

Unit 1—Geology

Essential Question: How do scientists gather and interpret evidence that Earth is continually changing?

Chapter 1: The Nature of Science, pp. 4–31:

Major Understandings: (All process standards addressed in Chapter 1.) **AID M3.1a:** use appropriate scientific tools to solve problems about the natural world; **S1.2a:** independently formulate a hypothesis; **S2.1c:** design and conduct an experiment to test a hypothesis; **S2.2b:** design scientific investigations (e.g., observing, describing, and comparing; collecting samples; seeking more information, conducting a controlled experiment; discovering new objects or phenomena; making models); **S2.2c:** design a simple controlled experiment; **S3.1a:** organize results, using appropriate graphs, diagrams, data tables, and other models to show relationships; **S3.2b:** identify sources of error and the limitations of data collected; **S3.2d:** formulate and defend explanations and conclusions as they relate to scientific phenomena; **S3.2g:** suggest improvements and recommendations for further studying; **IS 3.2:** Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. **IPS 1.3:** Design solutions to real-world problems of general social interest related to home, school, or community using scientific experimentation to inform the solution and applying mathematical concepts and reasoning to assist in developing a solution.

WEEK 1	<p>Section 1: Science All Around, pp. 4–14</p> <p>Objectives</p> <ul style="list-style-type: none"> Describe scientific methods. Define science and Earth science. Distinguish among independent variables, dependent variables, constants, and controls. 		<p>Alignment with NYS Core Curriculum:</p> <p>AID M3.1a: use appropriate scientific tools to solve problems about the natural world; S1.2a: independently formulate a hypothesis; Also Covered: AID S2.1c, S2.2b, S2.2c, S2.2d, IS 3.2, IPS 1.3, ED T1.1a</p>
	<p>Lesson 1 (45 min)</p> <p>Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Essential Question Activity, Teacher Edition, p. 4A Launch Lab: <i>Measure in SI</i>, p. 5</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> Read text, pp. 4-14 Complete lab wrap-up questions NY AID boxes, pp. 7, 8, 9, and 12
	<p>Lesson 2 (45 min)</p> <p>Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Transparency: <i>An Investigation Amply Rewarded</i> MiniLAB: <i>Designing an Experiment</i>, p. 11 (Lab worksheet available in the Chapter FastFile, p. 3) Suggested Time: 10-15 minutes</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> Reading Essentials, pp. 1-6 Take Home Science Notebook, pp. 1-4 Complete lab wrap-up questions Section 1 Review, p. 14
<p>Section 2: Scientific Enterprise, pp. 15–23</p> <p>Objectives</p> <ul style="list-style-type: none"> Explain why science is always changing. Compare and contrast scientific theories and scientific laws. Discuss the limits of science 		<p>Alignment with NYS Core Curriculum:</p> <p>AID S3.2d: formulate and defend explanations and conclusions as they relate to scientific phenomena; S3.2g: suggest improvements and recommendations for further studying; Also Covered: AID S3.1a, S3.2b</p>	

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WEEK 1 (continued)	Lesson 3 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Transparency: <i>Hoax or Not</i> MiniLAB: <i>Observing a Scientific Law</i> , p. 19 (Lab worksheet available in the Chapter FastFile, p. 4) Suggested Time: 10-15 minutes Applying Science: <i>How can bias affect your observations?</i> p. 21	Homework/Extra Practice – Read text, pp. 14-22 – NY AID box, p. 18 – Reading Essentials, pp. 7-12 – Complete lab wrap-up questions
	Lesson 4 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Lab: <i>Understanding Science Articles</i> , p. 23 (Lab worksheet available in the Chapter FastFile, pp. 5-6) Suggested Time: 1 class period	Homework/Extra Practice – Take Home Science Notebook, pp. 5-8 – Complete lab wrap-up questions – Section 2 Review, p. 22
WEEK 2	Lesson 5 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Lab: <i>Testing Variables of a Pendulum</i> , pp. 24-25 (Lab worksheet available in the Chapter FastFile, pp. 7-8) Suggested Time: 1 class period	Homework/Extra Practice – Complete lab wrap-up questions – FastFile: Chapter Review, pp. 33-34 – Foldable: Students complete – Visit glencoe.com for ~ Self Check Quiz ~ Chapter Review
	Lesson 6 (45 min)	Investigation/Activity Chapter Assessment Options: Intermediate-Level Science Examination Practice ExamView® <i>Assessment Suite</i> Chapter Review at glencoe.com For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.	Homework/Extra Practice Read text, <i>Views of Earth</i> , pp. 32-39

