



What Is This Module About?

How do you usually feel when you hear that a typhoon is coming? Do you take this as good news because you will have a chance to stay home all day? Don't be ashamed if your answer is yes. Most people would probably welcome the break from work or school that a typhoon brings. When Signal No. 2 or No. 3 is up, classes are cancelled and most offices are closed. This means that people don't have to go to school or work. They can spend the day taking rest in their homes.

But do you know that a typhoon can be destructive? A typhoon brings rains, strong winds, floods and dangerous waves or tsunamis. In this module, you will learn about the destruction typhoons can bring us. And because of this, each of us should be prepared in case a typhoon comes. You will also learn how to prepare for typhoons and avoid accidents resulting from them.

This module is divided into two lessons:

Lesson 1 – *How Destructive Are Typhoons?*

Lesson 2 – *What to Do When a Typhoon Comes*

Before reading this module, make sure that you have already read the module entitled *Typhoons in the Philippines*. This discusses how a typhoon is formed.



What Will You Learn From This Module?

After completing this module, you should be able to:

- ◆ describe the destruction or damages typhoons can bring; and
- ◆ identify measures that should be done before, during and after a typhoon.



Let's See What You Already Know

Before you start studying this module, take this test to determine how much you already know about the topic. Write the letter of the correct answer in the space before each number.

- _____ 1. What should you prepare or store when a typhoon is coming?
- a. food items like fresh meat and fish
 - b. food items like canned goods
 - c. ice cream and cake
 - d. fresh fruits and vegetables
- _____ 2. Why do we prepare for typhoons?
- a. to prevent typhoon-related accidents
 - b. to avoid destruction of life and property
 - c. all of the above
 - d. none of the above
- _____ 3. Which of the following is not an emergency supply?
- a. medicine
 - b. flashlight
 - c. first aid kit
 - d. anemometer
- _____ 4. Which of the following accidents is related to typhoons?
- a. getting electrocuted
 - b. getting hit by a falling wall
 - c. drowning
 - d. all of the above

- _____5. When there is a typhoon, which is the most reliable source of information?
- a. cinemas
 - b. radio
 - c. gossip from neighbors
 - d. magazines
- _____6. What is leptospirosis?
- a. a disease caused by the urine of rats in floodwater
 - b. an illness that results from very cold climate
 - c. a disease caused by drinking dirty water
 - d. none of the above
- _____7. What should you do right after a typhoon?
- a. stay outdoors to see the extent of damages
 - b. postpone seeking medical help for injured family members
 - c. stay close to dangling and loose power lines
 - d. none of the above
- _____8. Which of the following is caused by a typhoon?
- a. damages to infrastructures (buildings, bridges, etc.)
 - b. destruction of lives
 - c. damages to crops
 - d. all of the above
- _____9. Which disease is related to typhoons?
- a. malaria
 - b. hypothermia
 - c. athlete's foot
 - d. all of the above

- _____10. What should you do during a typhoon?
- a. walk in flooded areas
 - b. have a picnic by the riverbank
 - c. stay indoors
 - d. visit a friend

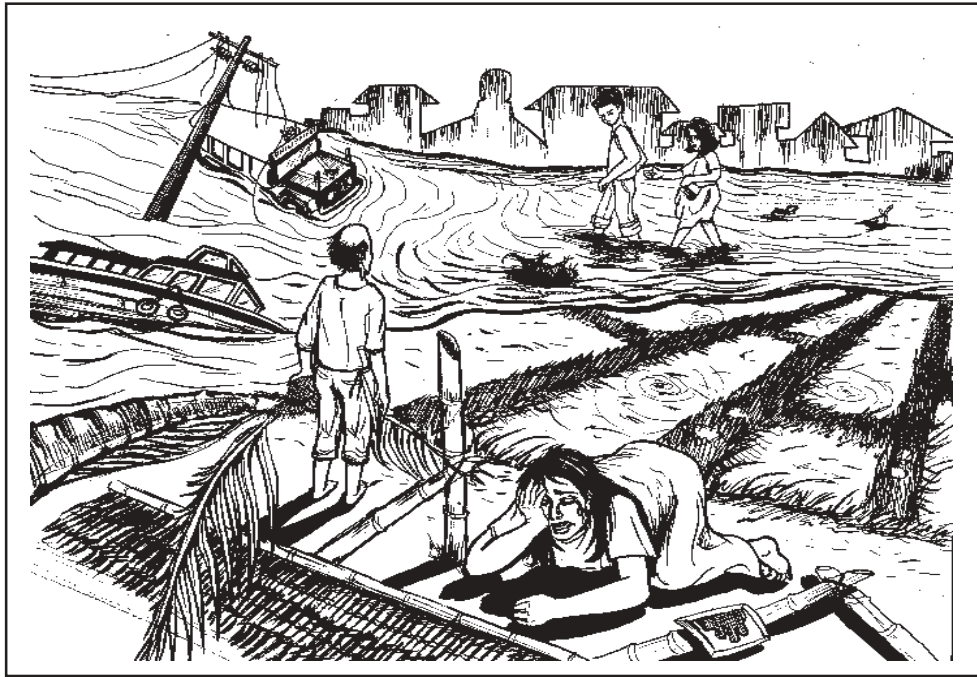
Well, how was it? Do you think you fared well? Compare your answers with those in the *Answer Key* on pages 31–32.

If all your answers are correct, very good! This shows that you already know much about the topic. You may still study the module to review what you already know. Who knows, you might learn a few more new things as well.

If you got a low score, don't feel bad. This means that this module is for you. It will help you understand important concepts that you can apply in your daily life. If you study this module carefully, you will learn the answers to all the items in the test and a lot more! Are you ready?

You may now turn to the next page and start with Lesson 1.

How Destructive Are Typhoons?



Do you know how destructive typhoons can be? Have you ever experienced the strong winds, rains and floods of a typhoon? What were its effects on your surroundings? How about on the people around you? In this lesson, you will learn about the destruction typhoons can cause.

We often hear news about the damages caused by a typhoon after hitting a particular place. For instance, Typhoon Reming, which hit Central Luzon on October 29, 2000, caused damages worth P500 million in agriculture and infrastructure. Many people drowned and some were never found again. It is for this reason that we should learn about typhoons and how to be prepared for them.

After studying this lesson, you should be able to describe the destruction brought by typhoons on man, the environment and the economy.



Let's Study and Analyze

Study the pictures below. Identify the damages caused by a typhoon. Write your answer in the blank below each picture.



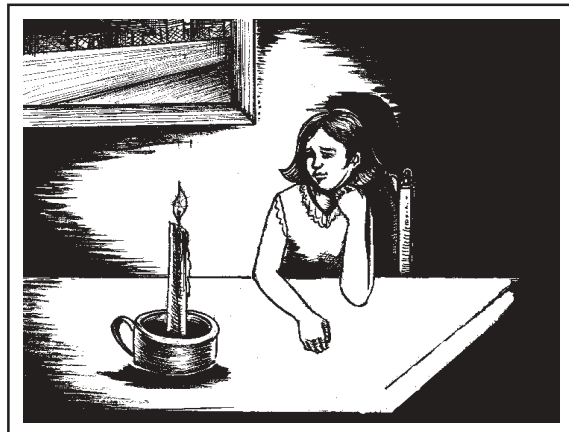
1. _____



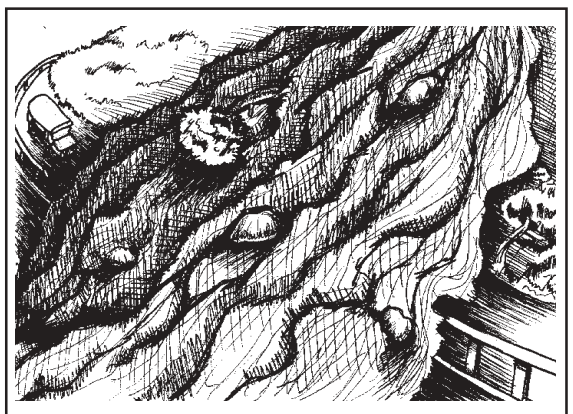
2. _____



3. _____



4. _____



5. _____



6. _____

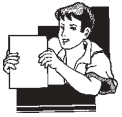
Do you think that you got all the right answers? Compare your answers with those in the *Answer Key* on page 32.



