

Name: \_\_\_\_\_

Weather

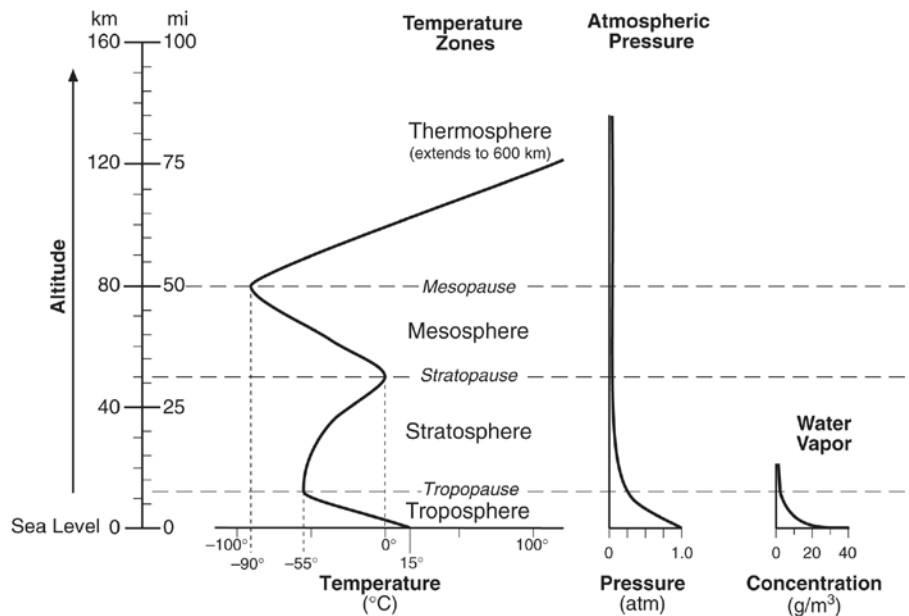
Date: \_\_\_\_\_ Period: \_\_\_\_\_

The Physical Setting: Earth Science

# Atmospheric Variables

## CLASS NOTES

- Weather - \_\_\_\_\_  
\_\_\_\_\_  
• Changes are due mainly to unequal heating of land masses, oceans, and the atmosphere
- Temperature - \_\_\_\_\_  
\_\_\_\_\_  
• Influences affecting temperature are solar radiation, angle of insolation, hours of daylight, and reflection off the atmosphere
- Air Pressure - \_\_\_\_\_  
\_\_\_\_\_  
• Air is a mixture of gases with molecules that are fast moving and far apart  
• Air pressure \_\_\_\_\_ as you decrease your elevation  
• Air pressure \_\_\_\_\_ as you increase your elevation



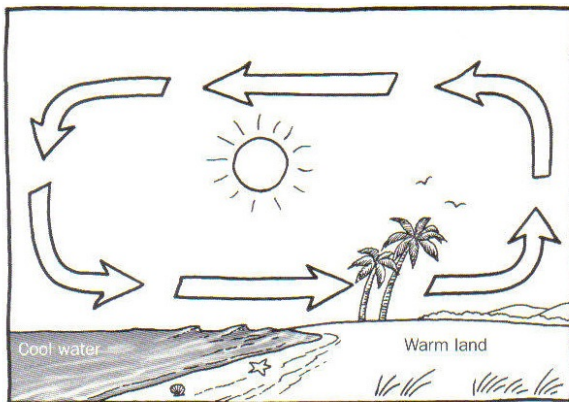
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# Atmospheric Variables

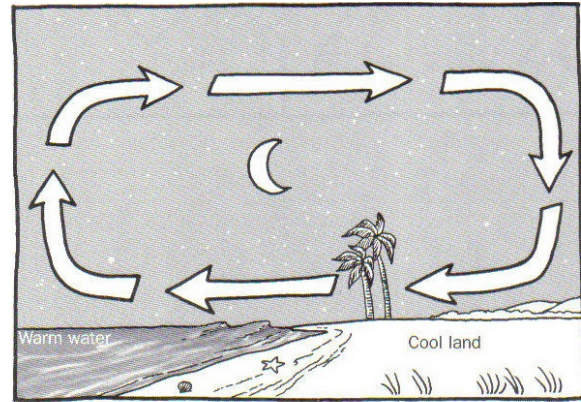
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- Air Currents - \_\_\_\_\_  
\_\_\_\_\_
- Wind - \_\_\_\_\_  
\_\_\_\_\_
- Wind blows from areas of \_\_\_\_\_ pressure to areas of \_\_\_\_\_ pressure
- Sea Breeze - \_\_\_\_\_  
\_\_\_\_\_
- Wind blows from areas of \_\_\_\_\_ pressure to areas of \_\_\_\_\_ pressure
- Land Breeze - \_\_\_\_\_  
\_\_\_\_\_
- Wind blows from areas of \_\_\_\_\_ pressure to areas of \_\_\_\_\_ pressure