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Chapter 2: Views of Earth, pp. 32–59

Major Understandings: **AID S1.2b:** propose a model of a natural phenomenon; **S3.1b:** generate and use scales, create legends, and appropriately label axes; **ICT 2.1:** Select an appropriate model to begin the search for answers or solutions to a question or problem. **2.2:** Use models to study processes that cannot be studied directly (e.g., when the real process is too slow, too fast, or too dangerous for direct observation). **2.3:** Demonstrate the effectiveness of different models to represent the same thing and the same model to represent different things. **PS 1.1e:** Most objects in the solar system have a regular and predictable motion. These motions explain such phenomena as a day, a year, phases of the Moon, eclipses, tides, meteor showers, and comets. **1.1f:** The latitude/longitude coordinate system and our system of time are based on celestial observations. **1.1h:** The apparent motions of the Sun, Moon, planets, and stars across the sky can be explained by Earth’s rotation and revolution. Earth’s rotation causes the length of one day to be approximately 24 hours. This rotation also causes the Sun and Moon to appear to rise along the eastern horizon and to set along the western horizon. Earth’s revolution around the Sun defines the length of the year as 365 ¼ days. **2.1g:** The dynamic processes that wear away Earth’s surface include weathering and erosion. **2.2c:** Folded, tilted, faulted, and displaced rock layers suggest past crustal movement. **2.2f:** Plates may collide, move apart, or slide past one another. Most volcanic activity and mountain building occur at the boundaries of these plates, often resulting in earthquakes.

			<p>Section 1: Landforms, pp. 34–39</p> <p>Objectives</p> <ul style="list-style-type: none"> • Discuss differences between plains and plateaus. • Describe folded, upwarped, fault-block, and volcanic mountains. 			<p>Alignment with NYS Core Curriculum:</p> <p>PS 2.2c: Folded, tilted, faulted, and displaced rock layers suggest past crustal movement. 2.2f: Plates may collide, move apart, or slide past one another. Most volcanic activity and mountain building occur at the boundaries of these plates, often resulting in earthquakes.</p>		
WEEK 2 (continued)	<p>Lesson 7 (45 min)</p> <p>Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>		<p>Investigation/Activity</p> <p>Launch Lab: <i>Describe Landforms</i>, p. 33</p> <p>Transparency: <i>Sacred Heights</i></p> <p>MiniLAB: <i>Profiling the United States</i>, p. 36 (Lab worksheet available in the Chapter FastFile, p. 3)</p> <p>Suggested Time: 10-15 minutes</p>			<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 13-17 – Take Home Science Notebook, pp. 9-12 – NY AID box, p. 35 – NY Physical Setting box, p. 38 – Complete lab wrap-up questions – Section 1 Review, p. 39 – Read text, pp. 40-43 		
	<p>Section 2: Viewpoints, pp. 40–43</p> <p>Objectives</p> <ul style="list-style-type: none"> • Discuss differences between plains and plateaus. • Describe folded, upwarped, fault-block, and volcanic mountains. 			<p>Alignment with NYS Core Curriculum:</p> <p>PS 1.1f: The latitude/longitude coordinate system and our system of time are based on celestial observations. Also Covered: PS 1.1e, 1.1h</p>				
	<p>Lesson 8 (45 min)</p> <p>Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>		<p>Investigation/Activity</p> <p>Transparency: <i>A Lovely Planet</i></p> <p>MiniLAB: <i>Interpreting Latitude and Longitude</i>, p. 41 (Lab worksheet available in the Chapter FastFile, p. 4)</p> <p>Suggested Time: 10-15 minutes</p> <p>Teaching Transparency: <i>Latitude and Longitude</i></p>			<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 18-21 – Take Home Science Notebook, pp. 13-15 – NY Physical Setting boxes, pp. 41, 42 – Complete lab wrap-up questions – Section 2 Review, p. 43 – Read text, pp. 44-50 		