Let's Think About This

Were you able to identify the damages or destruction caused by a typhoon? How could a typhoon cause such destruction? What is a typhoon, anyway? Can you still recall what you learned in the previous module about what a typhoon is? If you answered that “a **typhoon** is a big mass of moist air formed in warm seas,” then you are correct. It is formed when wind picks up heat and moisture in warm areas. It brings heavy rains, strong winds, floods and dangerous waves or tsunamis. These are the causes of destruction that we experience during typhoons.

To learn more about the destruction caused by typhoons, read on.

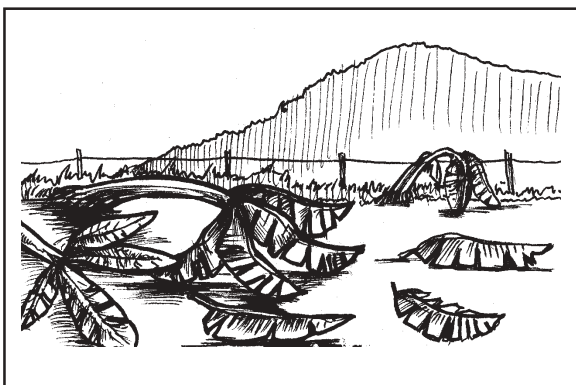
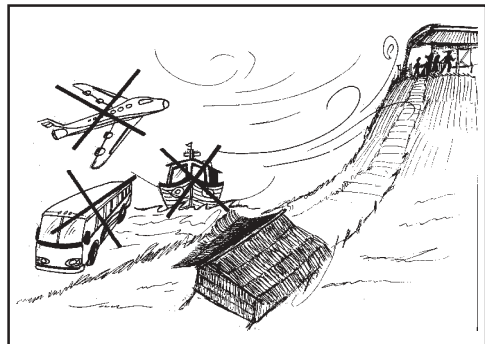


Let's Learn

Typhoons can cause damages to infrastructures (e.g. buildings, roads, bridges, etc.), crops and properties. It also affects the health of the people through the spread of diseases. It may even cause injuries and death to people.

Damage to infrastructures

Strong winds, landslides and floods destroy houses, buildings, roads and bridges. Bridges may collapse, and fallen trees and other objects may block roads. These make it hard to travel even after the typhoon has passed. Houses which are not strongly built or are made of poor materials may be damaged, too. This will lead to many people becoming homeless.



Destruction of the environment

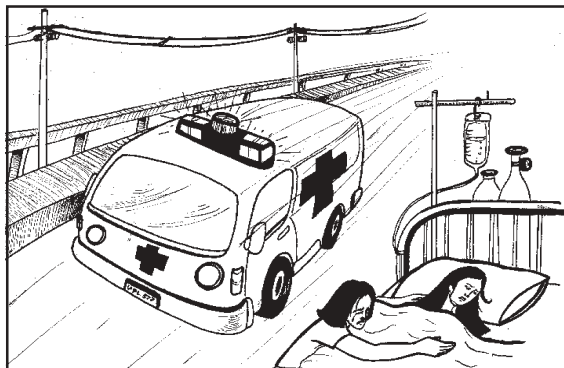
Plants and animals are destroyed by heavy winds, rains and flooding. Even big trees fall down to the ground as the force of strong winds pulls their roots from the soil.

Diseases and epidemics

Flooding can contaminate deep wells. Infected drinking water can lead to fatal diseases like gastroenteritis, typhoid fever, cholera, diarrhea, dysentery and hepatitis A. Malaria and encephalitis are other diseases that are common during typhoon season.



Floodwaters may also cause athlete's foot and even leptospirosis, which can cause death. The urine of rats living in drainage systems and canals causes leptospirosis. Furthermore, lives may be lost due to extreme coldness or hypothermia. These diseases may spread quickly to a large number of people, especially in evacuation centers where there is poor sanitation. This will then lead to an **epidemic** or the immediate spreading of diseases affecting a large number of people.

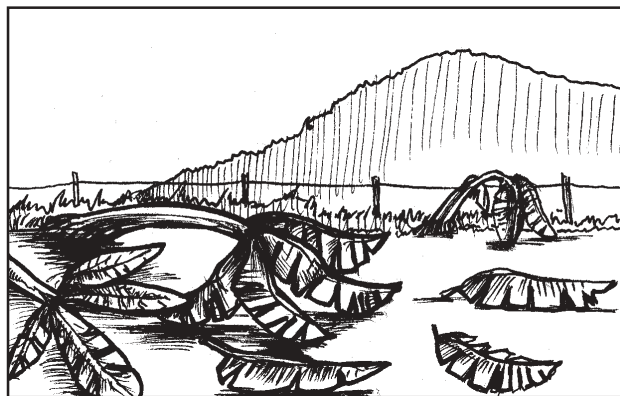


Loss of human lives

As mentioned earlier, people may die because of the diseases caused by floodwater and extreme cold. Aside from this, people may die from accidents like drowning or being buried in landslides. Other accidents are electrocution caused by live, dangling electric wires and getting hit by falling walls or objects.

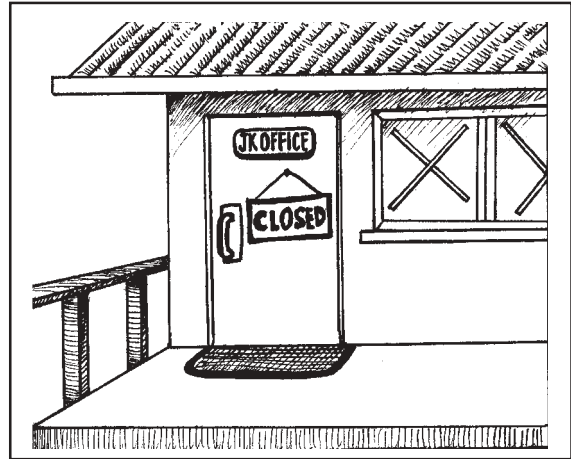
Destruction of crops and farms

Typhoons can totally destroy crops and farms that farmers have worked hard on. With their crops and farms destroyed, their source of income is also destroyed. Aside from this, people like us who are not farmers can also be affected since there will be a shortage of food supply.



Stoppage or interruption of business and work

It is dangerous to go out when there is a strong typhoon. Aside from this, streets are flooded and bridges and roads are either blocked or destroyed. To avoid accidents, offices and businesses are closed.



Great economic loss



As crops are destroyed and farmers lose their sources of income, our country's economy suffers greatly. Add the fact that businesses and offices are closed during typhoons. These businesses lose millions of pesos when their operations are interrupted. This means that businessmen and farmers lose their income due to the typhoons.

Our government also loses income in the form of taxes that individuals and businesses will pay. Aside from this, the government has to come up with money to rebuild destroyed infrastructure and spend for relief operations for those who were affected by the typhoon.



Let's Think About This

Do you remember the strongest typhoon that hit your place or community? What was it called? Describe the destruction that it caused. Write your answers below.

Compare your answers with those found in the *Answer Key* on page 32.



Let's Try This

Look for an item in a newspaper that tells about a typhoon. Read and study the article you have chosen. Then, identify the effects of the typhoon according to the article. Write them down on a piece of paper.

Show your answers to your Instructional Manager or Facilitator for feedback.



