

15 | Chapter Test A**Key Concepts**

Choose the letter of the best answer. (4 points each)

- _____ 1. Which of these statements about air density is true?
- a. Air density is the same at all altitudes.
 - b. Air is more dense at high altitudes.
 - c. Air is less dense at high altitudes.
 - d. Air is less dense at low altitudes.
- _____ 2. What are the two most common gases in air?
- a. nitrogen and oxygen
 - b. oxygen and hydrogen
 - c. argon and carbon dioxide
 - d. oxygen and water vapor
- _____ 3. Which of these is part of the carbon cycle?
- a. Living things take nitrogen out of the soil.
 - b. Living things put nitrogen into the soil.
 - c. Animals add carbon dioxide to the air.
 - d. Rainfall returns liquid water to Earth's surface.
- _____ 4. About half of the Sun's energy that reaches Earth is
- a. absorbed by Earth's surface
 - b. reflected by Earth's surface
 - c. absorbed by clouds and the atmosphere
 - d. reflected by clouds and the atmosphere
- _____ 5. How does heat energy get from Earth's surface to air?
- a. emission
 - b. radiation
 - c. convection
 - d. conduction

Name _____

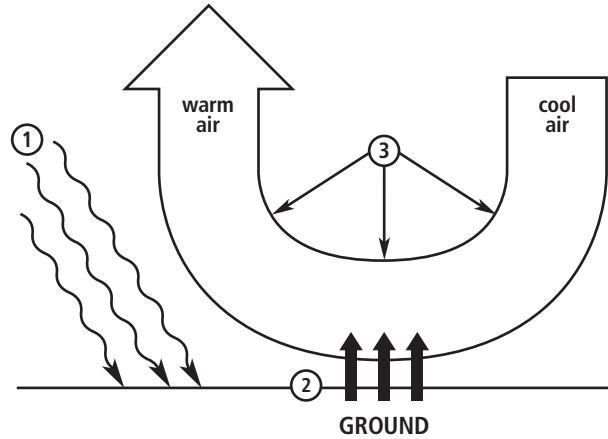
Period _____

Date _____

- _____ 6. Which part of the atmosphere contains a type of gas that absorbs UV radiation?
- a. troposphere
 - b. stratosphere
 - c. mesosphere
 - d. thermosphere
- _____ 7. Most visible light that enters the atmosphere
- a. is absorbed
 - b. is reflected
 - c. emits radiation
 - d. passes though
- _____ 8. How does the atmosphere keep Earth's surface warm?
- a. Certain gases absorb and emit infrared radiation.
 - b. Certain gases absorb and emit ultraviolet radiation.
 - c. Ozone absorbs and emits infrared radiation.
 - d. Clouds absorb and emit ultraviolet radiation.
- _____ 9. Which is NOT an air pollutant?
- a. smog
 - b. oxygen
 - c. ozone
 - d. pollen
- _____ 10. Which of these will help reduce greenhouse gases?
- a. driving everywhere
 - b. cutting down forests
 - c. living in houses that use less energy
 - d. using more fossil fuels to power cars

Interpreting Visuals

Using the diagram, answer the following questions. (6 points each)



- 11.** Look at the form of energy shown at label 1. This is radiation. What is its source and what is it heating?

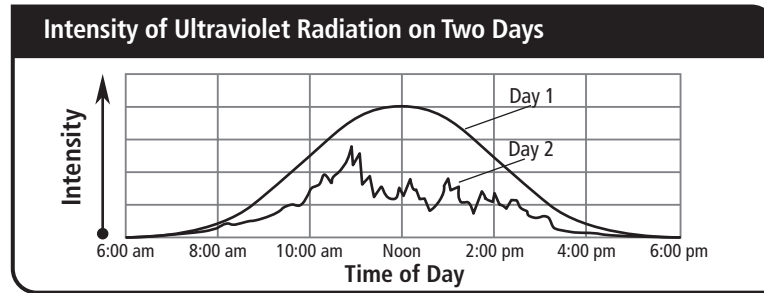
- 12.** Look at the process shown at label 2. This is conduction. Tell how conduction helps heat the atmosphere.

- 13.** Look at the process shown at label 3. This is convection. How does convection move heat energy through the atmosphere?

- 14.** Tell how radiation, conduction, and convection work together to move energy between Earth's surface and the atmosphere.

Analyzing Graphs

Using the graph, answer the following questions. (6 points each)



15. During which part of each day did most of the UV radiation reach Earth?
- _____
16. Day 1 was a sunny day. Day 2 was a cloudy day. How did cloud cover affect the amount of UV radiation that reached the surface?
- _____
- _____
17. According to data from the graph, why is it important to protect yourself from UV radiation, even on cloudy days?
- _____
- _____
18. Ozone protects us from UV radiation. What do you think this graph would look like if less ozone were in the stratosphere? Explain your answer.
- _____
- _____

Extended Response

Answer the following questions on the back of this paper or on a separate sheet of paper. (6 points each)

19. **Summarizing** Write a short paragraph that describes the layer of the atmosphere closest to the ground—the troposphere. Make sure you describe how the temperature changes with altitude. You may wish to draw a diagram to help you answer this question. Use some of the following terms in your paragraph: *temperature*, *solar radiation*, *greenhouse gases*.
20. **Explaining** Write a short paragraph to tell how air pollution affects human health. Write a second paragraph to explain how air pollution affects nonliving things.