

JINENDER SONI  
Founder, MISSION GYANChapter-6 | PRESSURE, WINDS,  
STORMS & CYCLONES

## Worksheet-1

## Multiple Choice Questions

- Air moves from**
  - High pressure to low pressure
  - Low pressure to high pressure
  - Equator to poles only
  - Poles to equator only
- The instrument used to measure wind speed is**
  - Barometer
  - Thermometer
  - Anemometer
  - Hygrometer
- Warm air is**
  - Heavier and sinks
  - Lighter and rises
  - Lighter and sinks
  - Heavier and rises
- The centre of a cyclone is called**
  - Storm
  - Eye
  - Gust
  - Funnel
- Cyclones are formed due to**
  - Rapid cooling of air
  - Uneven heating and low pressure
  - High soil temperature
  - Rotation stopped near equator
- A violent twisting windstorm over land is called**
  - Tornado
  - Thunderstorm
  - Landslide
  - Typhoon
- Air pressure is measured using a**
  - Barometer
  - Rain gauge
  - Compass
  - Anemometer
- The warm, moist air that rises in a storm contains large amounts of**
  - Smoke
  - Energy
  - Soil particles
  - Dust
- The very high waves caused by a cyclone in coastal areas are called**
  - Tsunamis
  - Storm surges
  - Rip tides
  - Land tides

10. **Thunderstorms mainly develop in**

- (a) Cool dry air
- (b) Warm moist air
- (c) Frozen air
- (d) Still air

**Fill in the blanks :**

- 11. Moving air is called \_\_\_\_\_.
- 12. Air pressure decreases when air becomes \_\_\_\_\_.

**True / False**

- 13. Air expands on heating and becomes lighter.
- 14. Cyclones usually form over cold land regions.

**Very Short Type Questions**

- 15. Why does warm air rise?
- 16. What is a cyclone?

**Short Type Questions**

- 17. How is wind created in nature?
- 18. What damage can cyclones cause in coastal regions?

**Essay Type Questions**

- 19. Explain how uneven heating of the Earth leads to wind formation. Describe the complete process.
- 20. Describe the formation of a cyclone in detail. Explain the sequence of events and how it becomes a destructive storm.

**HOTS**

- 21. **Assertion (A):** Cyclones always form over warm ocean water.  
**Reason (R):** Warm water heats the air above it, causing it to rise and create a low-pressure region.  
Choose the correct option:
  - 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
  - c) A is true but R is false
  - d) A is false but R is true



1. (a) High pressure to low pressure
2. (c) Anemometer
3. (b) Lighter and rises
4. (b) Eye
5. (b) Uneven heating and low pressure
6. (a) Tornado
7. (a) Barometer
8. (b) Energy
9. (b) Storm surges
10. (b) Warm moist air
11. Wind
12. Warm
13. True
14. False
15. Warm air rises because heating makes it expand, become lighter, and move upward.
16. A cyclone is a large, rotating storm system with very low pressure at the centre and strong winds spiralling around it.
17. Wind is created due to differences in air pressure. When the Sun heats different parts of the Earth unequally, warm air rises and cooler air rushes in to take its place. This movement of air from high-pressure to low-pressure areas forms wind.
18. Cyclones cause strong winds, heavy rainfall, and high waves called storm surges. These can destroy houses, uproot trees, flood villages, damage crops, and wash away roads, leading to loss of life and property in coastal areas.
19. The Sun does not heat the Earth's surface evenly. Some places become hotter while others remain cooler. This uneven heating of the Earth is the main reason for the formation of winds.
  1. Uneven heating between the equator and poles
    - The equatorial region receives direct sunlight.
    - It becomes very hot.
    - Air in this region becomes warm and light, so it rises upward.
    - At the poles (North and South), sunlight is slanted and weaker.
    - The polar region remains cold and the air becomes cool and heavy, so it sinks. This rising of warm air at the equator and sinking of cold air at the poles creates a pressure difference. Air always moves from high-pressure (cool) region to low-pressure (warm) region. This movement of air is called wind.

20. A cyclone is a large, rotating storm that forms over warm ocean water. It develops when the temperature of the sea is above 27°C.
1. Warm air rises and creates low pressure  
Warm ocean water heats the air above it. This air becomes light and rises, leaving behind a low-pressure area. Air from nearby high-pressure regions rushes in to fill the gap.
  2. More warm air rises and condensation occurs  
The incoming air also becomes warm and rises. When this air cools, water vapor condenses to form clouds and releases heat. This extra heat makes the system stronger and pulls in even more air.
  3. Cyclone begins to rotate  
Due to the Earth's rotation (Coriolis effect), the rising air starts spinning.
    - In the Northern Hemisphere → anticlockwise rotation
    - In the Southern Hemisphere → clockwise rotationA circular storm system is formed.
  4. The eye of the cyclone forms  
At the centre, pressure becomes very low, forming the eye, which is calm. The strongest winds blow around the eye in the eye wall.
  5. Why a cyclone becomes destructive  
Cyclones cause heavy damage due to:
    - Very high winds that uproot trees, destroy homes, and break electric poles.
    - Heavy rainfall leading to floods.
    - Storm surge, where sea water rises and floods coastal areas.

21. Correct Answer: (A)

**Explanation:**

Warm ocean's water is essential for cyclone formation, and the reason correctly explains that warm water heats the air, causing it to rise and create low pressure — the first step in cyclone development.