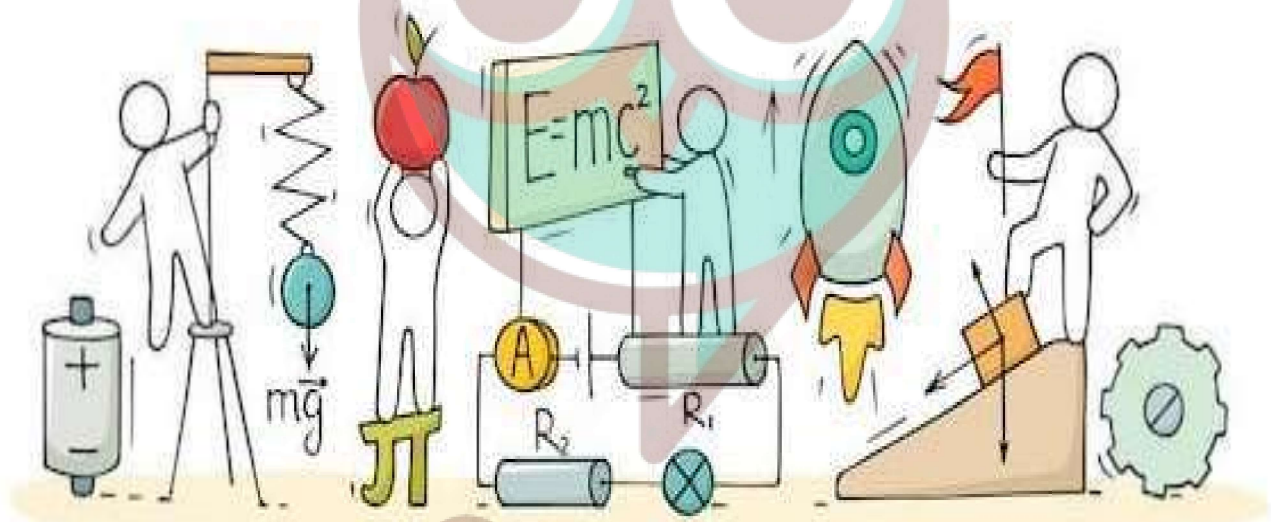


SCIENCE

CHAPTER 8: WINDS STORMS AND CYCLONES



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Question 1. Odisha was hit by a cyclone in the year

- (a) 1998
- (b) 1999
- (c) 2000
- (d) none of these

Question 2. Cyclone warning is issued

- (a) 20 hrs in advance
- (b) 12 hrs in advance
- (c) 24 hrs in advance
- (d) none of these

Question 3. Cyclones can be

- (a) destructive
- (b) useful
- (c) both (a) and (b)
- (d) none of these

Question 4. Wind currents are generated due to

- (a) uneven heating on the earth
- (b) even heating on the earth
- (c) cooling on the earth
- (d) none of these

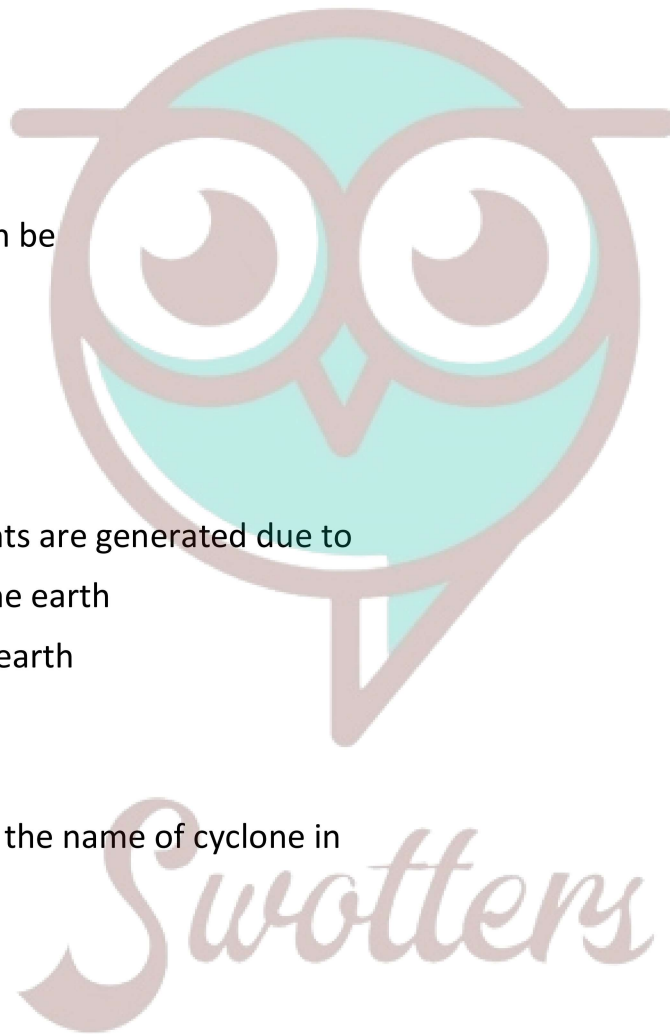
Question 5. Hurricane is the name of cyclone in

