

Chapter-6

Pressure, Winds, Storms and Cyclones

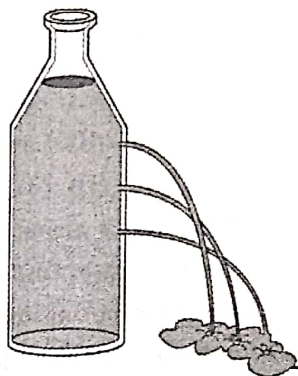
Worksheet

6C

Name Class Sec. Roll No.

A. Tick the correct options.

1. A student pours water in a bottle and drills three holes at different heights in the bottle. The water starts coming out as shown.



What can the student infer from the observation?

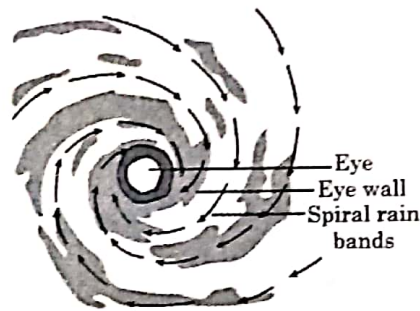
- (A) At greater height the pressure is low and the water falls to a small distance
(B) At less height the pressure is low and the water falls to a small distance
(C) At greater height the pressure is high and the water falls to a small distance
(D) At less height the pressure is high and the water falls to a small distance
2. On the area of 10×10 cm, the air column exerts the force of 1000 N. Calculate the atmospheric pressure by the air in the column.
(A) 0.01 N/cm^2 (B) 0.1 N/cm^2 (C) 10 N/cm^2 (D) 100 N/cm^2
3. Which of the following best describes a cyclone?
(A) Very low air pressure system with very high-speed winds.
(B) Very high air pressure system with very high-speed winds.
(C) Very low air pressure system with a long, funnel-like cloud.
(D) Very high air pressure system with a long, funnel-like cloud.
4. As a precautionary measure during thunderstorms, it is advised to not use umbrellas with metallic ends or to stand anywhere close to metallic poles and large structures. What might be the reason behind this?
(A) The metallic items may get damaged by lightning.
(B) Heavy rainfall may lead to rusting of metallic structures.
(C) Lightning is attracted by metal, which is a good conductor.
(D) In case a heavy metallic object were to fall, it could be fatal.
5. A water tank is placed on the roof of a building at a height 'H'. To get water with more pressure on the ground floor, one has to
(A) increase the height 'H' at which the tank is placed

(B) decrease the height 'H' at which the tank is placed

(C) replace the tank with another tank of the same height that can hold more water

(D) replace the tank with another tank of the same height that can hold less water.

6. Consider the following diagram of wind flow in a cyclone, as seen from above.



What are the characteristics of the region labelled "eye"?

(A) High speed winds and no clouds

(B) Large clouds and cold winds

(C) Light clouds and humid air

(D) No clouds and light winds

7. Assertion (A): Winds move from high-pressure areas to low-pressure areas.

Reason (R): Temperature does not affect the movement of wind.

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, but R is not the correct explanation of A.

(C) A is true, but R is false.

(D) A is false, but R is true

B. Fill in the blanks.

1. The envelope of air surrounding the earth is called

2. Liquids exert pressure in all

3. It is easier to carry water in bucket with handle than with a handle.

4. The alerts and warning of cyclones are issued byDepartment of India.

C. Very Short Answer Type Questions

1. Why it is easier to cut the apple with the sharp edge of the knife?

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2. Why is the base of a dam much broader than the top?

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3. Why are overhead tanks placed at a height?

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4. What will happen if we drive an iron nail using its head?

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D. Short Answer Type Questions

1. Explain the process that causes lightning.

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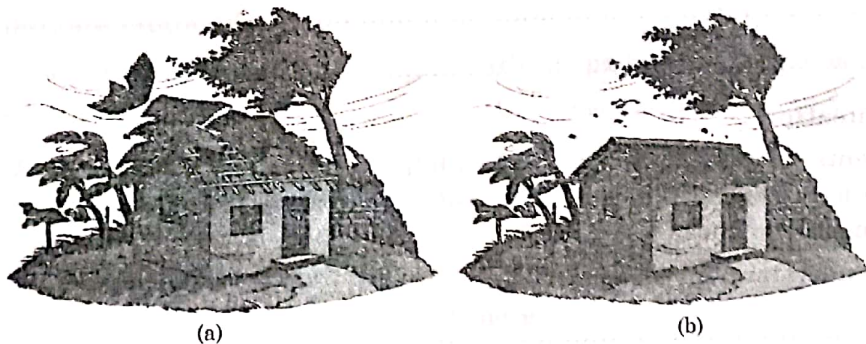
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2. See the figures (a) and (b). Why is it safer to keep the doors and windows of the houses open during storms?



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3. What planning is required in advance to deal with the situation created by a cyclone?

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E. Long Answer Type Questions

1. There are two boats, A and B. Boat A has a base area of 7 m^2 , and 5 persons are seated in it. Boat B has a base area of 3.5 m^2 , and 3 persons are seating in it. If each person has a weight of 700N , find out which boat will experience more pressure on its base and by how much?

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F. Case Based Question

A group of students went on a school picnic to a hill station. In the afternoon, dark clouds formed and a thunderstorm began. Their teachers immediately instructed the students to stay away from trees and not to use mobile phones.

1. What is thunderstorm?

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2. How is thunderstorm formed?

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3. Write two ways to protect yourself during a thunderstorm if you are outside.

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