

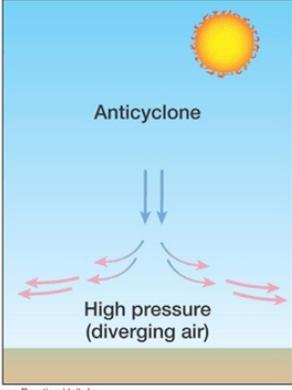
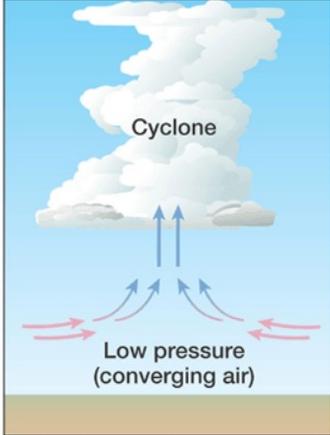


**Atmospheric pressure** is a measure of the force exerted on us by the weight of the air column above us.

**Air pressure** refers to the weight of the air molecules all around us.

**Pressure gradient** is a measure of the amount atmospheric pressure changes across a set distance. Pressure gradient can be vertical or horizontal.

**Aneroid Barometer** is used to measure air pressure. Unit of measure is Kilopascal (kPa), Millibars (mb) and inches of Mercury.

Barometer	Air Pressure	Description
A rising barometer	increasing air pressure.	<p>Rising barometer readings indicate that a high pressure system is approaching. Higher atmospheric pressure is usually associated with fair weather and clearing skies.</p> <p>The high pressure means that the gases in the air are being forced downwards and squished closer together. This causes them to heat up (warm weather) and prevents condensation (no clouds, more sun).</p> 
A falling barometer	decreasing air pressure	<p>Falling barometer readings usually indicate the approach of an area of low pressure. Low pressure readings are usually associated with storm systems.</p> <p>low pressure means less compression of the molecules of gas which make up the air. This means that there is less of a heating effect and more chance of Condensation and cloud formation.</p> 

## PART A: MULTIPLE CHOICE

*Instructions: Shade the letter of the correct answer on the computer scorable answer sheet provided*

1. If you climb rapidly in an airplane or an elevator your ears might pop. What causes this to occur?
  - (A) Air pressure decreases at higher altitudes
  - (B) Air pressure increases at higher altitudes
  - (C) Ear popping is the result of your change in speed
  - (D) Ear popping is due to temperature change
  
2. Which SI unit is used to measure atmospheric pressure?
  - (A) Inches (in).
  - (B) Kelvin (K)
  - (C) Kilopascal (kPa)
  - (D) Millimeters of mercury (mm of Hg)
  
3. What happens to the pressure of air when air speed is increased?
  - (A) Change in air speed has no effect on pressure
  - (B) Increased air speed reduces the pressure
  - (C) Increased air speed increases the pressure
  - (D) Pressure increases regardless of the air speed
  
4. Air pressure is greatest \_\_\_\_ because there are more molecules of air pushing down from above.
  - (A) At sea level
  - (B) At the top of the mountain
  - (C) In the troposphere
  - (D) In the exosphere
  
5. Precipitation and storms occur \_\_\_\_.
  - (A) At fronts
  - (B) In high-pressure systems
  - (C) In low-pressure systems
  - (D) In polar zones
  
6. High pressure means good weather because \_\_\_\_.
  - (A) The air masses rise
  - (B) The air masses sink, making it difficult for clouds to form
  - (C) Clouds are blown away by wind
  - (D) None of the above
  
7. Areas where pressure is higher than the surrounding air are called \_\_\_\_.
  - (A) Atmosphere
  - (B) High pressure areas
  - (C) Humidity
  - (D) Low pressure areas
  
8. The push of air against its surroundings is called \_\_\_\_.
  - (A) Air pressure
  - (B) Atmosphere
  - (C) Humidity
  - (D) Precipitation

9. Areas where pressure is lower than the surrounding air are called \_\_\_\_\_.

- (A) Clouds
- (B) High pressure areas
- (C) Humidity
- (D) Low pressure areas

10. What instrument is used to measure air pressure?

- (A) Anemometer
- (B) Barometer
- (C) Hygrometer
- (D) Psychrometer

11. What sort of weather does low pressure bring?

- (A) Wet and dry
- (B) Wet and windy
- (C) Dry and sunny
- (D) Cold and dry

**PART B: WRITTEN RESPONSE**

1. Where would you experience the greatest air pressure on earth? [1]

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2. What two factors affect air pressure? [2]

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3. How does air tend to create wind? [1]

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4. Why does bad weather occur in a low pressure? [4]

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