Let's See What You Have Learned

Below is a newspaper article. Read it carefully. Then identify the damages brought about by Typhoon Edeng.

"Edeng" Leaves 42 Dead

Typhoon "Edeng" moved toward Taiwan yesterday after hitting most parts of Luzon, leaving 42 people dead.

Four people died and another four people were still missing after a fishing boat carrying 32 people turned in rough seas near Mindoro.

Edeng continued to dump rains and cause floods in Northern Luzon yesterday as another typhoon, "Ditang," moved to Japan.

Now, moving north-northeast at 28 kph, Edeng is expected to be at 230 kilometers northeast of Taiwan by this morning.

Red Cross rescuers evacuated 185 families along the Tullahan River in Quezon City before La Mesa Dam reached overflow level.

Thousands of families in the flood-prone towns of Malabon and nearby Cainta, Rizal were forced out of their homes by floodwaters.

In the provinces, rubber boats were sent to rescue the stranded people, some from rooftops.

About 800,000 people are sheltered in about 80 evacuation centers. The National Disaster Coordinating Council (NDCC) reported that the number of refugees reached 1.2 million.

The NDCC also reported that 1,270 houses were destroyed and 3,798 others were damaged.

Floods caused an estimated P82 million in agricultural damage and another P19 million in damaged roads and bridges.

Source: The Philippine Star, July 10, 2000.

From the article, what are the damages caused by Typhoon Edeng? List down in the blanks below seven (7) kinds of damages or forms of destruction.

Compare your list with that in the *Answer Key* on page 33.

Well, how was it? Did you get all the right answers? If so, very good! If not, review the parts of this lesson that you did not fully understand.

Before proceeding to Lesson 2, read the summary below to help you remember the important points discussed in this lesson.



Let's Remember

Typhoons can be very destructive. They may cause:

- ◆ damage to homes and infrastructures;
- ◆ destruction of the environment;
- ◆ diseases and epidemics;
- ◆ loss of human lives;
- ◆ destruction of crops and farms;
- ◆ stoppage or interruption of businesses and offices; and
- ◆ economic loss.

What to Do When a Typhoon Comes

Do you know what to do before, during and after a typhoon? Can you still recall the PAGASA warning signals you learned in the previous module? We should know these warning signals so that we will know what to do when a typhoon comes.

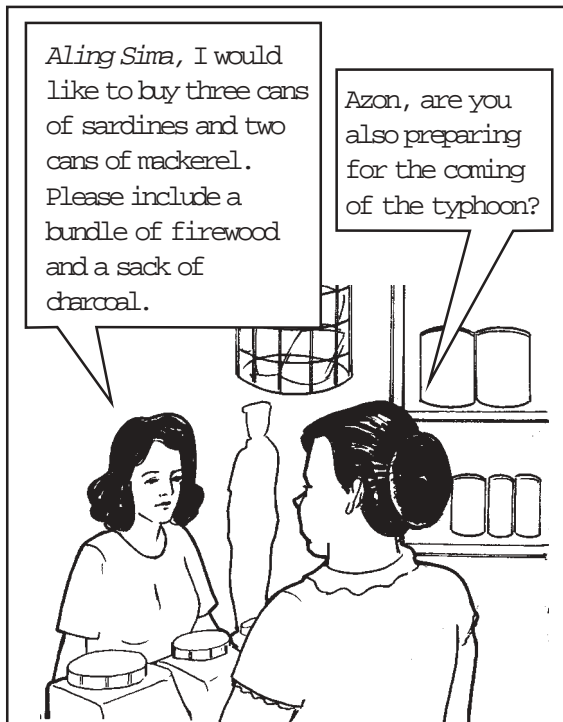
In this lesson, you will learn what to do when a typhoon comes. You will learn how to avoid accidents before, during and after a typhoon.



Let's Listen to This

Get the audio tape that accompanies this module and listen to the dialogue. It tells about the importance of preparing for a coming typhoon. If you don't have the tape or a cassette player, you can just read the comic strip below.

Poor Aling Tasya



Their neighbor Mang Berting arrives...

Would you please sell me some roof nails, *Ka Sima*, so I could repair our roof before the winds get strong.

Ohh, awhile, Berting. I'll attend to Azon first, okay? After her, I'll attend to you next. One moment.



Here, Azon. Three small cans of sardines and two cans of mackerel, right? Is that enough?

There's still the bundle of firewood and the sack of charcoal.

Oh, yes, of course. Well, here it is.

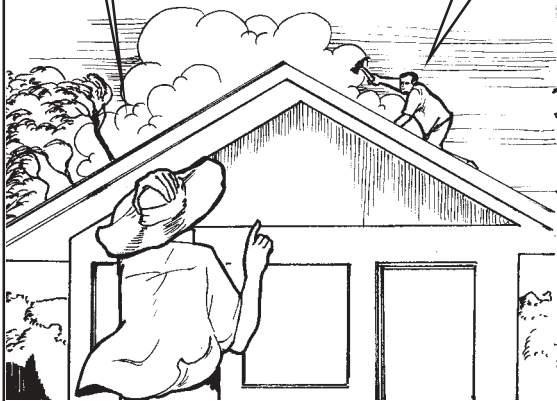
Yes.



After an hour....

Mang Berting, you seem very busy.

Yes, Andoy. I am already fixing our roof because perhaps it may suddenly get blown away when the winds become strong.

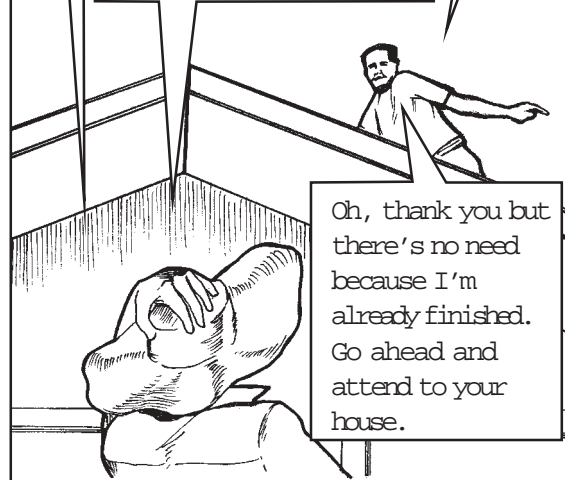


That is really my intention, that is why I'm in a hurry to get home. I now need to attend to our house, now that I have finished putting wooden braces for my vegetables in the garden.

Well, move along then. Go home now.

Perhaps you might need some help. I shall assist you even for a while.

Oh, thank you but there's no need because I'm already finished. Go ahead and attend to your house.



While Andoy was on his way...

Oh, dear. Hmm. The wind is getting strong; I need to hurry. Huh, that's Tasya coming my way; she's also walking fast.

Tasya, Tasya, you seem to be in a hurry. Are you also getting ready for the arrival of the typhoon?

What typhoon?

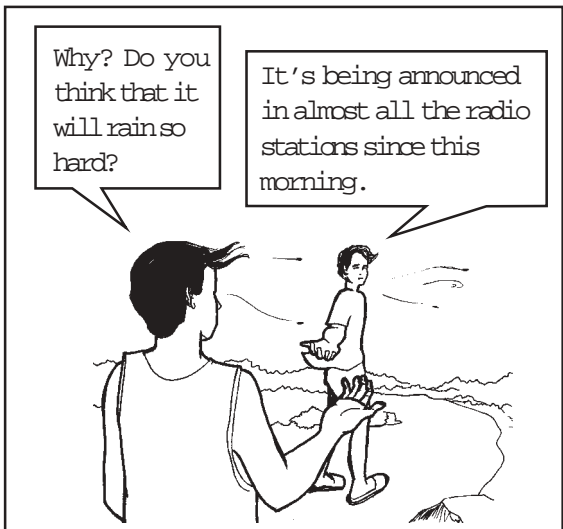
Didn't you hear the news of a very strong typhoon coming to us?

