



INDIAN SCHOOL AL WADI AL KABIR

Class: VII	Department: SCIENCE 2020 -2021	Date :18/10/2020
Worksheet No:9 WITH ANSWERS	Topic: Winds, storms and cyclones	Note:A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

I. OBJECTIVE TYPE QUESTIONS:

1. When there is storm, one should:

- i. goes out in the sea ii. take a shelter under a tall tree iii. carry an umbrella
iv. stay inside the house .

2. When air is blown over a paper strip held near our mouth it will move

- i. randomly ii. sideways iii. downwards **iv. upwards**

3. When warm air rises up, it creates an area of

- i. high pressure **ii. low pressure** iii. no pressure iv. moderate pressure

4. The centre of a cyclone is called

- i. eye** ii. neck iii. a funnel iv. head

5. Air exerts pressure in:

- i. all directions** ii. downward direction only iii. upward direction only iv. sideways only

6. Which of the following are not associated with cyclones

- i. Heavy rains ii. strong wind iii. sea waves **iv. volcanic eruptions**

7. The instrument to measure the speed of wind is called :

- i. aneroid barometer ii. **anemometer** iii. wind vane iv. odometer

For question numbers 8-10, two statements are given- one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below -

i) Both A and R are true and R is correct explanation of the assertion.

ii) Both A and R are true but R is not the correct explanation of the assertion.

iii) A is true but R is false.

iv) A is false but R is true

8. Assertion (A): Amritsar is unlikely to be affected by a cyclone

Reason (R): A cyclone develops over a sea and Amritsar is very far away from the sea.

[Hint: [i]]

9. Assertion (A): Holes are usually made in hanging banners and hoardings .

Reason (R): High speed wind cannot pass through holes in hanging banners and hoardings easily . [Hint: [iii]]

10. Assertion (A): Air moves from the region where air pressure is low to the region where the pressure is high

Reason(R): When warm air rises up the air pressure at that place is lowered and cold air from the surrounding areas rushes to fill its place [Hint: [iv]]

II. BASIC CONCEPT LEVEL QUESTIONS:

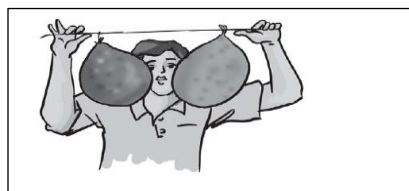
1. What is wind? [Hint: Moving air is called wind.]
2. Write the two main causes of wind. [Hint- Temperature and Pressure differences]
3. A fire alarm usually detects smoke in case of fire. Where such an alarm should be placed in a room? [Hint: In case of fire, the air above the fire becomes hotter and rises up. So, the alarm should be laced on the ceiling in a room, it can detect the smoke rising up.]
4. What is a cyclone? Name the factors which help in the development of a cyclone. [Hint: Strong windstorm caused by the difference in air pressure in the atmosphere.] Factors like wind speed ,wind direction ,temperature and humidity]
5. What are the two advanced technologies which help in making the forecast of a cyclone? [Hint: Satellites and radars a cyclone alert or cyclone watch]
6. Suggest some precautions to be taken to prevent the roof of a tin sheet from flying away during a fierce wind storm. [Hint: Some precautions are: (i) Put heavy stones on it. (ii) Screw it tight.]
7. What is a tornado?
[Hint: A dark funnel shaped cloud that reaches from the sky to ground]
8. Name the other two names of a cyclone.
[Hint: Hurricane, Typhoon]

III. INTERMEDIATE LEVEL QUESTIONS:

1. Why is it difficult to ride a bicycle against the direction of wind?
[Hint: Blowing wind exerts a force on us in the direction opposite to the motion of our bicycle]
2. Explain why, a bicycle tube overfilled with air may burst. [Hint-air pressure exerted on the walls of the tube]
3. A small paper ball is kept in the neck of a glass bottle held horizontally as given in the figure. Explain why is it difficult to force the paper ball into the bottle by blowing air into the bottle. [Hint- high speed wind is accompanied by a low air pressure]



4. Observe the given figure and answer the following:



What happens when we blow air in the space between two inflated balloons filled with water?
Give reason to support your answer