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WEEK 2 (continued)	Section 3: Maps, pp. 44–50 Objectives: <ul style="list-style-type: none"> • Compare and contrast map projections and their uses. • Analyze information from topographic, geologic, and satellite maps. 		Alignment with NYS Core Curriculum: AID S1.2b: propose a model of a natural phenomenon. Also Covered: AID S3.1b, ICT 2.1, 2.2, 2.3, PS 1.1f, 2.2g
	Lesson 9 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Lab: <i>Making a Topographic Map</i> , p. 51 (Lab worksheet available in the Chapter FastFile, pp. 5-6) Suggested Time: 1 class period	Homework/Extra Practice <ul style="list-style-type: none"> – Reading Essentials, pp. 22-26 – Take Home Science Notebook, pp. 16-20 – NY AID box, p. 49 – Complete lab wrap-up questions – Section 3 Review, p. 50
WEEK 3	Lesson 10 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Lab: <i>Constructing Landforms</i> , p. 52-53 (Lab worksheet available in the Chapter FastFile, pp. 7-8) Suggested Time: 1 class period	Homework/Extra Practice <ul style="list-style-type: none"> – Complete lab wrap-up questions – Fast File: Chapter Review, pp. 35-36 – Foldable: Students complete – Visit glencoe.com for <ul style="list-style-type: none"> ~ Self Check Quiz ~ Chapter Review
	Lesson 11 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Chapter Assessment Options: Intermediate-Level Science Examination Practice ExamView® Assessment Suite Chapter Review at glencoe.com For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.	Homework/Extra Practice Read text, <i>Rocks and Minerals</i> , pp. 60-70

Chapter 3: Rocks and Minerals, pp. 60–91

Major Understandings: **PS 2.1e:** Rocks are composed of minerals. Only a few rock-forming minerals make up most of the rocks of Earth. Minerals are identified on the basis of physical properties such as streak, hardness, and reaction to acid. **2.1f:** Fossils are usually found in sedimentary rocks. Fossils can be used to study past climates and environments. **2.1h:** The process of weathering breaks down rocks to form sediment. Soil consists of sediment, organic material, water, and air. **2.2g:** Rocks are classified according to their method of formation. The three classes of rocks are sedimentary, metamorphic, and igneous. Most rocks show characteristics that give clues to their formation conditions. **2.2h:** The rock cycle model shows how types of rock or rock material may be transformed from one type of rock to another. **3.3c:** Atoms may join together in well-defined molecules or may be arranged in regular geometric patterns.

WEEK 3 (continued)	Section 1: Minerals – Earths Jewels, pp. 62–70 Objectives <ul style="list-style-type: none"> Identify the difference between a mineral and a rock. Describe the properties that are used to identify minerals. 		Alignment with NYS Core Curriculum: PS 2.1e: Rocks are composed of minerals. Only a few rock-forming minerals make up most of the rocks of Earth. Minerals are identified on the basis of physical properties such as streak, hardness, and reaction to acid. Also covered: PS 3.3c
	Lesson 12 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Launch Lab: <i>Observe a Rock</i> , p. 61 Transparency: <i>Phosphate Was Everywhere!</i> MiniLAB: <i>Classifying Minerals</i> , p. 67 (Lab worksheet available in the Chapter FastFile, p. 3) Suggested Time: 10-15 minutes	Homework/Extra Practice <ul style="list-style-type: none"> Reading Essentials, pp. 27-34 Take Home Science Notebook, pp. 21-24 NY Physical Setting boxes, pp. 63, 69 Complete lab wrap-up questions Section 1 Review, p. 70 Read text, pp. 71-77
	Section 2: Igneous and Sedimentary Rocks, pp. 71–77 Objectives: <ul style="list-style-type: none"> Explain how extrusive and intrusive igneous rocks are different. Describe how different types of sedimentary rocks form. 		Alignment with NYS Core Curriculum: PS 2.2g: Rocks are classified according to their method of formation. The three classes of rocks are sedimentary, metamorphic, and igneous. Most rocks show characteristics that give clues to their formation conditions. Also Covered: PS 2.2f, 2.2h
	Lesson 13 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Transparency: <i>Beautiful Blue</i> MiniLAB: <i>Modeling How Fossils Form Rocks</i> , p. 76 (Lab worksheet available in the Chapter FastFile, p. 4) Suggested Time: 10-15 minutes	Homework/Extra Practice <ul style="list-style-type: none"> Reading Essentials, pp. 35-39 Take Home Science Notebook, pp. 25-27 NY Physical Setting box, p. 75 Complete lab wrap-up questions Section 2 Review, p. 77 Read text, pp. 78-82