Oh, there you go again. You readily believe such hearsay.

This isn't just hearsay, Tasya. The government agency itself, the PAGASA, was the one that released the news about the typhoon coming towards us.

Well, so what if it was the PAGASA? Does it not make mistakes? It's still made up of only people. They say the sun will shine, then the rain suddenly falls.

Then, they say it will rain. But the whole day the sun shines brightly. Let's not go on believing them. There's no typhoon. Maybe it will drizzle, yes. Ha-ha-ha. I'll leave you be. I'm going to Nena's. The others might get ahead of me in renting her newly arrived comics.



In the household of Mang Cosme and Aling Tasya

Typhoon, typhoon. Why are our neighbors like that, Itay? Almost all of them are busy preparing for the coming typhoon. But we aren't.

Yes, that's right, Kevin.



Nanay's here already.



Tasya! Where've you been? Until now you haven't started cooking dinner.

Huh? Well, I just rented some newly arrived comics from Nana's.



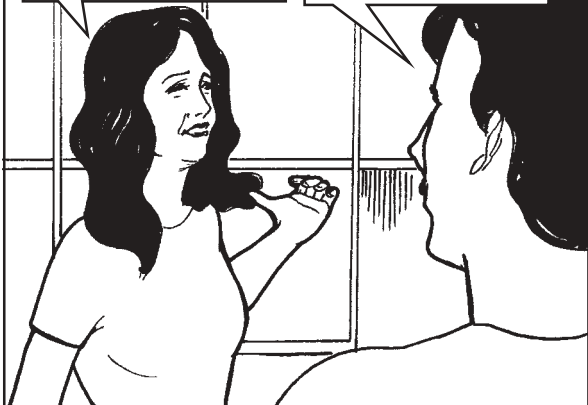
Oh, comics! 'Nay, let me read some, okay?

Okay, Kevin. I rented four. And do you know, Cosme, what I passed by? Our fellow villagers are very busy preparing for the typhoon.



Ha-ha. Would you believe they're like crazy? Hammer here, hammer there.

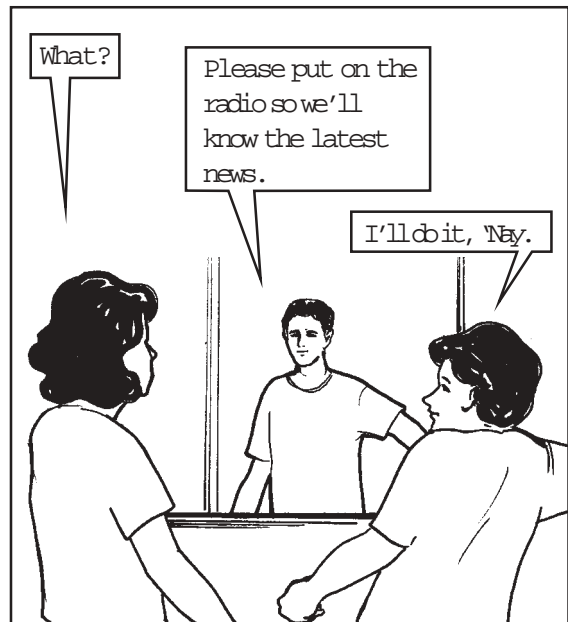
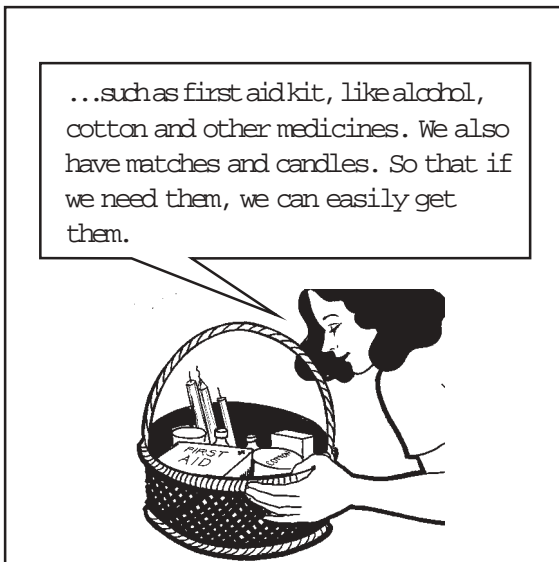
Those guys, they easily believe such news. Usually nothing happens.

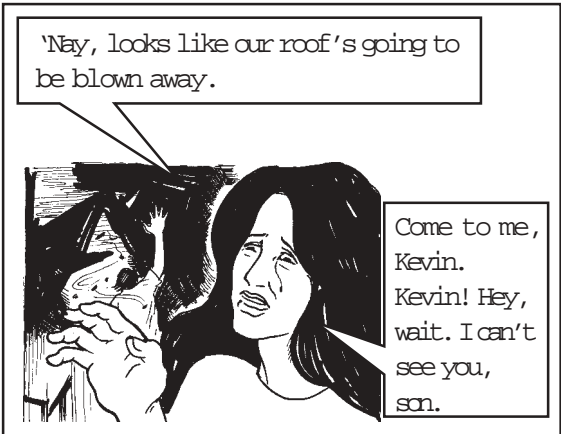
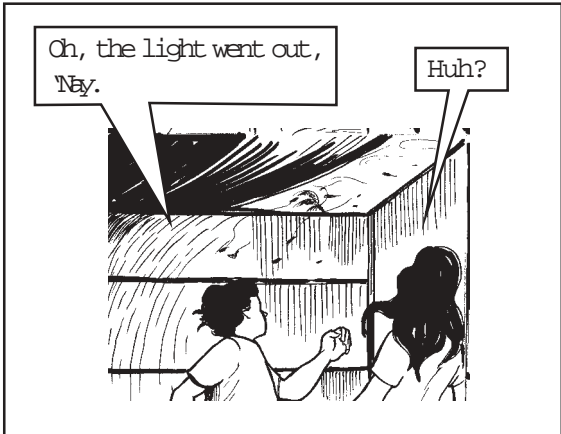
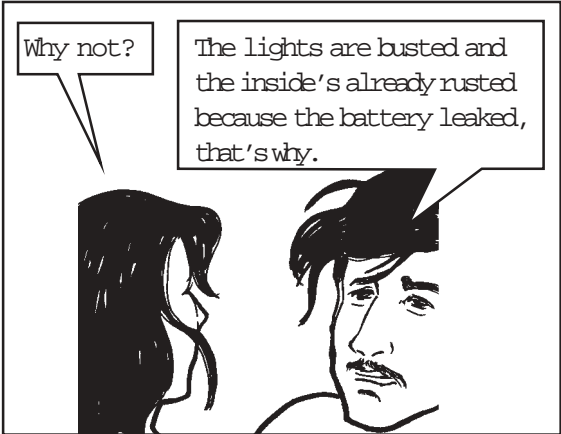
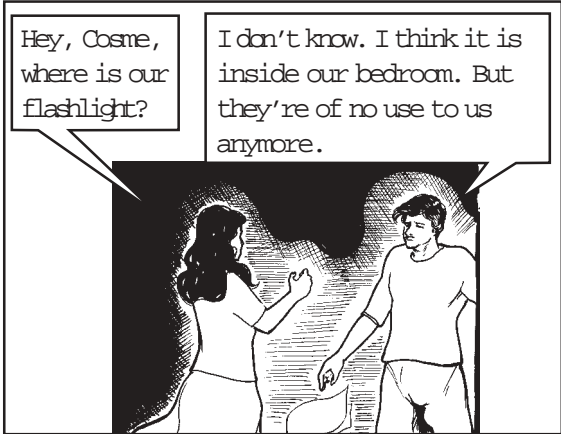
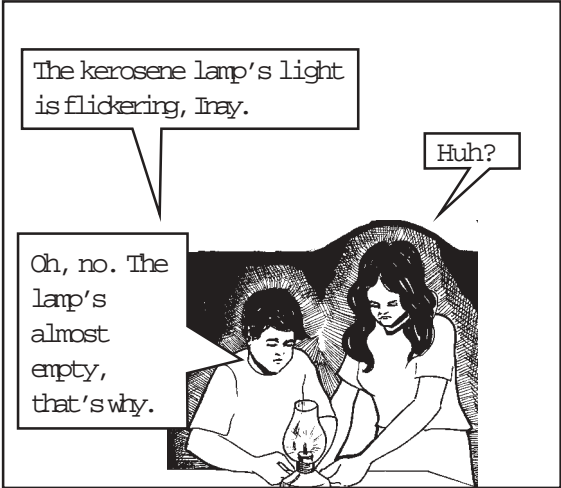
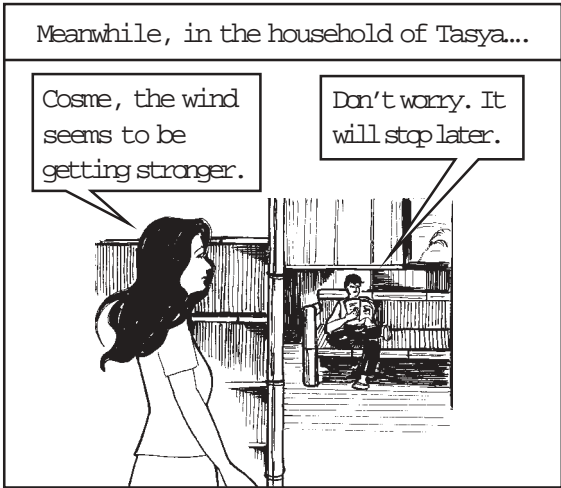
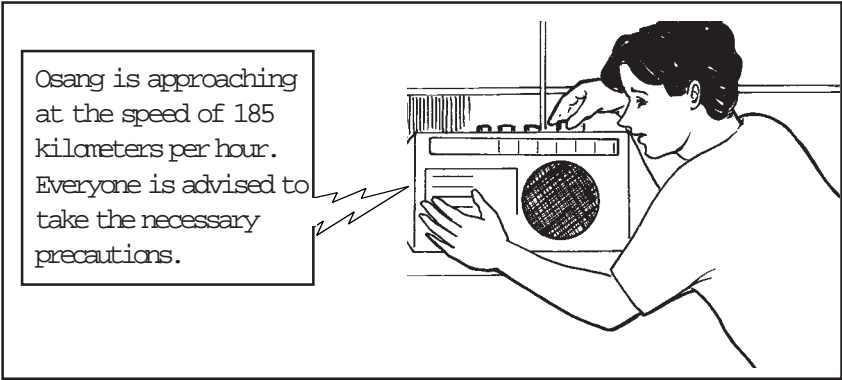


