

7th Gr. Honors Science
Week 1

Appendix I & II: Vocabulary for Unit 1

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Quick Vocabulary

Lesson 1

atmosphere thin layer of gases surrounding Earth

ionosphere region within the mesosphere and thermosphere containing ions

liquid matter with a definite volume but with no definite shape

ozone layer area of the stratosphere with a high concentration of ozone

stratosphere atmospheric layer directly above the troposphere

troposphere atmospheric layer closest to Earth's surface

water vapor gaseous form of water

Lesson 2

conduction transfer of thermal energy by collisions between particles of matter

convection transfer of thermal energy by the movement of matter from one place to another

process ordered series of actions

radiation transfer of energy by electromagnetic waves

reflect to return light, heat, and sound after striking a surface

stability describes whether circulating air motions will be strong or weak in the atmosphere

temperature inversion layer of cooler air is trapped by a layer of warmer air above it

Quick Vocabulary

Lesson 3

jet stream narrow band of high winds

land breeze wind that blows from the land to the sea

polar easterlies cold winds that blow from the east to the west near the North and South Poles

sea breeze wind that blows from the sea to the land

trade winds steady winds that flow toward the equator from east to west

westerlies steady winds that flow from west to east

wind movement of air from high-pressure to low-pressure areas

Lesson 4

acid precipitation results from sulfur dioxide and nitrogen oxides combining with moisture in the atmosphere

air pollution contamination of air by harmful substances

particulate matter mixture of dust, acids, and other chemicals that can be harmful to health

photochemical smog interaction between sunlight and chemicals in the air


Name _____

Date _____

Class _____

Day 1

LESSON 1

Key Concept Builder 

Describing Earth's Atmosphere

Key Concept What is Earth's atmosphere made of?

Directions: On each line, write the term from the word bank that correctly completes each sentence. Some terms might be used more than once.

acids

ash

carbon dioxide

nitrogen

oxygen

ozone

pollen

water vapor

1. About 78 percent of Earth's atmosphere is _____.
2. Another 21 percent is _____.
3. The gases making up the remaining 1 percent include three, in varying amounts:
_____, _____, and _____.
4. The gas _____ is in the stratosphere; closer to Earth's surface in urban areas, it is considered to be a pollutant.
5. The atmosphere also contains solid particles, including _____ from plants and _____ from volcanoes.
6. Liquids in the air include _____ from evaporation and _____ from the burning of fossil fuels.

Content Practice A

Describing Earth's Atmosphere

Directions: On the line before each description, write the letter of the term that matches it correctly. Each term is used only once.

- | | |
|---|-----------------|
| _____ 1. the main component of Earth's ancient atmosphere | A. exosphere |
| _____ 2. the gas produced by organisms that use photosynthesis | B. auroras |
| _____ 3. is beneficial higher in the atmosphere but is a pollutant down below | C. air pressure |
| _____ 4. makes up about 78 percent of today's atmosphere | D. acids |
| _____ 5. liquids produced by the burning of fossil fuels | E. temperature |
| _____ 6. where weather phenomena occur | F. water vapor |
| _____ 7. the atmospheric layer below the mesosphere | G. nitrogen |
| _____ 8. reflects AM radio waves | H. ionosphere |
| _____ 9. displays of colored light | I. oxygen |
| _____ 10. atmospheric layer farthest from Earth's surface | J. troposphere |
| _____ 11. always decreases with altitude | K. ozone |
| _____ 12. sometimes decreases with altitude | L. stratosphere |

Content Vocabulary

Describing Earth's Atmosphere

Directions: In this word search puzzle, find and circle the seven terms listed below. Then on each line, write the term that correctly completes each sentence.