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WEEK 3 (continued)	<p>Section 3: Metamorphic Rocks and the Rock Cycle, pp. 78–82</p> <p>Objectives:</p> <ul style="list-style-type: none"> Describe the conditions needed for metamorphic rocks to form. Explain how all rocks are linked by the rock cycle. 		<p>Alignment with NYS Core Curriculum:</p> <p>PS 2.2g: Rocks are classified according to their method of formation. The three classes of rocks are sedimentary, metamorphic, and igneous. Most rocks show characteristics that give clues to their formation conditions. Also Covered: PS 2.1h, 2.2h</p>
	<p>Lesson 14 (45 min) Advanced Planning/Notes to Teachers Lab setup</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Transparency: <i>Hutton’s Unconformity</i> Lab: <i>Gneiss Rice</i>, p. 83 (Lab worksheet available in the Chapter FastFile, pp. 5-6) Suggested Time: 1 class period</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 40-44 – Take Home Science Notebook, pp. 28-32 – NY Physical Setting boxes, pp. 79, 81 – Complete lab wrap-up questions – Section 3 Review, p. 82
WEEK 4	<p>Lesson 15 (45 min) Advanced Planning/Notes to Teachers Lab setup</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Lab: <i>Classifying Minerals</i>, p. 84-85 (Lab worksheet available in the Chapter FastFile, pp. 7-8) Suggested Time: 1 class period</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> – Complete lab wrap-up questions – Fast File: Chapter Review, pp. 37-38 – Visit glencoe.com for <ul style="list-style-type: none"> ~ Self Check Quiz ~ Chapter Review
	<p>Lesson 16 (45 min) Advanced Planning/Notes to Teachers</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Chapter Assessment Options: Intermediate-Level Science Examination Practice <i>ExamView® Assessment Suite</i> Chapter Review at glencoe.com For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.</p>	<p style="text-align: center;">Homework/Extra Practice</p> <p>Read text, <i>Weathering and Erosion</i>, pp. 92-100</p>

Chapter 4: Weathering and Erosion, pp. 130–157

Major Understandings: **LE 2.1a: PS 2.1g:** The dynamic processes that wear away Earth’s surface include weathering and erosion. **2.1h:** The process of weathering breaks down rocks to form sediment. Soil consists of sediment, organic material, water, and air. **2.1i:** Erosion is the transport of sediment. Gravity is the driving force behind erosion. Gravity can act directly or through agents such as moving water, wind, and glaciers.

	<p>Section 1: Weathering and Soil Formation, pp. 94–99 Objectives:</p> <ul style="list-style-type: none"> Identify processes that break rock apart. Describe processes that chemically change rock. Explain how soil evolves. 	<p>Alignment with NYS Core Curriculum: PS 2.1g: The dynamic processes that wear away Earth’s surface include weathering and erosion. 2.1h: The process of weathering breaks down rocks to form sediment. Soil consists of sediment, organic material, water, and air.</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">WEEK 4 (continued)</p>	<p>Lesson 17 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Launch Lab: <i>Water’s Force</i>, p. 93 Transparency: <i>Congregation of Plants</i> MiniLAB: <i>Dissolving Rock with Acids</i>, p. 97 (Lab worksheet available in the Chapter FastFile, p. 3) Suggested Time: 10-15 minutes</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 45-50 – Take Home Science Notebook, pp. 33-36 – NY Physical Setting boxes, pp. 96, 98 – Complete lab wrap-up questions
	<p>Lesson 18 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Lab: <i>Classifying Soils</i>, p. 100 (Lab worksheet available in the Chapter FastFile, pp. 5-6) Suggested Time: 1 class period</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Complete lab wrap-up questions – Section 1 Review, p. 99 – Read text, pp. 101-109
	<p>Section 2: Erosion of Earth’s Surface, pp. 101–109 Objectives:</p> <ul style="list-style-type: none"> Identify agents of erosion. Describe the effects of erosion. 	<p>Alignment with NYS Core Curriculum: PS 2.1i: Erosion is the transport of sediment. Gravity is the driving force behind erosion. Gravity can act directly or through agents such as moving water, wind, and glaciers. Also Covered: PS 2.1g</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">WEEK 5</p>	<p>Lesson 19 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Lab: <i>Measuring Soil Erosion</i>, p. 110-111 (Lab worksheet available in the Chapter FastFile, pp. 7-8) Suggested Time: 2 class periods</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 51-58 – Take Home Science Notebook, pp. 37-40 – NY Physical Setting box, p. 108 – Section 2 Review, p. 109