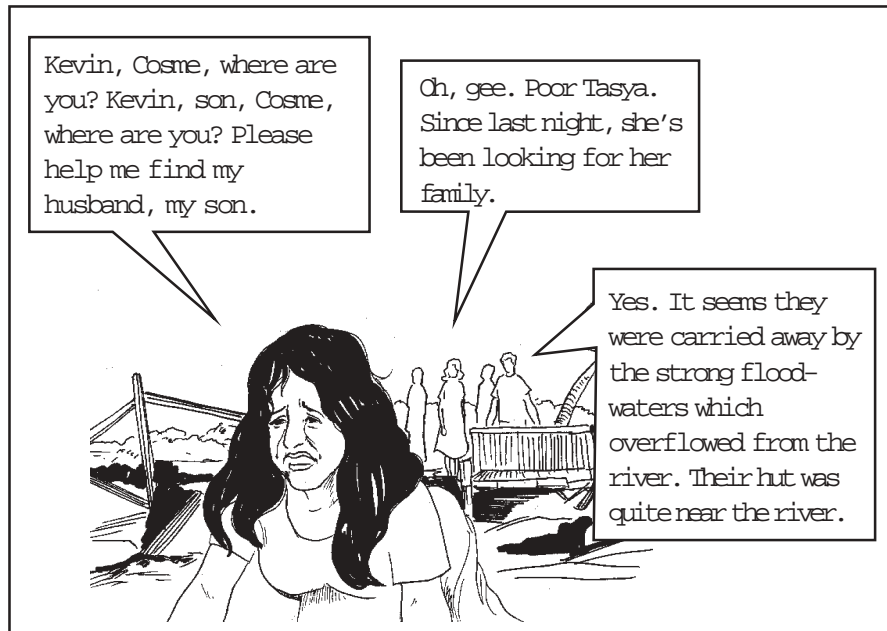
You're right. They're only overworking themselves.

Let them tire themselves. That's what they like. Hand me those comics you brought . . . I'll choose what I'm going to read.









Let's Think About This

What should Tasya and Cosme have done to avoid this sad ending? What does the story tell you? Write down your answers and then compare them with those found in the *Answer Key* on page 33.

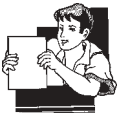


Let's Try This

How do you prepare for typhoons? What should you do before, during and after a typhoon? List down at least three things that you should do in the table below.

Before	During	After

To know if your answers are right, continue reading the lesson.



Let's Learn

Here are some tips on how to prepare for typhoons and avoid accidents before a typhoon.

BEFORE THE TYPHOON

- ◆ Have a battery-powered radio in case there will be no power.
- ◆ Keep listening to the radio for weather updates.
- ◆ Protect property and personal belongings (e.g. important documents).
- ◆ Place indoors any loose objects that may be in and around your yard.
- ◆ Store food and water.



- ◆ Be sure that emergency supplies are on hand, including a first aid kit.
- ◆ Know where you are going to evacuate when the situation calls for it.
- ◆ Fix your roof or ceiling, especially if it is leaking or not nailed on tightly.



Let's Review

Janice heard on the news that a typhoon is coming. Help her prepare by putting a check (✓) mark on the items that she must store or keep on hand.



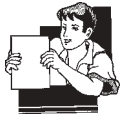
Compare your answers with those found in the *Answer Key* on pages 33–34.



Let's Think About This

Can you still recall the different typhoon warning signals discussed in the previous module? Write them below.

Is there a set of measures that you should follow for each of the storm warning signals? What are these measures? Think about these for a while before continuing to the next section.



Let's Learn

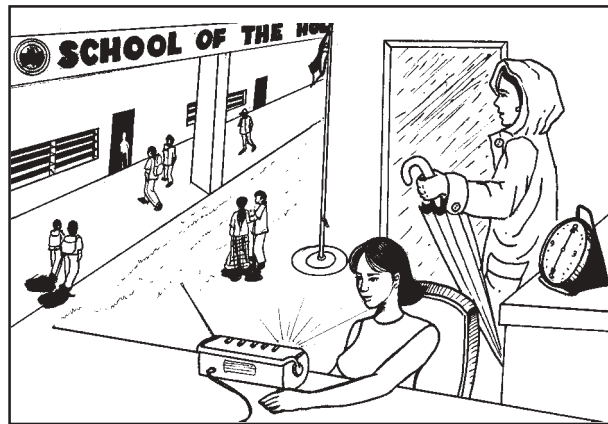
DURING THE TYPHOON

During a typhoon, PAGASA raises storm signals to warn the people. There are four such signals, namely: Signal No. 1, 2, 3 and 4. The signal depends on the speed of the wind during the typhoon. Below are what you should do when a particular storm signal is raised.

