

Weather
Chapters 17-21 pages 475-585

5. In which atmospheric layer does weather occur?
6. What is temperature?
7. Explain how heat and temperature are related.
8. Describe the three methods of heat transfer- radiation, conduction, convection.
9. Describe convection currents in a **Florida** living room during the **summer**. (Hint: think of the temperature-controlling appliance used mainly in Florida during the summer and where its vents are located.)
10. Describe convection currents in a **Maine** living room during the **winter**. (Hint: think of the temperature-controlling appliance used mainly in Maine during the winter and where its vents are located.)
11. Compare and contrast the heating of land and water.
12. Identify the gas that is most important for understanding atmospheric processes.

13. Describe what happens during a change of state.

14. Compare and contrast the abilities of cold air and warm air to hold water vapor.

15. Describe what happens to air when it is compressed or allowed to expand.

16. List four mechanisms that cause air to rise.

17. With each pair of words, circle the one term that describes what air usually does as it moves from the ground up into the atmosphere.

- | | |
|-------------------------|----------------------|
| A. expands | contracts |
| B. cools down | heats up |
| C. becomes more dense | becomes less dense |
| D. exerts more pressure | exerts less pressure |

18. Describe the conditions in air that favor condensation of water.

19. Know the following terms and how they apply to the formation of clouds- evaporation, condensation, condensation nuclei, precipitation, Bergeon process, supercooled, supersaturated, collision-coalescence process.

20. Compare and contrast clouds and fogs.

21. Explain what must happen for precipitation to form.

22. Identify what controls the type of precipitation that reaches Earth's surface.

23. What causes most of the winds on Earth?

24. Explain how winds blow around pressure centers in the Northern and Southern Hemispheres.

25. Explain how the unequal heating of Earth's surface affects the atmosphere.

34. Complete the following chart:

The Four Types of Fronts

Name of Front	Draw front. Label air masses and use arrows to show directions of motion.	Draw and label clouds where frontal wedging occurs.	List weather associated with front.
Warm			
Cold			
Occluded			
Stationary			

35. Describe the formation of a thunderstorm.

36. Describe the conditions needed for a tornado to form.

37. Identify the conditions that must exist for a hurricane to form.

38. What are some of the relationships between lightning and thunder?

50. State the importance of upwelling.

51. Describe the formation of density currents.

52. Describe how ocean waves get their energy.

53. State three factors that determine the characteristics of a wave.

54. Describe how energy moves through a wave.

55. What **FORCE** produces tides?

56. Describe how El Nino impacts the ocean. (Hint: go back to page 547.)

57. Fill in the following chart:

Variables and Their Effects on Ocean Circulation

Variable	Influences on Ocean Circulation
Wind	
El Nino	
Coriolis Effect	
Currents	
Salinity	
Temperature	

Plate Tectonics
Chapter 9 pages 246-277

58. Fill in the following table:

Types of boundaries	Drawing with arrows showing plates' motions at boundary	Action at boundary (converging, diverging, transform)	Physical features found at boundaries	Examples of boundaries on planet
I. Convergent boundaries				
A. oceanic-oceanic				
B. oceanic-continental				
C. continental-continental				
II. Divergent boundary				
III. Transform boundary				

59. Explain how seafloor spreading and continental rifting cause formation of new lithosphere.
60. According to the plate tectonics theory, what drives the motion of the plates?
61. True or false High mountains gradually wear down until most of Earth is at sea level.
- 62.** What is the **force** behind Earth's mass movements such as mudflows, lahars, creep, landslides, and rockfalls?

Earthquakes
Chapter 8 pages 216-245

63. Compare and contrast the epicenter and focus of an earthquake.
64. Identify the cause of earthquakes.
65. Identify the three types of seismic waves.

66. Describe the factors contributing to earthquake damage.

67. Identify other dangers associated with earthquakes.

68. Explain how to locate the epicenter of an earthquake.

Volcanoes
Chapter 10 pages 278-305

69. Explain the factors that determine the type of volcanic eruptions that occur.

70. Describe the various types of volcanic materials that are ejected from volcanoes.

71. List the three main types of volcanoes.

72. Explain the relationship between plate tectonics and volcanism.

73. Why do you think the coastal area along the Pacific Ocean is called "The Ring of Fire"?

Bedrock Geology
Chapters 2-3 pages 32-91

74. Contrast ionic, covalent, and metallic bonds.

75. List the 5 characteristics of a mineral.

76. Explain why color is often not a useful property in identifying minerals.

77. Define the terms luster, crystal form, streak, and Mohs scale

78. Define the term rock.

79. Identify the three major types of rocks and explain how they differ.

80. Draw and label the rock cycle.

81. List the forces that power Earth's rock cycle.

82. Compare and contrast intrusive and extrusive igneous rocks.

83. Demonstrate how the rate of cooling affects an igneous rock's texture.

84. Be able to use the Classification of Major Igneous Rocks Table on page 74.

85. Describe the major processes involved in the formation of sedimentary rocks.
86. Distinguish between clastic sedimentary rocks and chemical sedimentary rocks.
87. Identify the features that are unique to some sedimentary rocks.
88. Be able to use the Classification of Major Sedimentary Rocks Table on page 74.
89. Define metamorphism.
90. Distinguish between contact metamorphism and regional metamorphism.
91. Be able to use the Classification of Major Metamorphic Rocks Table on page 74.