

Science and Health

CYCLONE





To the Learner

Our country is often visited by tropical cyclone. What is a cyclone, how are they formed. What are its kind. This module will answer these questions. Good luck!



Let's Learn This

Describe what a cyclone is.

Identify the different kinds of cyclone.



Let's Try This

Encircle the letter that has the correct answer.

1. A typhoon has a maximum wind of _____?
 - a. less than 63 kph near the center
 - b. from 63 to 118 kph near the center
 - c. greater than 118 kph near the center
 - d. greater than 200 kph near the center

2. A tropical storm may develop into a typhoon when,
 - a. the wind accelerates
 - b. the wind decelerates
 - c. the wind changes directions
 - d. the wind stops blowing

3. The strength of the tropical cyclone depends on the
- minimum speed of winds near the center
 - maximum speed of wind near the center
 - the cloudiness near the center
 - none of the above
4. It is a big mass of winds and rain whirling about a center of a low pressure called eye.
- tropical
 - light winds
 - cool winds
 - gentle winds
5. Great differences in pressure gradient between a mass of cold air and a warm air causes.
- strong winds
 - light winds
 - cool winds
 - gentle winds



Let's Do This

(Teacher – assisted activity)

Materials:

Basin with water
Talcum/baby powder
Stick

Procedure:

1. Get a basin and fill it with water.
2. Sprinkle some baby/talcum powder on the water.
3. Place a stick at the center of the basin, then move it counter clockwise.
4. Remove the stick. Observe what happens?

Questions:

1. What did you observe?
2. How did the water move?
3. How did you relate this with the motion of wind in a tropical cyclone?
4. Compare the central part and the surrounding area.



Let's Study This

How are tropical cyclones formed?

We know that cold air pushes the warm air as it replaces the latter. Wind occurs due to the differences in the pressure gradient force. When there is a great difference in pressure gradient between a mass of cold air and a mass of warm air strong winds occur. Wind blows from a place where air is generally cool and dry (high pressure area) to a place where air is generally warm and humid (low pressure area).

In the northern hemisphere, wind that are generally cool and dry will spiral outward in a counterclockwise direction. It will move towards the center of a low pressure area in a counterclockwise direction.

In this manner, a tropical cyclone will form as the pressure at the center of a place where air is generally warm and humid.

Tropical cyclones are violent weather disturbances which bring heavy rains and strong winds. The center of the whirling water is lower than the surrounding area. It is likened to a depression. The whirling water moves in a counterclockwise direction.

Tropical cyclone are classified:

Kind	Description
Tropical Depression	Maximum wind near the center is less than 63 kph
Tropical Storm	
Typhoon	Maximum wind form 63 to 118 kph near the center
	Maximum wind is greater than 118 kph



Let's Do More

A. Supply the answer:

1. What is a tropical cyclone?
2. What are the kinds of tropical cyclone? Describe each.
3. Differentiate low pressure area from high pressure area.

B. Read the following weather report.

Tropical storm Carding is now over Iloilo City. At 12:00 am. Today, February 28, Carding was estimated to have maximum winds of 70 kph near the center.

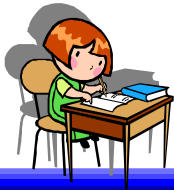
Question:

1. What is the name of the tropical storm over Iloilo City?
2. What is the maximum wind speed of tropical storm?
3. Do you think this is a strong weather disturbance? Why or why not?
4. What do you think the effects of winds with 70 kph reach your place?



Let's Remember This

A tropical cyclone is a big mass of wind and rain whirling about a center of low pressure called “eye”. It is classified as tropical depression, tropical storm and typhoon.



Let's Test Ourselves

Encircle the letter that has the correct answer.

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 - c. the cloudiness near the center
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4. It is a big mass of winds and rain whirling about a center of a low pressure called eye.

- | | |
|----------------|-----------------|
| a. tropical | c. cool winds |
| b. light winds | d. gentle winds |

5. Great differences in pressure gradient between a mass of cold air and a warm air causes.

- | | |
|-----------------|-----------------|
| a. strong winds | c. cool winds |
| b. light winds | d. gentle winds |

Science FACT FILE:

Around the world, tropical storms are called by different names. In our country Philippines, it is called “typhoon or bagyo”. In west Indies, it is called “hurricane”. In Australia it is called Willywilly and “cyclone” if it occurs in the Indian Ocean.

Typhoon is a Chinese term = “taifun” meaning big wind.



Answer Key

Let's Try This

1. c
2. a
3. b
4. a
5. a

Let's Do More:

A.

1. A big mass of wind and rain whirling about a center of low pressure called "eye"
2. Tropical Depression – maximum wind near the center in less than 63 kph.
Tropical Storm – maximum wind from 63 to 118 kph
Typhoon – maximum wind greater than 118 kph
3. Low pressure area is a place where air is generally warm and humid while high pressure is a place where air is generally cool and dry.

B.

1. Carding
2. 70 kph
3. Yes – it is more than 60 kph
4. Properties and lives will be affected/damage

Let's Test Ourselves

1. c
2. a
3. b
4. a
5. a