Signal No. 1

(Wind speed: 30 to 60 kilometers per hour)

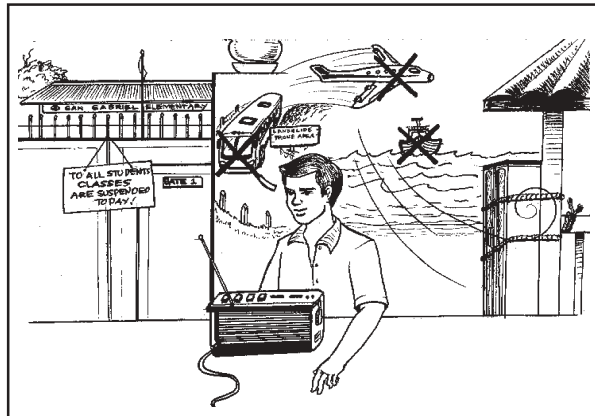
- ◆ Listen to radio announcements about the weather from PAGASA every six hours.
- ◆ Business is as usual. Schools and offices are open. When going out, bring your umbrella or raincoat to protect yourself from the rain.



Signal No. 2

(Wind speed: 61 to 100 kilometers per hour)

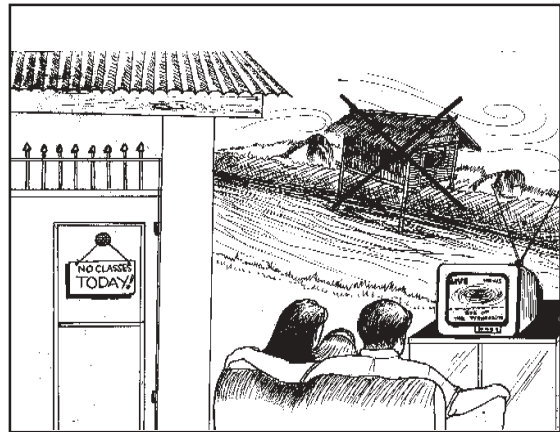
- ◆ Listen to radio announcements about the weather from PAGASA.
- ◆ Postpone outdoor activities. Stay indoors. Classes for elementary and secondary levels are suspended.
- ◆ Avoid traveling by land, air or sea.
- ◆ Secure breakable items that may be blown away by strong winds.
- ◆ Stay alert. If there is a possibility of flooding, evacuate the family to a higher place.



Signal No. 3

(Wind speed: 101 to 185 kilometers per hour)

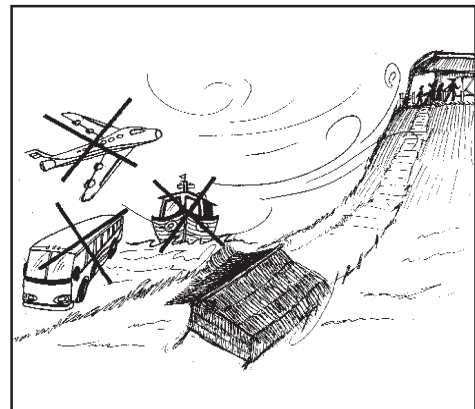
- ◆ Classes and offices are closed.
- ◆ People are advised to seek shelter in strong buildings. If the houses are safe and sturdy, they are advised to remain indoors.
- ◆ Stay away from riverbanks and coasts. Evacuate your family if you are living in low-lying areas.



Signal No. 4

(Wind speed: 186 kilometers per hour and up)

- ◆ Cancel all travels and outdoor activities.
- ◆ Evacuate to safer shelters before it is too late to do so. If you are living in a low-lying area, transfer to a higher place.



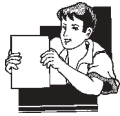
Let's Think About This

1. From what you learned in the previous module, can you still recall what the "eye" of a typhoon is?

2. You have an important meeting to attend to, but PAGASA announced that Signal No. 2 is up and advised people to stay inside their houses. Will you still go to the meeting? Why or why not?

Your answers must be similar to this:

1. The *eye* is the calm or quiet area in the center of the typhoon. The winds are calm and clouds are very few. The *eye wall* is the part of the typhoon where the winds are at their strongest and heaviest.
2. I will not attend to the meeting. I will simply tell the people that I have to meet that the weather is bad and that PAGASA advised people to stay indoors. So, we should just meet some other time when the weather improves. This way, I will avoid accidents that may happen when there is a typhoon.

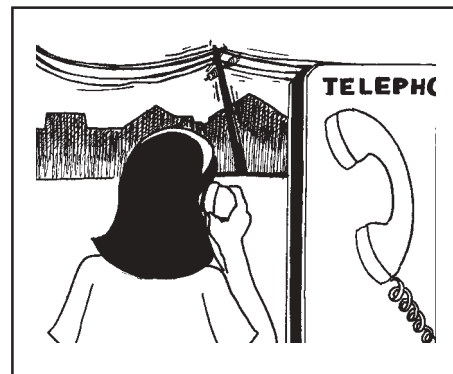


Let's Learn

AFTER THE TYPHOON

What should you do after a typhoon? Read the following measures to learn what you can do.

- ◆ If a family member is injured or sick, immediately seek medical help.
- ◆ Make temporary repairs and clean up trash.
- ◆ Avoid going out of the house. It may still be unsafe to go to some parts of your community.
- ◆ Avoid dangling and loose electric lines.
- ◆ Report to the power company damages to their facilities.
- ◆ If a gas leak is detected, turn off the main opening and get out of the house.
- ◆ Seek assistance from your barangay officials, if you need any.
- ◆ If you and your family are staying at an evacuation center, don't go home immediately. Wait for announcements from the proper authorities (barangay officials or the officer in charge of evacuation operations).
- ◆ If there are still floodwaters in your area, do not let children walk or play in them. Floodwaters are a leading source of diseases.

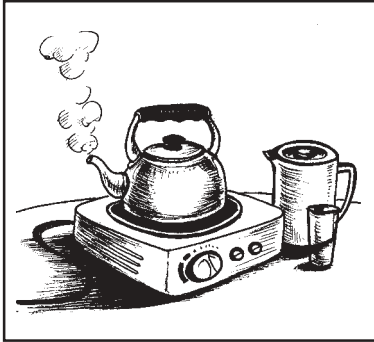


- ◆ Boil your water before drinking it. Water sources, such as deep wells, electric pumps and others, may be contaminated by floodwaters.



Let's Review

How well do you understand what you have read? What should you do after a typhoon? Put a check mark (✓) in the blank below the correct pictures.



1. _____



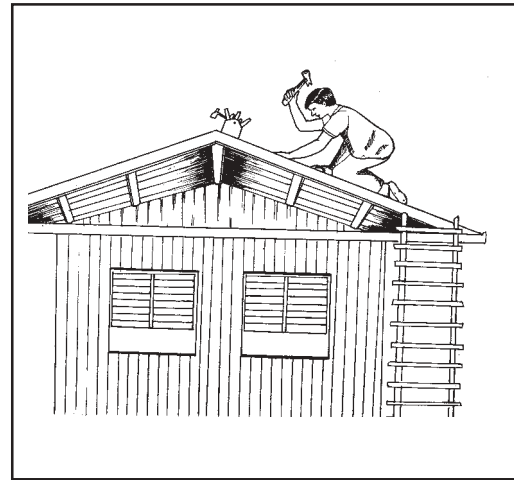
2. _____



3. _____



4. _____



5. _____

Compare your answers with those in the *Answer Key* on page 34.



Let's See What You Have Learned

1. Put a check mark (✓) in the box before the things that you should do to prepare for a coming typhoon. Put an X-mark (X) before the things that you don't need to do.

- Turn on the radio and listen to the latest news about the weather.
- Keep spare batteries for flashlights and radios in case of power interruptions.
- Listen to rumors or hearsays about the weather.
- Store extra food, especially fresh fish, meat and vegetables.
- Make sure that there is extra wood, charcoal or fuel for cooking.
- Prepare a first aid kit.
- Tie the posts or roofs of your house with strong ropes, or nail them securely, so that they will not be carried away by the wind.
- Leave your house if you live near rivers or in low-lying areas.

