

# ATMOSPHERE



**Air** (âr) mixture of invisible gases, mainly oxygen and nitrogen, that surrounds Earth

## Using SCIENCE Words

1. Air is \_\_\_\_\_.
  - A. a mixture of invisible gases
  - B. mainly oxygen and carbon dioxide
  - C. a mixture of hydrogen and oxygen



1 Air is invisible, but it has a lot of power. A dentist's drill uses air power. Air bags are used in cars to protect drivers. Parachutists use air as they glide toward land. Air is also a big factor in wind and weather.

2. What is the main idea of paragraph 1?

- a. Air has a lot of power.
- b. Dentists use air for their drills.
- c. Air bags are very important.

2 **Air** is about one-fifth oxygen and four-fifths nitrogen. There are also small amounts of water vapor and carbon dioxide in the air. These gases make up less than one percent of the air.

3. Air is mostly \_\_\_\_\_.

- a. oxygen
- b. nitrogen
- c. carbon dioxide

3 Air is odorless; you can't smell it. It is also tasteless and invisible. In a way, air seems unimportant. Yet, without air, people and other living organisms couldn't survive. Air allows plants and animals to exchange the oxygen and carbon dioxide all living things need to survive.

4 Air is invisible, but it takes up space. Air also has mass. Because air has mass, it can put pressure on objects. On the surface of Earth, you are at the bottom of a layer of air. The weight of air pushing down on Earth's surface helps create **air pressure**.

4. Which statement is true?

- a. Air allows plants and animals to exchange oxygen and carbon dioxide.
- b. Air can put pressure on objects.
- c. both **a** and **b**

5 Temperature can create a difference in air pressure. Warm air is less dense than cold air. As air becomes less dense, it rises. When there is less air around you, less pressure is felt. This is a low-pressure area.

5. Which statement is true?
- Warm air is less dense than cold air.
  - Cold air is less dense than warm air.
  - Air pressure is the same all over the world.
- 6 Because cold air is denser than warm air, it puts more pressure on Earth's surface. Cold air helps create high-pressure areas. When there is a difference in air pressure, air is moved. The movement of air is **wind**.
- 7 Air pressure and wind affect the weather. Storms develop when there are rapid changes in temperature and air pressure. Hurricanes, thunderstorms, and gentle breezes are all caused by wind and changes in air pressure.
6. A difference in air pressure creates \_\_\_\_\_.  
a. air  
b. wind  
c. an atmosphere

## LEARN ABOUT WORDS

Words that tell what someone or something does are generally verbs. Look at the words below. Then read the sentences. Write the verb that best completes each sentence.

landed	surrounds	warms	noticed	change	rotates
use	smell	survive	create	moved	affects

- The astronaut \_\_\_\_\_ on the moon.
- We \_\_\_\_\_ our five senses in many ways.
- Air is odorless, so you cannot \_\_\_\_\_ it.
- I \_\_\_\_\_ a change in the air temperature.
- The weather \_\_\_\_\_ many things in our lives.
- Earth \_\_\_\_\_ on its axis.
- The sun \_\_\_\_\_ Earth.
- An atmosphere \_\_\_\_\_ Earth.
- Leaves are \_\_\_\_\_ by the wind.
- Air pressure can \_\_\_\_\_ the weather.

## THINK ABOUT IT

Michael and Desiree were going to collect weather data. They built a barometer to measure the air pressure.

17. Which step would they do last?
- A. build the barometer
  - B. record their observations
  - C. move the barometer to its location for the first measurement
  - D. interpret their data

SAMPLE

**Using SCIENCE Words**

1. A

**Comprehension**

2. a
3. b
4. c
5. a
6. b

**Learn About Words**

7. landed
8. use
9. smell
10. noticed
11. affects
12. rotates
13. warms
14. surrounds
15. moved
16. change

**Think About It**

17. D

**Writing About Science**

Write three sentences describing air.