Chapter 3, Section 1

Earth-Sun Relationships

(Pages 55–58)

Reason To Read

Setting a Purpose for Reading  Think about these questions as you read:
• How does Earth’s position in relation to the sun affect temperatures on Earth?
• How does Earth’s rotation cause day and night?
• What is Earth’s position in relation to the sun during each season?
• How might global warming affect Earth’s air, land, and water?

Main Idea

As you read pages 55–58 in your textbook, complete this graphic organizer by listing the major characteristics of the summer and winter solstices.

Northern Hemisphere

Summer Solstice

•
•
•
•

Winter Solstice

•
•
•
**Synthesizing**

As you read, think about the main ideas of the section. Ask yourself: Do I understand more than the main ideas? Can I combine the ideas in this section to reach a new understanding?

In which situation would you want information about the weather and in which situation would you want information about the climate? Write weather or climate on the correct blanks below.

1. __________________________ You are going on vacation next week to Mexico. What clothes should you pack?

2. __________________________ You are going to school in Europe for a year. What clothes would you pack?

3. __________________________ You want to travel to Australia. What time of year would be warmest?

4. __________________________ You want to plan a picnic at the park this week. What day will be best?

**Terms to Know**

Use the following terms from this lesson in a sentence that reflects the term’s meaning.

- ____________________________

- ____________________________

- ____________________________

**Academic Vocabulary**

Circle the letter of the word or phrase that has the closest meaning to the underlined word from this lesson.

1. Weather is a short-term aspect of climate.
   - a. order     
   - b. feature  
   - c. advantage
2. Climate is the weather pattern that an area has over a long period of time.

a. stretch  
b. start  
c. flash

Earth’s Tilt and Rotation (page 56)

As you read, write the main idea of the passage. Review your statement when you have finished reading and revise as needed.

Define or describe the following key terms from this lesson.

axis

temperature

Earth’s Revolution (page 56)

Visualize the information described in this section to help you understand and remember what you have read. First, read the section. Next, ask yourself, What would this look like? Finally, write a description of the pictures you visualized on the lines below.
Define or describe the following key terms from this lesson.

- revolution
- equinox

Define or describe the following key term from this lesson.

- solstice

Circle the letter of the word that has the closest meaning to the underlined word from this lesson.

1. Earth moves around the sun with its axis tilted, so that eventually the sun’s rays will directly strike the latitude 23 1/2°.
   - a. instantly
   - b. finally
   - c. probably

2. The cycle of the seasons repeats itself each year as Earth revolves around the sun.
   - a. series
   - b. age
   - c. axis
The Poles (pages 57–58)

Evaluating

As you read, assess the quality of the information provided.

1. In the quote by Keith Nyitray, are opinions presented as facts? How do you know?

2. Is Nyitray qualified to write on this subject? How do you know?

Terms to Review

varies
(Chapter 2, Section 3)

Use the following term that you studied earlier in a sentence that reflects the term’s meaning.

The Greenhouse Effect (page 58)

Interpreting

Think about what you already know about global warming. Ask yourself, How might global warming affect the area where I live?

Chapter 3, Section 1
Define or describe the following key terms from this lesson.

- **greenhouse effect**

- **global warming**

Now that you have read the section, write the answers to the questions that were included in Setting a Purpose for Reading at the beginning of the lesson.

How does Earth’s position in relation to the sun affect temperatures on Earth?

________________________________________________________________________

________________________________________________________________________

How does Earth’s rotation cause day and night?

________________________________________________________________________

________________________________________________________________________

What is Earth’s position in relation to the sun during each season?

________________________________________________________________________

________________________________________________________________________

How might global warming affect Earth’s air, land, and water?

________________________________________________________________________

________________________________________________________________________
Chapter 3, Section 2
Factors Affecting Climate
(Pages 59–64)

Reason To Read
Setting a Purpose for Reading  Think about these questions as you read:
• How do latitude and elevation affect climate?
• What role do wind patterns and ocean currents play in Earth’s climates?
• How do landforms and climate patterns influence each other?

Main Idea
As you read pages 59–64 in your textbook, complete this graphic organizer by listing factors that cause both winds and ocean currents.
As you read this section, think about its organization and main ideas. Then write a sentence explaining the organization and list three main ideas.

Organization

Main Ideas

Write the letter of the correct location in Group B next to the correct place from this lesson in Group A. One location will not be used.

Group A

1. low latitudes
2. high latitudes
3. mid-latitudes
4. Arctic Circle
5. Antarctic Circle

Group B

a. latitude 66°N
b. between the Tropic of Cancer and the Arctic Circle and between the Tropic of Capricorn and the Antarctic Circle
c. on the Equator
d. between the Tropic of Cancer and the Tropic of Capricorn
e. the polar area north of the Arctic Circle and the polar area south of the Antarctic Circle
f. latitude 66°S

Define the following academic vocabulary words from this lesson.

annual
Use the following term that you studied earlier in a sentence that reflects the term’s meaning.

**revolution**
(Chapter 3, Section 1)

**Elevation and Climate** (page 61)

Read the title and quickly look over the section to get a general idea of the section’s content. Next, write a sentence or two that explains what the section is about.

**Academic Vocabulary**

Define the following academic vocabulary word from this lesson.