2. Write down what you should do when there is a typhoon and Signal No. 3 is raised in your area.

Compare your answers with those in the *Answer Key* on page 34.



Let's Remember

In this lesson, you have learned what to do in case of a typhoon.

Before a Typhoon

- ◆ Store food and water.
- ◆ Be sure that emergency supplies are on hand.
- ◆ Have a battery-powered radio in case of power failure.
- ◆ Protect property and personal belongings.
- ◆ Place indoors any loose objects that may be in and around the yard.

- ◆ Fix your leaking roofs or ceilings, and make sure they are secured in place.
- ◆ Know where you are going to evacuate when the situation calls for it.

During a Typhoon

- ◆ Listen to radio reports about the weather from PAGASA.
- ◆ Stay alert. If there is a possibility of flooding, evacuate your family, especially if you are living in a low-lying area or near rivers.
- ◆ Stay indoors and postpone outdoor activities.

After a Typhoon

- ◆ If a family member is injured or sick, seek medical help immediately.
- ◆ Make temporary repairs and clean up trash.
- ◆ Avoid leaving the house just to look around.
- ◆ Avoid dangling and loose electric lines.
- ◆ Report to the power company damages to their facilities.
- ◆ If a gas leak is detected, turn off the main opening and get out of the house.
- ◆ Seek assistance from your barangay officials, if you need any.
- ◆ If you and your family are staying at an evacuation center, don't go home immediately . Wait for announcements from the proper authorities (barangay officials or an officer in charge of evacuation operations).
- ◆ If there are still floodwaters in your area, do not let children walk or play in them.
- ◆ Boil your water before drinking it.

Congratulations! You are almost through with this module. Read the summary on the next page to help you remember the important points discussed in this module. Afterwards, answer the post-test that follows. Good luck!



Let's Sum Up

In this lesson, you learned that:

- ◆ Typhoons can be very destructive.
 - Typhoons can destroy homes, buildings, bridges, roads, trees and crops. They may disrupt business and work. They may bring about certain diseases and epidemics. Typhoons may even cause injuries and death. Finally, typhoons may lead to a great loss in our country's economy.
- ◆ There are measures we need to take before, during and after a typhoon. Remember these:
 - Store food and water in preparation for a coming typhoon.
 - Be sure that emergency supplies are on hand.
 - Protect your property and personal belongings.
 - Know where you will evacuate when the situation calls for it.
 - Stay indoors and postpone outdoor activities. If your house is not very strong or sturdy, or if you live near a body of water or in a flood-prone area, you may need to move to another place temporarily.
 - Listen to the radio for weather reports from PAGASA.
 - Make temporary repairs and clean up trash after a typhoon.
 - Report dangling electric wires and damaged facilities, such as those of the power company's.
 - Seek medical help for injured persons.
 - After a typhoon, avoid going out if it's not very important.



What Have You Learned?

Read the news item below then answer the questions that follow.

Typhoons Displace Thousands

Two people were killed. Over 120,000 people fled their homes as Typhoons Ditang and Edeng slashed through Luzon.

Several roads in Metro Manila were under two to three feet of floodwaters. This paralyzed traffic and stranded thousands of commuters. Education officials suspended classes in the affected areas.

A 29-year-old mother was killed and her one-year-old son injured in a rockslide caused by heavy rains.

Edeng is expected to move north-northeast at 11 kilometers per hour toward the Batanes islands.

In Manila, police reported 44 vehicle accidents apparently caused by heavy rains and slippery roads. Eight people were injured, none seriously.

In Pampanga, San Fernando City and other towns of Bacolor, Candaba, Guagua, Lubao, Macabebe, Masantol, Minalin, Sto. Tomas and Sasmuan went under two to three feet of floodwaters.

Power was interrupted several times in many parts of Pampanga. Several roads and bridges were made impassable by floodwaters.

Falling rocks and boulders and the possibility of landslides forced local officials to close Kennon Road in Baguio to traffic. Motorists were advised to take other routes.

The Department of Health (DOH), meanwhile, warned the public against leptospirosis. This is a water-borne disease caused by rat urine and animals infected with *leptospira bacteria*. Its symptoms are high fever, headache, muscle and joint pains and reddening of the eyes. Its incubation period is 10 days and it can cause death if untreated.

Dr. Glen Paraso of the DOH warned the public against wading or swimming in floodwaters, which often carry the leptospira bacteria.

Information Source: www.philstar.com

1. From the news item you just read, make a list of the effects of Typhoons Ditang and Edeng. Give at least six (6) effects.

2. List down five (5) emergency supplies needed during a typhoon.

3. Give four (4) precautionary measures to take *before* a typhoon.

4. Give three (3) precautionary measures to take *during* a typhoon.

5. Give three (3) precautionary measures to take *after* a typhoon.

Were you able to answer all the questions? Compare your answers with those in the *Answer Key* on pages 35–36.

If the number of correct answers you got is:

21 Very good! You have learned a lot from this module. You may now proceed to the next one.

15–20 Good! Just go back and review the items that you answered incorrectly.

11–14 Review the parts of the module that you did not understand very well.

0–10 You should review the whole module again.



Answer Key

A. Let's See What You Already Know (pages 2–4)

1. **(b)** Food items like canned goods, and those that do not have to be cooked or can easily be cooked, should be prepared or stored when there is a typhoon. Food items such as fresh meat and fish (a); fruits and vegetables (d); and ice cream and cake (c) are not good for storing because they easily spoil or rot.
2. **(c)** All of the above. We prepare for typhoons to prevent typhoon-related accidents (a) and to avoid destruction of life and property (b).
3. **(d)** Anemometer. Medicine, flashlight and first aid kit are examples of emergency supplies needed during a typhoon. An anemometer is an instrument for measuring and indicating the force or speed of the wind. You don't need it to survive a typhoon.
4. **(d)** All of the above. Getting electrocuted, getting hit by a falling wall and drowning are some of the accidents that may happen during and after typhoons.
5. **(b)** You can be sure that the information that you get from the radio is reliable because it is from reliable sources, such as the PAGASA. In case there is no electricity, you can still listen to the radio using batteries. The cinemas (a), magazines (d) and gossip from neighbors (c) are not reliable sources of information.
6. **(a)** Leptospirosis is a disease caused by the urine of rats in floodwater. An illness that results from very cold climate (b) is called hypothermia. Drinking dirty water (c) results in cholera.
7. **(d)** None of the above. Right after a typhoon, it is not good to stay outdoors to see the extent of damages (a), wait any longer before getting needed medical help (b), and stay close to dangling and loose power lines (d).
8. **(d)** All of the above. Damages to infrastructure (a), destruction of lives (b) and damages to crops (c) are some of the effects of a typhoon.

9. (d) All of the above. Malaria (a), hypothermia (b) and athlete's foot (c) are some of the diseases related to typhoons.
10. (c) It is advisable to stay indoors during a typhoon to avoid accidents. Walking in flooded areas (a), having a picnic by the riverbank (b), and visiting a friend (d) are dangerous activities to do when there is a typhoon.

B. Lesson 1

Let's Study and Analyze (page 6)

1. damages to crops and ricefields or farms
2. flooding in some areas
3. broken bridges
4. blackouts or power interruptions
5. landslides
6. people getting sick in evacuation centers

Let's Think About This (page 9)

This is only a sample answer. Your answer may be different. Show it to your Instructional Manager for comments.

I remember when Typhoon Osang hit our province, Mindoro Oriental, last September 2000. When the typhoon brought heavy rains and winds, my wife stopped me from going outside to catch fish. Although I really wanted to go out because I didn't catch a lot of fish in the previous days, I decided to stay inside the house. It was a good thing for me, because the next day, I found out that some boats sank. I even learned from radio reports that a boat carrying guests from the Coco Beach Resort in Puerto Galera also sank. Many people, including an infant, were killed.