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WEEK 5 (continued)	<p>Lesson 20 (45 min) Advanced Planning/Notes to Teachers Lab setup</p>	<p>Investigation/Activity Lab: <i>Measuring Soil Erosion</i>, continued Essential Question Activity: <i>Analyze Evidence</i>, Teacher Edition, p. 113</p>	<p>Homework/Extra Practice – Complete lab wrap-up questions – Fast File: Chapter Review, pp. 35-36 – Visit glencoe.com for ~ Self Check Quiz ~ Chapter Review</p>
	<p>Lesson 21 (45 min) Advanced Planning/Notes to Teachers Lab setup</p>	<p>Investigation/Activity Chapter Assessment Options: Intermediate-Level Science Examination Practice <i>ExamView® Assessment Suite</i> Chapter Review at glencoe.com For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.</p>	<p>Homework/Extra Practice Read text, <i>Clues to Earth's Past</i>, pp. 118-127</p>

Chapter 5: Clue's to the Earth's Past, pp. 118–117

Major Understandings: **LE 3.2b:** Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to permit its survival. Extinction of species is common. Fossils are evidence that a great variety of species existed in the past. **3.2c:** Many thousands of layers of sedimentary rock provide evidence for the long history of Earth and for the long history of changing lifeforms whose remains are found in the rocks. Recently deposited rock layers are more likely to contain fossils resembling existing species. **PS 2.1f:** Fossils are usually found in sedimentary rocks. Fossils can be used to study past climates and environments. **2.2c:** Folded, tilted, faulted, and displaced rock layers suggest past crustal movement. **3.3a:** All matter is made up of atoms. Atoms are far too small to see with a light microscope.

WEEK 5 (continued)	<p>Section 1: Fossils, pp. 120–127 Objectives:</p> <ul style="list-style-type: none"> • List the conditions necessary for fossils to form. • Describe several processes of fossil formation. • Explain how fossil correlation is used to determine rock ages. • Determine how fossils can be used to explain changes in Earth's surface, life forms, and environments. 		<p>Alignment with NYS Core Curriculum: LE 3.2b: Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to permit its survival. Extinction of species is common. Fossils are evidence that a great variety of species existed in the past. PS 2.1f: Fossils are usually found in sedimentary rocks. Fossils can be used to study past climates and environments. Also Covered: LE 3.2c</p>
	<p>Lesson 22 (45 min) Advanced Planning/Notes to Teachers Lab setup</p>	<p>Investigation/Activity Launch Lab: <i>Clues to Life's Past</i>, p. 119 Transparency: <i>Guess Again</i> MiniLAB: <i>Predicting Fossil Preservation</i>, p. 121 (Lab worksheet available in the Chapter FastFile, p. 3) Suggested Time: 10-15 minutes</p>	<p>Homework/Extra Practice – Reading Essentials, pp. 59-64 – Take Home Science Notebook, pp. 41-44 – NY Living Environment boxes, pp. 122, 125 – Complete lab wrap-up questions – Section 1 Review, p. 127 – Read text, pp. 128-134</p>