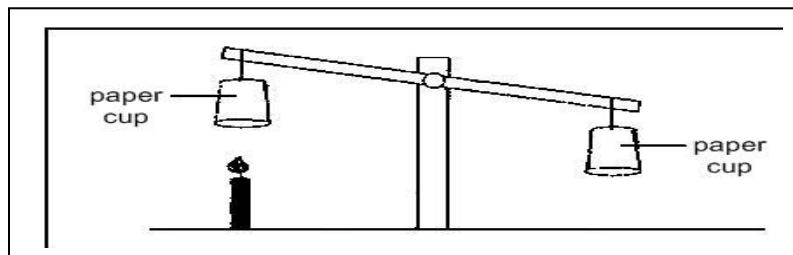
[Hint: The two balloons come closer . High speed wind is accompanied by a low air pressure]

5. List four precautions to be taken if you are staying in a cyclone hit area

[Hint: Do not drink water that could be contaminated. Always store water for emergencies
Do not touch wet switches and fallen power lines.
Do not go out just for the sake of fun.
Cooperate and help others and friends]

6. What is a thunderstorm? [Hint- The atmospheric disturbance characterised by strong winds, rain, thunder and lightning.]

7. Observe the figure given below and answer the questions that follow.

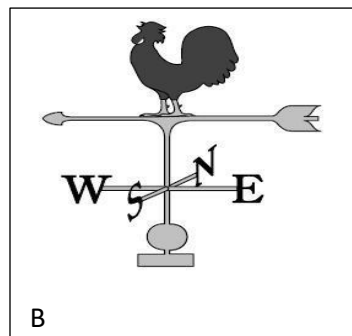
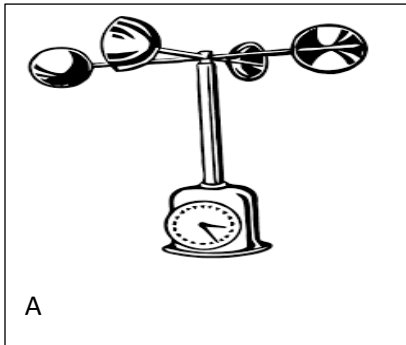


a) Why is the balance of the cups disturbed? [Hint- The air above the first cup gets heated.
Hot air being lighter rises up]

8. Explain why, if you hold a thin strip of paper just below your lips and blow air over its surface from your mouth, the strip of paper lifts up. [Hint- High speed wind is always accompanied by a low air pressure.]

9. Describe about the destructions caused by cyclones.

10. Identify the figures A and B. Also write their uses.



11. Explain the formation of a thunderstorm. Also write down any four precautions to be taken During a thunderstorm.

12. Why does hot air rise upward and cold air sinks downward? [Hint-Hot air-lighter, cold air-denser]

IV. ADVANCED LEVEL QUESTIONS:

1. Explain why, holes are made in hanging banners and hoardings. [Hint- Holes allows The high-speed wind to pass through thereby reducing the damage caused due to high Pressure.]

2. Why does a cyclonic storm die after reaching land? [Hint- Friction with the land and Moisture deprivation]

3. Which one of the following places is unlikely to be affected by a cyclone? Why?

a. Chennai b. Delhi

[Hint- Places away from the sea are less likely to be hit by a cyclone]

V. EXEMPLAR QUESTIONS

1. To expel hot air out of the kitchen, A has an exhaust fan fitted on the window of her kitchen and B has a similar exhaust fan fitted on the wall near the ceiling of her kitchen.

Which of the exhaust fan will expel the hot air more effectively? Explain why.

[Hint: B's exhaust fan will expel the hot air more effectively because hot air rises up and her fan is at greater height than A's]

2. Why is it advisable not to shut all the doors and windows during a storm?

[Hint: During storms, heavy winds passing over the house creates a low pressure. The high pressure inside the house tries to fill the low pressure outside. Since, this pressure is stuck inside the house, therefore, it pushes or lifts the roof off. So, unless the house is well ventilated, the roof is more likely to blow off in a strong wind.]

3. When strong/high speed wind blows, an umbrella held upright at times gets upturned.

Explain the reason. [Hint: High speed wind passing over the umbrella creates low pressure above the umbrella. Therefore, the pressure below the umbrella upturns it.]

PREPARED BY: Mrs. SUMA SENU	Checked by: HOD - SCIENCE
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