

Weather Factors ▪ *Guided Reading and Study*

Water in the Atmosphere (pp. 560–566)

This section explains what humidity is and how it is measured. The section also explains how clouds form and describes different types of clouds.

Use Target Reading Skills

As you preview the red headings, write questions on the left side of the graphic organizer. As you read, fill in the answers on the right side.

The Water Cycle

Question	Answer
How does the water cycle work?	a.
b.	c.
d.	e.
f.	g.

Introduction (p. 560)

1. The process by which water molecules in liquid water escape into the air as water vapor is called _____.
2. What is the water cycle?

Weather Factors • *Guided Reading and Study*

Humidity (pp. 561–562)

3. A measure of the amount of water vapor in the air is _____.

4. What is relative humidity?

5. Circle the letter of each sentence that is true about relative humidity.

- a. It is a percentage.
- b. It is all the water vapor that the air can hold.
- c. It depends on air temperature.
- d. It measures how hot it feels.

6. Relative humidity can be measured with a(n) _____.

7. Circle the letter of each sentence that is true about how a psychrometer works.

- a. The dry-bulb thermometer is cooled by evaporation when the wind blows.
- b. The higher the humidity, the faster water evaporates from the bulb.
- c. The wet-bulb thermometer reading is always higher than the dry-bulb reading.
- d. When relative humidity is high, there is not much difference between thermometer readings.

How Clouds Form (p. 563)

8. Is the following sentence true or false? Clouds form when water vapor in the air condenses to form liquid water or ice crystals. _____

Match the term with its definition.

Term	Definition
___ 9. condensation	a. Ice that has been deposited on a surface with a temperature that is below freezing
___ 10. dew point	b. Water that condenses from the air onto a cooler surface
___ 11. dew	c. Temperature at which condensation begins
___ 12. frost	d. Process by which molecules of water vapor become liquid water

Weather Factors • *Guided Reading and Study*

Water in the Atmosphere *(continued)*

13. Circle the letter of each sentence that is true about condensation of water vapor.
- a. It occurs when air gets warmer.
 - b. It can occur on cold surfaces.
 - c. It explains why clouds form.
 - d. It can form on dust particles.

Types of Clouds (pp. 564–566)

Match the type of cloud with the type of weather.

Type of Cloud	Type of Weather
___ 14. cumulus	a. Fair
___ 15. nimbostratus	b. Storm on the way
___ 16. cirrocumulus	c. Thunderstorms
___ 17. cumulonimbus	d. Drizzle, rain, or snow

18. Circle the letter of each sentence that is true about cloud types.
- a. Cumulus clouds are usually a sign that a storm is approaching.
 - b. Cumulonimbus and nimbostratus clouds produce rain or snow.
 - c. Altostratus clouds are lower than regular stratus clouds.
 - d. Cirrus clouds are made up of ice crystals.