Sea Breeze



Land Breeze



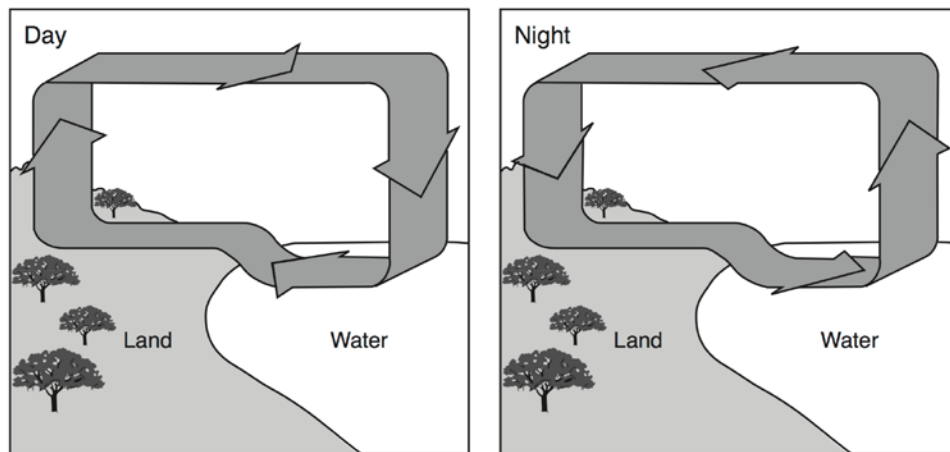
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# Atmospheric Variables

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## PART I QUESTIONS: MULTIPLE CHOICE

The diagram below represents the circulation of air above Earth's surface at a coastal location during the day and at night.



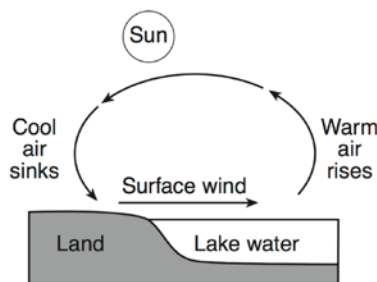
1. This local air movement is best described as an example of
  - a. conduction between Earth's surface and the atmosphere above it
  - b. condensation of water vapor during the day, and evaporation water during the night
  - c. convection resulting from temperature and pressure differences above the land and water
  - d. greater radiation from the warmer ocean during the day and from the warmer land at night
2. A balloon carrying weather instruments is released at the Earth's surface and rises through the troposphere. As the balloon rises, what will the instruments generally indicate?
  - a. an increase in both air temperature and air pressure
  - b. a decrease in air temperature and a increase in air pressure
  - c. an increase in air temperature and a decrease in air pressure
  - d. a decrease in both air temperature and air pressure
3. Wind moves from regions of
  - a. high temperature toward regions if low temperature
  - b. high humidity toward regions of low humidity
  - c. high precipitation toward regions of low precipitation
  - d. high pressure toward regions of low pressure
4. The primary cause of winds is the
  - a. uniform density of the atmosphere
  - b. unequal heating of the Earth's atmosphere
  - c. friction between the atmosphere and the lithosphere
  - d. rotation of the Earth

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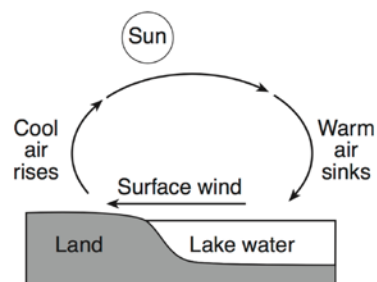
# Atmospheric Variables

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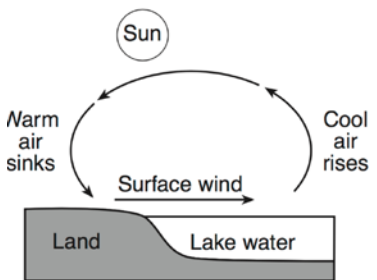
5. Which layer of the atmosphere experiences a decrease in temperature?
- Stratosphere
  - Thermosphere
  - Troposphere
  - Exosphere
6. Which factor is most directly related to wind velocity?
- relative humidity
  - pressure gradient
  - dewpoint
  - cloud type
7. Which cross section best represents how surface winds form by mid-afternoon near a shore summer day? [Diagrams are not drawn to scale.]



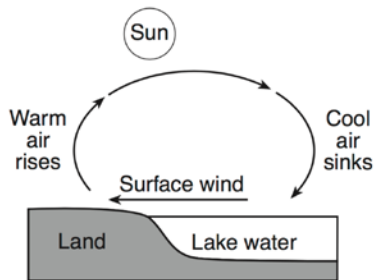
a.



b.



c.



d.

8. Which weather change usually occurs when the difference between the air temperature and the dewpoint temperature is *decreasing*?
- The amount of cloud cover decreases.
  - The probability of precipitation decreases.
  - The relative humidity increases.
  - The barometric pressure increases.