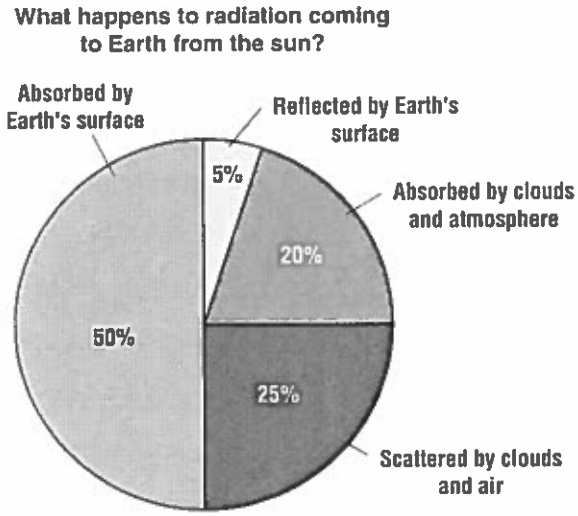
Name _____ Date _____ Class _____

SECTION 2 Study Guide

Energy Transfer in the Atmosphere

Chapter 15

Directions: *Answer the following questions on the lines provided using information from the graph.*



1. Why doesn't all radiation directed at Earth reach the surface?

_____

_____

2. What percent of radiation is lost before reaching Earth's surface?

_____

3. What percent of radiation is lost after reaching Earth's surface?

_____

4. What factors in the atmosphere seem to have the greatest effect on the amount of radiation received from the Sun?

_____

Directions: *Complete the chart using the correct terms and phrases from the chapter. Then answer the following questions on the lines provided.*

Types of heat transfer	How they are produced
5. Radiation	produced by _____
6. Conduction	produced by _____
7. Convection	produced by _____

8. If you put a frying pan on a burner on a stove and turn the burner on, the bottom of the frying pan gets hot. What type of heat transfer has occurred?

_____

9. When you get in a closed car on a sunny day and the temperature inside is much warmer than outside, what type of heat transfer has taken place?

_____

10. In some home heating systems, warm air is blown by a furnace fan into one side of a room. On the other side of the room cold air sinks to the floor. What type of heat transfer is this?

_____

Name _____ Date _____ Class _____

SECTION 1 Study Guide

Earth's Atmosphere

Chapter 15

Directions: *Use the word bank provided to complete the summary paragraph about Earth's atmosphere.*

atmosphere	heat absorbed	nitrogen	rays
balance	heat that escapes	oxygen	salt
dust	life-forms	ozone layer	
gases	liquids	protective covering	

Earth's (1)_____ is defined as a thin layer of air that forms a (2)_____ around the planet. It maintains a crucial (3)_____ between the amount of (4)_____ from the Sun and the amount of (5)_____ back into space. Earth's atmosphere also protects (6)_____ from the Sun's harmful (7)_____. The atmosphere is made up of a mixture of (8)_____, solids, and (9)_____ . When Earth was young, there was little (10)_____ in the atmosphere. It contained mostly (11)_____ and carbon dioxide. As more plants grew, releasing oxygen through photosynthesis, Earth's atmosphere changed. Today, the atmosphere contains bits of (12)_____, (13)_____, and pollen, as well as liquid droplets. It is important to protect the (14)_____ in Earth's atmosphere so that it will continue to protect life on Earth from the Sun's harmful rays.

Directions: *Arrange the four most common gases in Earth's atmosphere from most common to least common. (Hint: refer to Figure 2 in your textbook for additional help.)*

Most common **Least common**

15. 16. 17. 18. Other gases

Name _____ Date _____ Class _____

SECTION 2 Study Guide

Renewable Energy Resources

Chapter 5

Directions: *Write the correct term after each description below on the spaces provided. Then unscramble the boxed letters to spell a type of energy resource in question 16.*

1. where solar energy comes from _ □ _
2. used indirectly when winds and ocean currents are used to do work _ _ _ _ _ _ □ _ _ _ _
3. collect the Sun's energy _ _ _ _ _ _ □ _ _ _
4. use wind energy _ □ _ _ _ _ _ _ _
5. hydroelectric power uses this _ _ _ □ _
6. built to retain water _ □ _
7. energy from hot magma _ _ _ □ _ _ _ _ _ _
8. state where geothermal energy is being used _ _ _ _ □ _
9. energy from burning organic material □ _ _ _ _ _ _
10. ethanol mixed with gasoline _ _ _ _ □ _ _
11. a large number of windmills placed in one area to generate electricity _ _ _ _ _ _ _ _
12. when using magma and water to create energy, the magma's heat turns the water into this □ _ _ _ _
13. a tall, leafy, renewable energy resource _ _ _ _
14. using wood for energy can create this _ _ _ □ _ _ _ _ _
15. cars that use solar cells as a power source _ □ _ _ _ _ _ _ _ _ _ _
16. a type of energy resource: _____

Name Date Class

SECTION 1 Study Guide

Nonrenewable Energy Resources

Chapter 5

Directions: *Use the information from your textbook to complete the energy resources chart below.*

	Resource	Description	Made From	Commonly Used For
1.	Fossil fuel		plants and organisms buried and altered over millions of years	heating, electricity, gasoline, making plastics
2.		a sedimentary rock containing hydrocarbons	bacteria reacting with dead plants	
3.	Oil	a thick, black liquid hydrocarbon, commonly called petroleum		heating, gasoline, manufacturing plastics
4.		hydrocarbons in a gaseous state	the remains of marine animals, lighter than oil	
5.	Synthetic fuel	a human-made liquid or gaseous fuel		heating, electricity
6.	Methane hydrate	hydrocarbons trapped in ice structures on the seafloor		heating, electricity
7.	Nuclear energy		uranium-235	
8.		the splitting of heavy elements to produce energy		electricity
9.		when materials of low mass are fused together to form substance of higher mass	in the future, hydrogen fused into helium molecules	