Let's See What You Have Learned (pages 10–11)

Effects of Typhoon Edeng:

1. Forty-two (42) people were killed.
2. A fishing boat sank in the rough seas near Mindoro.
3. 185 families along Tullahan River were displaced and evacuated.
4. Thousands of families in Malabon and Cainta were forced out of their homes by floodwaters.
5. A total of 1.2 million people were displaced and evacuated.
6. A total of 1,270 houses were completely destroyed. Some 3,798 houses were damaged (can still be repaired).
7. Damages amounted to P82 million in agriculture and P19 million in infrastructure (roads and bridges).

C. Lesson 2

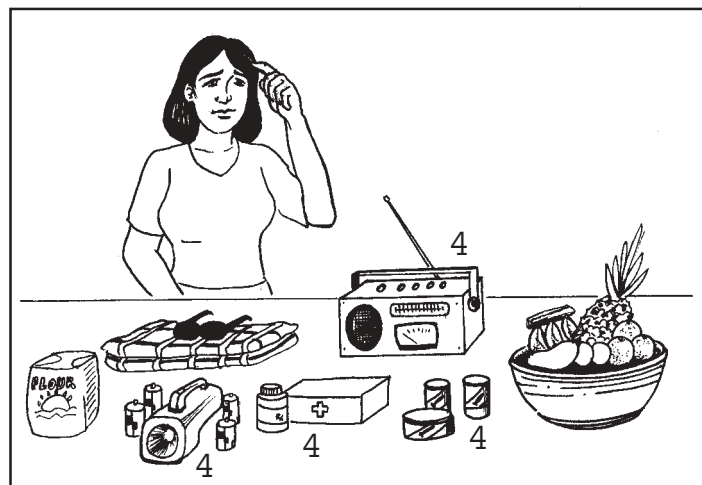
Let's Think About This (page 19)

Your answers should be similar to this:

Tasya and Cosme, upon hearing the news about a coming typhoon, should have taken all the necessary measures to prevent the accident that happened to them. This story teaches us that we should always prepare for typhoons. If we are prepared for typhoons, there will be little or no damage to our properties. We can also prevent typhoon-related accidents.

You may show your answers to your Instructional Manager for comments.

Let's Review (page 21)



To prepare for a coming typhoon, Janice must have on hand a first aid kit, radio, flashlight, batteries and canned goods. She does not need to include fresh fruits (because these rot or spoil fast), sunglasses and towel (because she's not going to the beach), or flour (because she's not going to bake).

Let's Review (pages 25)

1. 4
2. 4
3. 4
- 4.
5. 4

Let's See What You Have Learned (page 26)

1.
 - 4 Turn on the radio and listen to the latest news about the weather.
 - 4 Keep spare batteries for flashlights in case of power interruptions.
 - 8 Listen to rumors or hearsays about the weather. (You should listen to the news, not to rumors.)
 - 8 Store extra food, especially fresh fish, meat and vegetables. (You should store food that does not spoil easily, such as canned goods.)
 - 4 Make sure that there is extra wood or charcoal for cooking.
 - 4 Prepare a first aid kit.
 - 4 Tie the posts or roofs of your house with strong ropes so that they will not be carried away by the wind.
 - 4 Leave your house if you live near rivers or in low-lying areas.
2. Things that you have to do if Signal No. 3 is raised in your area:
 - a. Seek shelter in strong buildings. If your house is safe and sturdy, remain indoors.
 - b. Stay away from riverbanks and coasts. Evacuate your family if you live in a low-lying area.

D. What Have You Learned? (pages 29–30)

1. Effects of Typhoon Ditang:
(Any six of these are correct.)
 - a. Two people were killed in a rockslide.
 - b. Over 120,000 people left their homes.
 - c. Several roads in Metro Manila were flooded.
 - d. Floodwaters caused heavy traffic, leaving thousands of commuters in Metro Manila stranded.
 - e. Forty-four vehicle accidents occurred in Metro Manila due to heavy rains and slippery roads.
 - f. Several towns in Pampanga were flooded.
 - g. Several parts in Pampanga experienced power interruption.
 - h. Several roads and bridges in Pampanga were impassable due to floodwaters.
 - i. Kennon Road was impassable due to landslides.
2. Emergency supplies:
(Any five of these are correct.)
 - a. flashlights b. radio c. first aid kit
 - d. medicine e. blankets f. extra clothing
 - g. important papers like IDs and birth certificates
 - h. money i. folding chairs j. candles and matches
3. Measures to take before a typhoon:
(Any four of these are correct.)
 - a. Have a battery-powered radio ready in case of power interruption.
 - b. Protect properties and personal possessions.
 - c. Loose objects found in and around the yard should be kept indoors.
 - d. Store food and water.
 - e. Be sure that emergency supplies are on hand.

- f. Know where you are going to evacuate when the situation calls for it.
 - g. Fix your loose or leaking roofs or ceilings.
4. Measures to take during a typhoon:
- a. Listen to radio reports about the weather from PAGASA.
 - b. Stay alert. If there is a possibility of flooding, evacuate your home, especially if you are living in a low-lying area or near a river.
 - c. Stay indoors and postpone outdoor activities.
5. Measures to take after a typhoon:
(Any three of these are correct.)
- a. If a family member is injured or sick, seek medical help immediately.
 - b. Make temporary repairs and clean up trash.
 - c. Avoid going out of the house just to look around.
 - d. Avoid dangling and loose electric lines.
 - e. Report to the power company damages to their facilities.
 - f. If a gas leak is detected, turn off the main opening and get out of the house.
 - g. Seek assistance from your barangay officials, if you need any.
 - h. If you and your family are staying at an evacuation center, don't go home immediately. Wait for announcements from authorities (barangay officials, officer in charge of evacuation operations).
 - i. If there are still floodwaters in your area, do not let children walk or play in them.
 - j. Boil your water before drinking it.



Glossary

- Athlete's Foot** A very contagious skin disease of the feet caused by fungi or ringworms usually transmitted in floodwaters
- Cholera** A painful disease of the stomach and intestines that causes cramps, vomiting, weakness and diarrhea
- Commuter** One who travels regularly from place to place
- Diarrhea** The condition of having too many loose bowel movements
- Displaced** Forced to move to another place
- Dysentery** A disease of the intestines, producing diarrhea with blood and mucus
- Electrocution** The act of getting hurt or killed by electricity
- Encephalitis** Swelling of the brain caused by injury, infection or poison
- Epidemic** Fast spreading of a disease so that many people have it at the same time
- Evacuate** To leave or withdraw from a place in danger or that has undergone disaster
- Gastroenteritis Disease** Swelling of the layers of the stomach and intestines
- Hearsay** Rumor
- Hepatitis A** Swelling of the liver
- Hypothermia** The condition in which the flow of blood in the body slows down because of extreme coldness of the temperature, thereby affecting the functions of the heart, brain and other vital organs
- Impassible** Impossible to pass or cross
- Infrastructure** The basic structures, facilities and equipment needed by a place to grow and develop, like bridges and roads
- Leptospirosis** A water-borne disease caused by rat urine and animals infected with *leptospira* bacteria. Its symptoms are high fever, headache, muscle and joint pains, and reddening of the eyes. Its incubation period is 10 days and it can cause death if untreated.

Malaria A disease that causes chills, fever and sweating

Measures Actions taken to achieve something or to prevent something from happening

PAGASA Philippine Atmospheric, Geophysical and Astronomical Services Administration; a government agency that monitors the weather and weather disturbances

Typhoid Fever An infectious disease with intestinal swelling usually contracted through contaminated food, drink and clothing



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