**Wind and Ocean Currents** (pages 61–63)

As you read, complete the following sentences. Doing so will help you summarize the lesson.

1. Winds occur because the ________________ heats up the earth’s atmosphere and surface unevenly.

2. Because Earth rotates to the east, the global winds are displaced ________________ in the Northern Hemisphere and ________________ in the Southern Hemisphere.
3. Driven by temperature, ________________ creates precipitation.

**Terms to Know**

*Fill in the blank with the correct term from this lesson from the list below.*

1. The ________________ is a narrow, generally windless band located near the Equator.

2. The ________________ is also observed in ocean ________________, causing them to move in clockwise circles in the Northern Hemisphere and counterclockwise circles in the Southern Hemisphere.

3. Cold or warm streams of seawater that flow in the oceans, generally in a circular pattern are called ________________.

**Academic Vocabulary**

*Fill in the blank with the correct term from this lesson from the list below.*

normally displaced perspective

1. In an El Niño year, the ________________ low atmospheric pressure over the western Pacific Ocean rises.

2. Because Earth rotates to the east, the global winds are ________________, or shifted clockwise in the Northern Hemisphere.

**Landforms and Climate (page 63–64)**

**Predicting**

*Read the title and main headings of the lesson. Write a statement predicting what the lesson will be about and what will be included in the text.*

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Write the letter of the correct definition in Group B next to the correct term in Group A. One definition will not be used.

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>____ 1. windward</td>
<td>a. facing away from the direction from which the wind is blowing</td>
</tr>
<tr>
<td>____ 2. leeward</td>
<td>b. dry area found on the side of the mountain that is facing away from the direction the wind is blowing</td>
</tr>
<tr>
<td>____ 3. rain shadow</td>
<td>c. moisture that falls on mountains in the form of rain and snow</td>
</tr>
<tr>
<td></td>
<td>d. facing toward the direction from which the wind is blowing</td>
</tr>
</tbody>
</table>

Now that you have read the section, write the answers to the questions that were included in Setting a Purpose for Reading at the beginning of the lesson.

How do latitude and elevation affect climate?

________________________________________________________________________

________________________________________________________________________

What role do wind patterns and ocean currents play in Earth’s climates?

________________________________________________________________________

________________________________________________________________________

How do landforms and climate patterns influence each other?

________________________________________________________________________

________________________________________________________________________
Chapter 3, Section 3

World Climate Patterns

(Pages 65–69)

Reason To Read

Setting a Purpose for Reading  Think about these questions as you read:
• How do geographers classify the climate regions of the world?
• Which kinds of vegetation are characteristic of each climate region?
• How do recurring phenomena influence climate patterns?

Main Idea

As you read pages 65–69 in your textbook, complete this graphic organizer by filling in a brief description of each climate region.

<table>
<thead>
<tr>
<th>Climate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tropical</td>
<td></td>
</tr>
<tr>
<td>Dry</td>
<td></td>
</tr>
<tr>
<td>Mid-Latitude</td>
<td></td>
</tr>
<tr>
<td>High Latitude</td>
<td></td>
</tr>
<tr>
<td>Highlands</td>
<td></td>
</tr>
</tbody>
</table>
As you read, compare the climate regions with the climate in the area where you live. Identify the climate region where you live. Summarize the climate and vegetation of the area where you live in a paragraph.

Write the letter of the correct definition in Group B next to the correct place from this lesson in Group A. One definition will not be used.

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ 1. natural vegetation</td>
<td>a. forests with coniferous and deciduous trees</td>
</tr>
<tr>
<td>___ 2. oasis</td>
<td>b. trees with leaves that change color and drop in autumn</td>
</tr>
<tr>
<td>___ 3. coniferous</td>
<td>c. thickets of woody bushes and short trees</td>
</tr>
<tr>
<td>___ 4. deciduous</td>
<td>d. cone-bearing trees</td>
</tr>
<tr>
<td>___ 5. mixed forests</td>
<td>e. the plant life that grows in an area where the natural environment is unchanged by human activity</td>
</tr>
<tr>
<td>___ 6. chaparral</td>
<td>f. permanently frozen subsoil</td>
</tr>
<tr>
<td>___ 7. prairies</td>
<td>g. scrub and cactus plants</td>
</tr>
<tr>
<td>___ 8. permafrost</td>
<td>h. inland grasslands</td>
</tr>
<tr>
<td></td>
<td>i. a small area in the desert where water and vegetation are found</td>
</tr>
</tbody>
</table>

Explain why the following places from this lesson are important.

Tropics

Chapter 3, Section 3
Define the following academic vocabulary words from this lesson.

layers

consists

Climatic Changes (page 69)

Think about human interaction with the environment and how it affects climate. Ask yourself, How might this human interaction affect the environment where I live?

Define or describe the following key terms from this lesson.

hypothesis

smog
Define the following academic vocabulary words from this lesson.

- output
- visible

Use the following term that you studied earlier in a sentence that reflects the term’s meaning.

- energy

Now that you have read the section, write the answers to the questions that were included in Setting a Purpose for Reading at the beginning of the lesson.

How do geographers classify the climate regions of the world?

Which kinds of vegetation are characteristic of each climate region?

How do recurring phenomena influence climate patterns?