- atmosphere
- ionosphere
- liquid
- ozone layer
- stratosphere
- troposphere
- water vapor

L J D U R M W X T Y E N R
 T I N Z B H N K R S X A E
 X C Q I U Q K C O M T V Y
 S O J U L D O J P M R X A
 D T I O I C Y F O L G G L
 Y X R J I D Y S S R X H E
 S J H A U L P K P P Z A N
 C Q A R T H G E H Y O R O
 L L L A E O B S E S H I Z
 D L W R Z X S A R Y M F O
 N Y E E Z N L P E T X X M
 Y S S Z B B O Z H Q W V P
 Z B D R O P A V R E T A W
 U A I O N O S P H E R E Z
 Z U F X Q V J Y L B B E Y

1. The _____ is the layer of atmosphere just above the _____, which is the layer that is closest to Earth's surface.
2. Water exists in the atmosphere in a gaseous form as _____ and in a _____ form as droplets.
3. The area of the stratosphere that contains a high concentration of ozone is called the _____.
4. Ions are located in the region of the atmosphere called the _____.
5. _____ is a layer of gases surrounding Earth.

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Content Practice B

Describing Earth's Atmosphere

Directions: Answer each question or respond to each statement on the lines provided.

1. Explain how Earth's atmosphere developed.


2. List the major layers of Earth's atmosphere beginning with the layer closest to Earth's surface.

3. What is the ionosphere? Where is it located?

4. What causes air pressure?

5. Ozone is located in two places. Name those two places. What is ozone's effect in each place?

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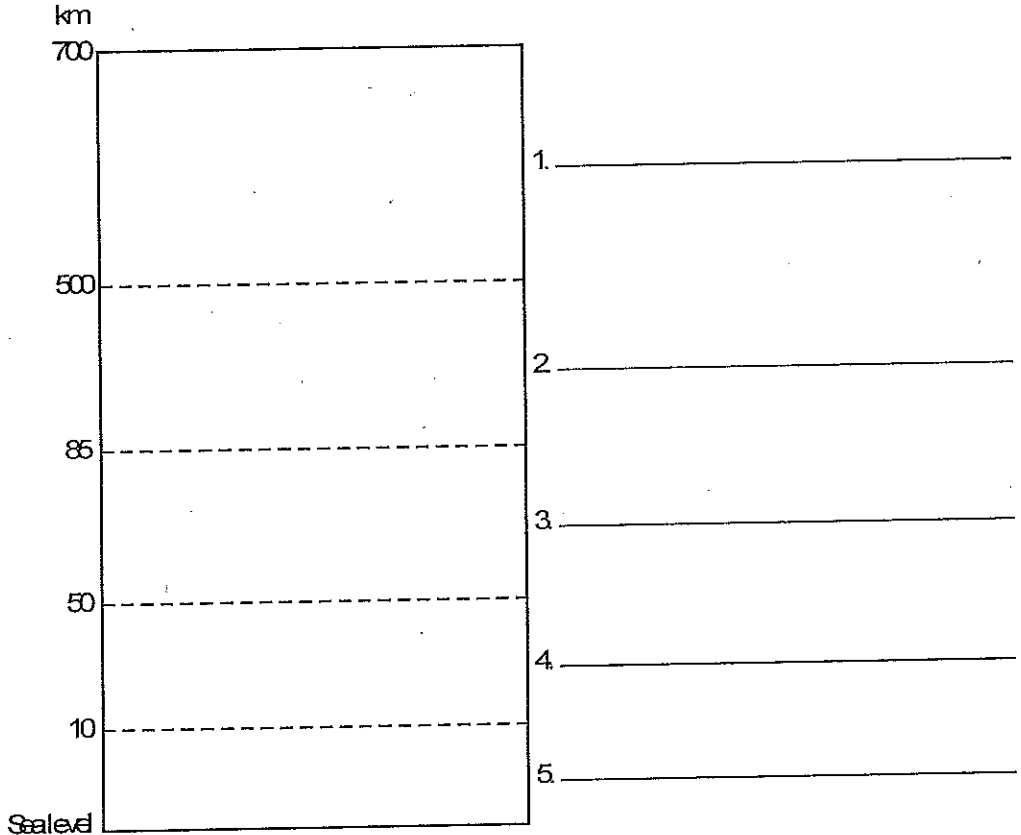
Key Concept Builder 

Describing Earth's Atmosphere

Key Concept What are the layers of the atmosphere?

Directions: Label this diagram by writing the correct term from the word bank on each line.

- exosphere
- mesosphere
- stratosphere
- thermosphere
- troposphere



Directions: On the lines in the diagram above, write the letter to indicate where each of the following things would most likely be located: small meteors (M), airplanes (A), satellites (S), clouds (C), and weather balloons (B).