- (a) American continent
- (b) Japan
- (c) Both (a) and (b)
- (d) None of these

Question 6. Tornado reaches

- (a) from the oceans to the plane
- (b) from the ground to the sky
- (c) from the sky to the ground
- (d) none of these

Question 7. A violent tornado can travel at a speed of about



- (a) 300 km/h
- (b) 100 km/h
- (c) 50 km/h
- (d) 150 km/h

Question 8. The west coast of India is

- (a) less vulnerable to cyclonic storms
- (b) more vulnerable to cyclonic storms
- (c) not vulnerable to cyclonic storms
- (d) none of these

Question 9. Which one is odd?

- (a) Hurricane
- (b) Typhoon
- (c) Cyclone
- (d) Monsoon

Question 10. A fire alarm usually detects smoke in case of fire. Where should such an alarm be placed in a room?

- (a) Near the door
- (b) On the floor
- (c) On any wall
- (d) On the ceiling

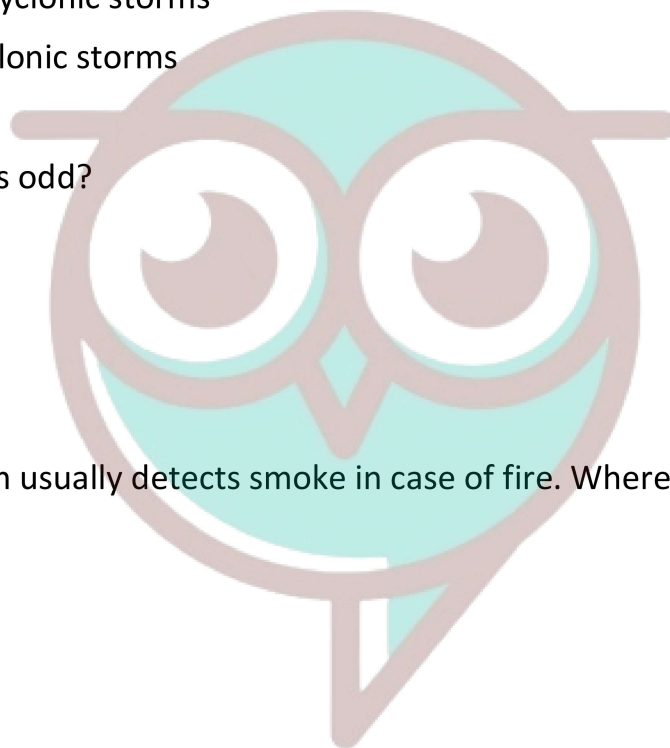
Question 11. The centre of cyclone is a

- (a) calm area
- (b) moving area
- (c) both (a) and (b)
- (d) none of these

Question 12. The warm air is

- (a) lighter than the cold air
- (b) heavier than the cold air
- (c) equal to the weight of cold air
- (d) none of the above

Question 13. A curtain is hanging at the entrance of a room. A long corridor runs at right angles to the door, that is parallel to the curtain. If a strong wind blows along the corridor, the curtain



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will

- (a) get pushed inside the room.
- (b) get pushed outside the room.
- (c) get collected towards one end/swirled.
- (d) remain unaffected.

