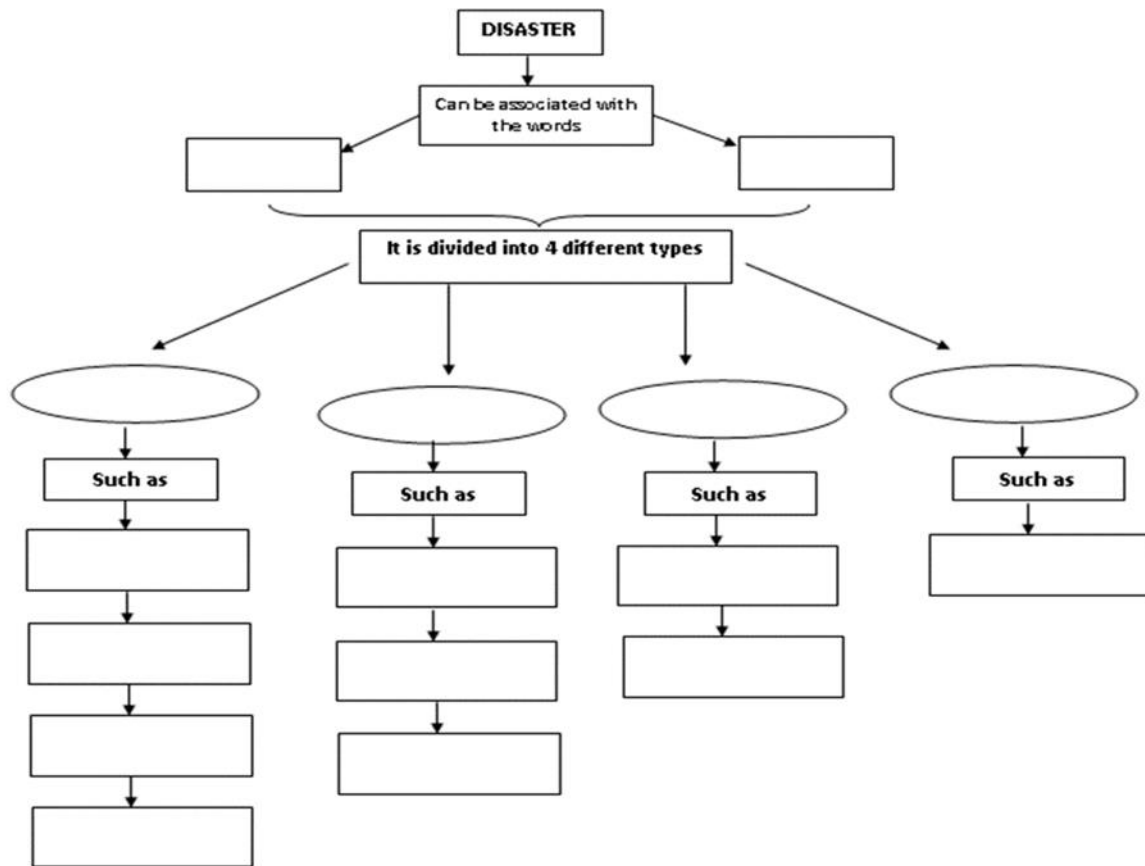




What I Have Learned

Activity 3

Complete the concept map below. Fill out the boxes with the appropriate concepts using the linking words/phrases as guide on how these concepts are related to each other.



Concepts:

sudden onset of contagious disease
catastrophe
technological or industrial accidents
forest fire
hurricanes
use or transportation of hazardous material
conflict situations and war
natural disaster
complex emergencies

breakdown of authority
calamity
floods
earthquake
volcanic eruption
calamity
man-made disaster
complex emergencies



What I Can Do

Activity 4

Analyze the situations below. Identify and explain the type of disaster in each situation. Write your answer on a separate sheet of paper.

1. A shared experience in “My Typhoon Ondoy Experience by Rose Paterno”- Homer Foundation Inc.

On Monday morning, the flood subsided. We tried to go back to our house, but the door was difficult to open. My husband had to forcefully open the door and when finally, it did, we were saddened when we saw our things. We did not even know where to start again! I tried to go outside the village to buy water for my children, then I saw that many of the families in our area were also waiting for relief goods, looking for open stores to buy food from. It was a terrible experience. I had to go back without anything. We waited until somebody came to our house and asked them if they could buy us potable water. Kindly, they said “Yes” to our favor. Mr. Sam Suarez called and checked if my family was okay, and Ms. Ynas continuously monitored our situation.