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School to Home

Describing Earth's Atmosphere

Directions: Identify two characteristics of each atmospheric layer. Use your textbook to complete the table.

1. Troposphere	<p>a.</p> <p>b.</p>
2. Stratosphere	<p>a.</p> <p>b.</p>
3. Mesosphere	<p>a.</p> <p>b.</p>
4. Thermosphere	<p>a.</p> <p>b.</p>
5. Exosphere	<p>a.</p> <p>b.</p>


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Name _____

Date _____

Class _____

Day 4
LESSON 1

Key Concept Builder 

Describing Earth's Atmosphere

Key Concept How did Earth's atmosphere form?

Directions: Number the events from Earth's history to indicate the order in which they occurred to produce the atmosphere we have today. On each line, write a number from 1 to 10, with 1 being the earliest event.

_____ Photosynthesizing organisms develop.

_____ The atmosphere becomes mostly water vapor and CO₂.

_____ Earth is a molten ball.

_____ The atmosphere becomes mostly nitrogen.

_____ The ancient oceans absorb CO₂ from the atmosphere.

_____ Earth's surface hardens.

_____ Oxygen and nitrogen make up 99 percent of the atmosphere.

_____ Heavy rains fall for thousands of years to form oceans.

_____ Volcanoes spew gases from Earth's interior into the atmosphere.


_____ Oxygen slowly builds up in the atmosphere.

Name _____

Date _____

Class _____

Day 4
LESSON 1

Key Concept Builder 

Describing Earth's Atmosphere

Key Concept How do air pressure and temperature change as altitude increases?

Directions: On each line, write the term from the word bank that correctly completes each sentence. Some terms may be used more than once.

air pressure density exosphere gravity mesosphere
ozone stratosphere thermosphere troposphere

1. The force that pulls the atmosphere toward Earth is _____.
2. This pull causes the atmosphere to exert a force called _____.
3. The more gas molecules that are in a given volume of air, the greater the _____ of the air will be.
4. In the _____ and the _____, temperature decreases with increasing altitude.
5. In the _____, the _____, and the _____, just the opposite occurs.
6. Temperature increases in the _____ are caused by the presence of _____, which readily absorbs solar radiation.

Day 5
LESSON 1

Lesson Quiz A

Describing Earth's Atmosphere

True or False

Directions: On the line before each statement, write T if the statement is true or F if the statement is false.

- _____ 1. Earth's atmosphere keeps the planet's temperature within a certain range.
- _____ 2. Plants added oxygen to Earth's ancient atmosphere through photosynthesis.
- _____ 3. Oxygen is the most common gas in Earth's atmosphere.
- _____ 4. The troposphere's ozone layer protects organisms from the Sun's harmful rays.
- _____ 5. The mesosphere and thermosphere protect Earth from meteorites.
- _____ 6. All weather happens in Earth's exosphere.
- _____ 7. Air pressure decreases with height in the atmosphere.
- _____ 8. Temperatures in the troposphere decrease with altitude.
- _____ 9. The thermosphere is the atmospheric layer farthest from Earth.
- _____ 10. Auroras occur when ions from the Sun strike air molecules, causing them to emit vivid colors of light.

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Lesson Quiz B

Describing Earth's Atmosphere

Completion

Directions: On each line, write the term from the word bank that correctly completes each sentence. Not all terms are used.

auroras	decreases	exosphere	higher	increases
lower	mesosphere	nitrogen	oxygen	ozone
photosynthesis	thermosphere	troposphere	water vapor	

1. _____ occur when ions from the Sun strike air molecules.
2. Mountain climbers often carry oxygen because air pressure _____ with altitude.
3. The oxygen in Earth's atmosphere is a product of _____.
4. _____ is the most abundant gas in Earth's atmosphere.
5. _____ in the stratosphere absorbs harmful ultraviolet rays from the Sun.
6. The air temperature at the top of Mount Everest is _____ than the temperature at its base.
7. _____ in the troposphere plays a key role in Earth's weather.
8. The _____ is the atmospheric layer farthest from Earth.
9. Earth is protected from most meteorite collisions by the _____ and thermosphere.
10. The mesosphere and _____ protect Earth from meteorites.