Question 14. Increased wind speed

- (a) does not affect air pressure
- (b) reduces air pressure
- (c) increases air pressure
- (d) none of the above

Question 15. Air

- (a) exerts pressure
- (b) does not exert pressure
- (c) does not affect anything anyway
- (d) none of these

➤ **Fill In the Blanks:**

1. The moving air is called
2. Air exerts
3. High speed winds are accompanied by air pressure.
4. Air moves from the pressure region to the pressure region
5. The warm air is than cold air.
6. Regions close to the equator get heat from the sun.

➤ **True or False:**

1. Cyclone alert is issued 24 hours in advance of any expected storm.
2. Wind is caused due to difference in humidity.
3. Tropical cyclones that originate in China sea are typhoon.
4. The cold air is heavier than warm air.
5. An anemometer measures the temperature of our body.
6. The west coast of India is less vulnerable to cyclonic storms both in term of intensity and frequency.

➤ **Very Short Question:**

1. State the cause of generation of wind.
2. What is the direction of moving air?
3. From where, does the region close to equator get maximum heat?
4. Define sea breeze.
5. When land breeze does occur in day or in night?
6. What is beau fort scale?
7. Who created beau fort scale?
8. Hot, humid tropical areas like India.
9. A thunderstorm is a storm with lightning and thunder. Its produced by a cumulonimbus cloud, usually producing gusty winds, heavy rain and sometimes hail.
10. Thunderstorms are most likely to happen in the spring and summer months and during the afternoon and evening hours.

➤ **Short Questions:**

1. Why are people advised not to stand near fast moving train?
2. Explain wind.
3. What is a windstorm?
4. Explain land breeze.
5. How is wind helpful to Earth?
6. How do windmills work?
7. What causes a thunderstorm?
8. What is lightning?

➤ **Long Questions:**

1. What causes the wind to blow?
2. Explain monsoon.
3. What are the global wind patterns?
4. Explain Sea breeze.
5. What causes lightening?

✓ **Answer Key-**

➤ **Multiple Choice Answers:**

1. (b) 1999
2. (c) 24 hrs in advance

3. (a) destructive
4. (a) uneven heating on the earth
5. (a) American continent
6. (c) from the sky to the ground
7. (a) 300 km/h
8. (a) less vulnerable to cyclonic storms
9. (d) Monsoon
10. (d) On the ceiling
11. (a) calm area
12. (a) lighter than the cold air
13. (b) get pushed outside the room.
14. (b) reduces air pressure
15. (a) exerts pressure

➤ **Fill In the Blanks:**

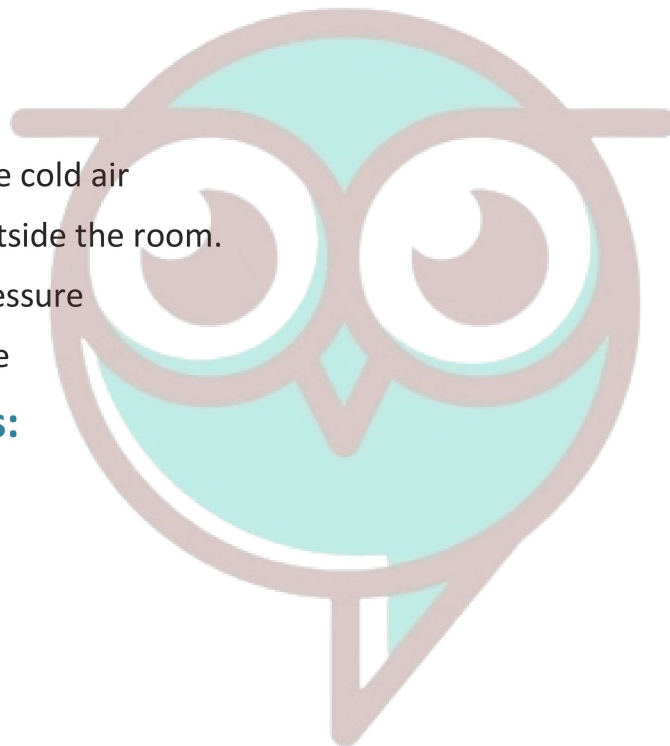
1. wind
2. pressure
3. reduced
4. higher, lower
5. lighter
6. maximum

➤ **True or False:**

1. False
2. False
3. True
4. True
5. False
6. True

➤ **Very Short Answers:**

1. Answer: Winds are generated due to uneven heating on the earth.
2. Answer: Region where the air pressure is high to the region where the pressure is low.
3. Answer: From sun.



