

Earth's Atmosphere



How does Earth's atmosphere affect life on Earth?

Before You Read

Before you read the chapter, think about what you know about Earth's atmosphere. Record your thoughts in the first column. Pair with a partner, and discuss his or her thoughts. Write those thoughts in the second column. Then record what you both would like to share with the class in the third column.

Think	Pair	Share

Chapter Vocabulary

Lesson 1	Lesson 2	Lesson 3	Lesson 4
<p>NEW atmosphere water vapor troposphere stratosphere ozone layer ionosphere</p> <p>REVIEW liquid</p>	<p>NEW radiation conduction convection stability temperature inversion</p> <p>ACADEMIC process</p>	<p>NEW wind trade winds westerlies polar easterlies jet stream sea breeze land breeze</p>	<p>NEW air pollution acid precipitation photochemical smog particulate matter</p>

Lesson 1 Describing Earth's Atmosphere

Scan Lesson 1. Read the lesson titles and bold words. Look at the pictures. Identify three facts that you discover about Earth's atmosphere. Record these facts in your Science Journal.

Main Idea

Importance of Earth's Atmosphere

I found this on page _____.

Origins of Earth's Atmosphere

I found this on page _____.

Details

Define atmosphere, and identify four things the atmosphere does for Earth.


Atmosphere: _____

1. _____

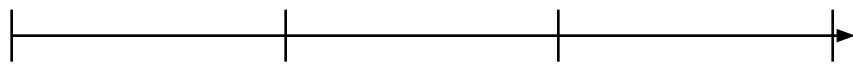
2. _____

3. _____

4. _____

 **Write** the number of each event on the time line to describe how Earth's atmosphere changed over time.

1. Photosynthetic organisms remove carbon dioxide from the air and release oxygen.
2. Water vapor cools and condenses. Rain falls, evaporates, and eventually accumulates in oceans.
3. Atmosphere contains present levels of carbon dioxide, oxygen, nitrogen, and other gases.
4. Atmosphere is mainly water vapor with a little carbon dioxide and nitrogen.



Early atmosphere

Present time

Lesson 1 | Describing Earth's Atmosphere (continued)

Main Idea

Composition of the Atmosphere

I found this on page _____.

I found this on page _____.

I found this on page _____.

Details

Assess information about the atmosphere. Read each statement below. If the statement is true, write true on the line. If the statement is false, write false on the line and rewrite the underlined portion so that it is true.

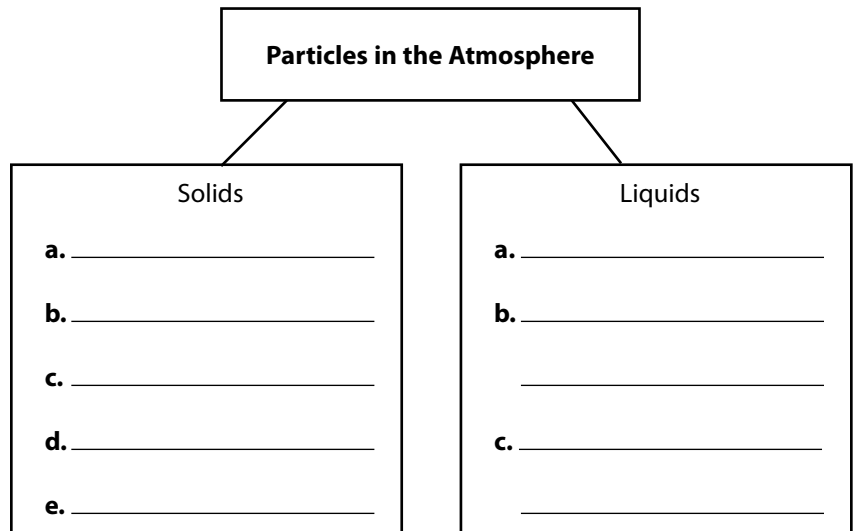
Earth's atmosphere is mostly made of visible gases, including nitrogen, oxygen, and carbon dioxide.

Solid and liquid particles are also present in the atmosphere.

Identify the gases that make up Earth's atmosphere.

Gases in the Atmosphere	
Percent	Gas
78	
21	
1	a. b. c. d.

Identify solid and liquid particles in the atmosphere.



Lesson 1 | Describing Earth's Atmosphere (continued)

Main Idea

Layers of the Atmosphere

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

Details

Describe the layers of the atmosphere. First, list the layers in order from the surface to space. Identify the height of each layer. Then describe each layer.

Layers of the Atmosphere	
Layer and Height above Earth's Surface	Description
_____ above 500 km	
Thermosphere	
_____ extends from about 50 km to about 85 km	
Stratosphere	
_____ from the surface to a height of 8–15 km	

Distinguish ozone from oxygen.

Ozone	Oxygen

Lesson 1 | Describing Earth's Atmosphere (continued)

Main Idea

I found this on page _____.

I found this on page _____.

Air Pressure and Altitude

I found this on page _____.

Temperature and Altitude


I found this on page _____.

Details


Identify the 2 layers of the atmosphere that contain the ionosphere.

1. _____ 2. _____


Explain, in your own words, how auroras form in the ionosphere.

 **Describe** the relationship between altitude and air pressure.

As altitude _____, air pressure _____.

 **Identify** the changes in temperature and altitude in the different layers of the atmosphere.

Layer of the Atmosphere	Altitude	Temperature
Troposphere	↑ increases	
Stratosphere	↑ increases	
Mesosphere	↑ increases	
Thermosphere	↑ increases	
Exosphere	↑ increases	

 **Connect It** Suppose that you move from a town near the ocean to a town in the mountains. To what atmospheric changes would your body need to adjust?