After 2 days, Thursday, I tried to call my family in Bulacan. Finally, I got to talk with my sister, and she said that they are okay. Thank God, I sighed in relief. In a blink of an eye, everything we worked hard for was gone. But we knew that we had to be strong and start again somewhere. So, we started by cleaning up the mess inflicted by Typhoon Ondoy, grateful for the safety of everyone we loved and hopeful for a better and brighter future

2. Part of the article in MONGABAY, NEWS & INSPIRATION FROM NATURE’S FRONTLINE entitled Saving an island from the worst oil spill in the Philippines: The case of Guimaras by Arnel Murga on 11 October 2019

On August 11, 2006, the oil tanker M/T Solar 1, hired by Petron Corporation, sank off the coast of Guimaras, an island province in the Philippines, spilling more than 2.1 million liters (about 555,000 gallons) of bunker fuel. It is still known as the worst oil spill in the Philippines’ history. The oil that contaminated the water was not only devastating for the environment but also for the people and the economy of Guimaras. Thirteen years later, Guimaras once again boasts pristine beaches with white sand and the fisherfolks have returned to harvesting the abundance of the waters.



3. An excerpt on the article entitled “Memories, life lessons: Stories from World War II veterans” By: Lyn Rillon - @inquirerdotnet Philippine Daily Inquirer / 12:08 AM April 09, 2015

World War II veteran Porfirio G. Laguitan, 91 years old. He was an informer for guerillas, reporting enemy position and activities during the war. After WWII, he worked for the US forces looking for deserters in the Japanese army for turn-over to the USAFFE headquarters and also worked under the US military police command to maintain peace and order. He has 7 children and more than two dozen grandchildren. INQUIRER PHOTO/LYN RILLON

Read more: <https://globalnation.inquirer.net/120480/memories-life-lessons-stories-from-world-war-ii-veterans#ixzz6R1AhCCg5>

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4. An excerpt on the article entitled “GMA’s Howie Severino recovers from COVID-19 shares experience to help other patients” By Io Carpiso April 10, 2020

He describes the disease as “one of most stigmatized and loneliest in human history” since having contracted it, one must immediately be quarantined from the rest of the world to prevent contamination. After which, survivors are still avoided like the plague itself despite having recovered.

It is no news that this pandemic has brought about discrimination around the world, be it bias against a certain race, medical workers, front liners, and COVID-19 survivors. In fact, Quezon City had recently passed an ordinance to prevent discrimination against front liners and infected patients.

SCORING RUBRIC:

NOTE: This rubric will be used in checking the explanation part of the activity. Automatic two (2) points will be given to the identified types of disaster.

	Excellent (4 pts)	Good (3 pts)	Approaching standard (2 pts)	Needs Improvement (1pt)
Ideas and Content	What you are writing about is clear and well-expressed, including specific examples to demonstrate what you learned. Well done	What you are writing is clear. You answered the question. Some support may be lacking, or your sentences may be a bit awkward. Overall a decent job.	You put thought into this, but there is no real evidence of learning. More specific information is needed, or you need to follow the directions more closely.	There is no clear or specific explanation in answer to the question.



Use of terms	Your answer included all the terms from the lesson that applied to the question asked. All terms are fully defined and used in the proper context.	Your answer included several terms from the lesson, demonstrating adequate understanding of the material.	Only one term from the lesson is used in the answer. Try for a few more, next time.	No terms from the lesson are used.
Sentence fluency	Sentences are complete and they are read out loud. Your writing flows.	Sentences are complete and able to be understood.	Some sentences are complete and easy to understand. Others require some work.	Sentences are incomplete or too long. It makes reading them difficult.
Conventions	No punctuation or structural mistakes. No spelling errors. Your writing shows full awareness of the rules of English use.	Use of punctuation marks and capitals as well as spelling is mostly correct. Few errors exist in your answer.	Mistakes using end marks or capitals as well as spelling mistakes make writing hard to read.	Few end marks or capital letters. Answers contain numerous spelling or structural errors.

Source: Reazon System, Inc. 2020. Accessed August 9, 2020.
<https://www.rcampus.com/rubricshowc.cfm?code=U66W43&sp=yes&>.



Posttest

Read each statement carefully. Then, encircle the letter of the best answer.