Swotters

4. Answer: On a warm summer day along the coast, the differential heating of land and sea leads to the development of local winds called sea breezes.
5. Answer: Night
6. Answer: The Beaufort scale is an empirical measure for the intensity of the weather based mainly on wind power.
7. Answer: The scale was created by the British naval commander Sir Francis Beaufort around 1806.
8. Answer: India, Malaysia, Indonesia, Brazil etc.
9. Answer: Penguin, polar bear etc.
10. Answer: Fur

➤ Short Answer:

1. Answer: When train moves with high speed it creates region of lower pressure. This low pressure pushes man towards the train.
2. Answer: Wind is air in motion. It is produced by the uneven heating of the earth's surface by the sun. Since the earth's surface is made of various land and water formations, it absorbs the sun's radiation unevenly. Two factors are necessary to specify wind: speed and direction.
3. Answer: A windstorm is just a storm with high winds or violent but with little or no rain.
4. Answer: A land breeze occurs at night when the land cools faster than the sea. In this case, it is air above the warmer surface water that is heated and rises, pulling in air from the cooler land surface.
5. Answer: Wind is the fastest growing source of electricity in the world. It's often one of the least expensive forms of renewable power available. Some experts say it can sometimes be the cheapest form of any kind of power. Generating power from the wind leaves no dangerous waste products behind. Best of all, its supply is unlimited.
6. Answer: Windmills work because they slow down the speed of the wind. The wind flows over the air foil shaped blades causing lift, like the effect on airplane wings, causing them to turn. The blades are connected to a drive shaft that turns an electric generator to produce electricity.
7. Answer: The basic ingredients used to make a thunderstorm are moisture, unstable air and lift. You need moisture to form clouds and rain. You need unstable air that is relatively warm and can rise rapidly. Finally, you need lift. This can form from fronts, sea breezes or mountains.
8. Answer: Lightning is a bright flash of electricity produced by a thunderstorm. All thunderstorms produce lightning and are very dangerous. If you hear the sound of thunder, then you are in danger from lightning. Lightning kills and injures people and properties.

➤ Long Answer:

1. Answer: As the sun warms the Earth's surface, the atmosphere warms too. Some parts of the Earth receive direct rays from the sun all year and are always warm. Other places receive indirect rays, so the climate is colder. Warm air, which weighs less than cold air, rises. Then cool air moves in and replaces the rising warm air. This movement of air is what makes the wind blow.
2. Answer: A monsoon is a seasonal wind, found especially in Asia that reverses direction between summer and winter and often brings heavy rains. In the summer, a high-pressure area lies over the Indian Ocean while a low exists over the Asian continent. The air masses move from the high pressure over the ocean to the low over the continent, bringing moisture-laden air to south Asia. During winter, the process is reversed and a low sits over the Indian Ocean while a high lies over the Tibetan plateau so air flows down the Himalaya and south to the ocean.
3. Answer: The equator receives the Sun's direct rays. Here, air is heated and rises, leaving low pressure areas behind. Moving to about thirty degrees north and south of the equator, the warm air from the equator begins to cool and sink. Between thirty degrees latitude and the equator, most of the cooling sinking air moves back to the equator. The rest of the air flows toward the poles.
4. Answer: In a warm summer day along the coast, this differential heating of land and sea leads to the development of local winds called sea breezes. As air above the land surface is heated by radiation from the Sun, it expands and begins to rise, being lighter than the surrounding air. To replace the rising air, cooler air is drawn in from above the surface of the sea. This is the sea breeze and can offer a pleasant cooling influence on hot summer afternoons.
5. Answer: Lightning is an electric current. Within a thundercloud way up in the sky, many small bits of ice (frozen raindrops) bump into each other as they move around in the air. All of those collisions create an electric charge. After a while, the whole cloud fills up with electrical charges. The positive charges or protons form at the top of the cloud and the negative charges or electrons form at the bottom of the cloud. Since opposites attract, that causes a positive charge to build up on the ground beneath the cloud. The ground's electrical charge concentrates around anything that sticks up, such as mountains, people, or single trees. The charge coming up from these points eventually connects with a charge reaching down from the clouds and – zap – lightning strikes!