- Which of the following analogies is **CORRECT**?
 - Natural disaster: war
 - Complex emergency: earthquake
 - Man -made disaster: industrial accidents
 - Pandemic emergencies: forest fire caused by humans
- Which of the following is an example of natural disaster?
 - War
 - Earthquake
 - Spread of virus
 - Forest fire caused by humans



3. What type of disaster is described in the situation below?

Valir and Wanwan shared their experience with typhoon Ondoy. They called their experience a nightmare. They tried to go outside the village to buy water for their children. Then they saw that many of the families in their area were also waiting for relief goods. Others were looking for open stores to buy food. It was a terrible experience for them. They had to go back without anything. They waited until somebody came to their house and asked them if they could buy them potable water or any food.

- A. Natural Disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency
4. Which of the following types of disaster includes attacks on strategic installations, including conflict situations and war?
- A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency
5. Which of the following is **NOT** an example of man- made disaster?
- A. Tsunami
 - B. Forest fire caused by humans
 - C. Technological or industrial accidents
 - D. Accidents on the use or transportation of hazardous material
6. Which of the following types of disaster includes a break-down of authority?
- A. Natural disaster
 - B. Man-made disaster
 - C. Complex emergency
 - D. Pandemic emergency
7. Which of the following statements **DOES NOT** define disaster?
- A. It is only caused by the natural phenomena.
 - B. It is catastrophic and may happen anytime such as volcanic eruption.
 - C. It may cause great damages and brings harm to people in nearby places.
 - D. It is a serious disruption of the functioning of a society involving widespread of human, material, economic, or biological losses which allow the ability of the affected community or society to adapt using its own resources.



8. Which of the following types of disaster includes floods, hurricanes, and volcano eruptions that have immediate impacts on human health?
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9. Which of the following types of disaster involves a sudden onset of contagious disease that affects the health of the community?
- A. Natural disaster
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- A. Natural disaster
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12. Which of the following includes the events or phenomenon like geological or meteorological phenomena that can cause the death and loss of property?
- A. Natural Disaster
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 - D. Pandemic emergency
13. Which of the following is described as catastrophic and may happen anytime such as volcanic eruption?
- A. Disaster
 - B. Earthquake
 - C. Hazard
 - D. Tsunami



14. What type of disaster is described in the situation below?

World War II veteran Porfirio G. Laguitan was an informer for guerillas, reporting enemy position and activities during the war. After WWII, he worked for the US forces looking for deserters in the Japanese army for turn-over to the USAFFE headquarters and worked under the US military police command to maintain peace and order.

- A. Natural disaster
- B. Man-made disaster
- C. Complex emergency
- D. Pandemic emergency

15. Which of the following is an example of man- natural disaster?

- A. Accident
- B. Earthquake
- C. Flood
- D. Tsunami



Additional Activities

Write a reflection on the concept and nature of disaster by answering the questions inside the box. Have fun and enjoy!

Concept and Nature of Disaster Guides me to reflect on _____	⇒	What learnings have I found from this lesson? _____ _____
		↓
What learning can I share with my family and peers? _____ _____	⇐	What other examples can I contribute to explore and think more? _____
		↓
What good character have I developed from this lesson? _____ _____	⇒	What is my conclusion on the lesson? _____ _____



SCORING RUBRIC

NOTE: This rubric will be used in checking the answers in additional activities.

	Excellent (4 pts)	Good (3 pts)	Approaching standard (2 pts)	Needs Improvement (1pt)
Ideas and Content	What you are writing about is clear and well-expressed, including specific examples to demonstrate what you learned. Well done	What you are writing is clear. You answered the question. Some support may be lacking, or your sentences may be a bit awkward. Overall a decent job.	You put thought into this, but there is no real evidence of learning. More specific information is needed, or you need to follow the directions more closely.	There is no clear or specific explanation in answer to the question.
Use of terms	Your answer included all the terms from the lesson that applied to the question asked. All terms are fully defined and used in the proper context.	Your answer included several terms from the lesson, demonstrating adequate understanding of the material.	Only one term from the lesson is used in the answer. Try for a few more, next time.	No terms from the lesson are used.
Sentence fluency	Sentences are complete and they are read out loud. Your writing flows.	Sentences are complete and able to be understood.	Some sentences are complete and easy to understand. Others require some work.	Sentences are incomplete or too long. It makes reading them difficult.
Conventions	No punctuation or structural mistakes. No spelling errors. Your writing shows full awareness of the rules of English use.	Use of punctuation marks and capitals as well as spelling is mostly correct. Few errors exist in your answer.	Mistakes using end marks or capitals as well as spelling mistakes make writing hard to read.	Few end marks or capital letters. Answers contain numerous spelling or structural errors.

Source: Cox, Janelle. 2020. Accessed August 9, 2020. <https://www.thoughtco.com/essay-rubric-2081367..>





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