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WEEK 5 (continued)	Section 2 Relative Ages of Rocks, pp. 128–134 Objectives: <ul style="list-style-type: none"> Describe methods used to assign relative ages to rock layers. Interpret gaps in the rock record. Give an example of how rock layers can be correlated with other rock layers. 		Alignment with NYS Core Curriculum: LE 3.2c: Many thousands of layers of sedimentary rock provide evidence for the long history of Earth and for the long history of changing lifeforms whose remains are found in the rocks. Recently deposited rock layers are more likely to contain fossils resembling existing species. Also Covered: PS 2.2c
	Lesson 23 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Transparency: Older than the Hills Lab: Relative Ages, p. 134 (Lab worksheet available in the Chapter FastFile, pp. 5–6) Suggested Time: 1 class period	Homework/Extra Practice <ul style="list-style-type: none"> Reading Essentials, pp. 65-69 Take Home Science Notebook, pp. 45-47 NY Living Environment box, p. 129 Complete lab wrap-up questions Section 2 Review, p. 133 Read text, pp. 135-139
	Section 3 Absolute Ages of Rock, pp. 135–139 Objectives: <ul style="list-style-type: none"> Identify how absolute age differs from relative age. Describe how the half-lives of isotopes are used to determine a rock’s age. 		Alignment with NYS Core Curriculum: LE 3.2c: Many thousands of layers of sedimentary rock provide evidence for the long history of Earth and for the long history of changing lifeforms whose remains are found in the rocks. Recently deposited rock layers are more likely to contain fossils resembling existing species. Also Covered: PS 3.3a.
	Lesson 24 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Transparency: <i>One Big Rock</i> MiniLAB: <i>Carbon-14 Dating</i> , p. 136 (Lab worksheet available in the Chapter FastFile, p. 4) Suggested Time: 10-15 minutes	Homework/Extra Practice <ul style="list-style-type: none"> Reading Essentials, pp. 70-74 Take Home Science Notebook, pp. 48-52 NY Living Environment box, p. 137 Complete lab wrap-up questions Section 3 Review, pp. 140-141
WEEK 6	Lesson 25 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity LAB: <i>Trace Fossils</i> , pp. 140-141 (Lab worksheet available in the Chapter FastFile, pp. 7-8) Suggested Time: 1-2 class periods	Homework/Extra Practice <ul style="list-style-type: none"> Complete lab wrap-up questions Fast File: Chapter Review, pp. 37-38 Visit glencoe.com for <ul style="list-style-type: none"> Self Check Quiz Chapter Review
	Lesson 26 (45 min) Advanced Planning/Notes to Teachers	Investigation/Activity Chapter Assessment Options: Intermediate-Level Science Examination Practice ExamView® <i>Assessment Suite</i> Chapter Review at glencoe.com For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.	Homework/Extra Practice

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Chapter 6: Plate Tectonics, pp. 148–175

Major Understandings: **PS 2.1c:** The rock at Earth’s surface forms a nearly continuous shell around Earth called the lithosphere. **2.2a:** The interior of Earth is hot. Heat flow and movement of material within Earth cause sections of Earth’s crust to move. This may result in earthquakes, volcanic eruption, and the creation of mountains and ocean basins. **2.2b:** Analysis of earthquake wave data (vibrational disturbances) leads to the conclusion that there are layers within Earth. These layers—the crust, mantle, outer core, and inner core—have distinct properties. **2.2c:** Folded, tilted, faulted, and displaced rock layers suggest past crustal movement. **2.2d:** Continents fitting together like puzzle parts and fossil correlations provided initial evidence that continents were once together. **2.2e:** The Theory of Plate Tectonics explains how the “solid” lithosphere consists of a series of plates that “float” on the partially molten section of the mantle. Convection cells within the mantle may be the driving force for the movement of the plates. **2.2f:** Plates may collide, move apart, or slide past one another. Most volcanic activity and mountain building occur at the boundaries of these plates, often resulting in earthquakes.

WEEK 6 (continued)	<p>Section 1: Continental Drift, pp. 150–153</p> <p>Objectives</p> <ul style="list-style-type: none"> • Describe the hypothesis of continental drift. • Identify evidence supporting continental drift. 		<p>Alignment with NYS Core Curriculum:</p> <p>PS 2.2d: Continents fitting together like puzzle parts and fossil correlations provided initial evidence that continents were once together. Also Covered: PS 2.2c</p>
	<p>Lesson 27 (45 min)</p> <p>Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Launch Lab: <i>Reassemble an Image</i>, p. 149</p> <p>Transparency: <i>A Cold Dig</i></p> <p>MiniLAB: <i>Interpreting Fossil Data</i>, p. 152 (Lab worksheet available in the Chapter FastFile, p. 3)</p> <p>Suggested Time: 10-15 minutes</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 75-79 – Take Home Science Notebook, pp. 53-56 – NY Physical Setting box, p. 153 – Complete lab wrap-up questions – Section 1 Review, p. 153 – Read text, pp. 154-157
	<p>Section 2: The Reproductive System, pp. 165–169</p> <p>Objectives</p> <ul style="list-style-type: none"> • Explain seafloor spreading. • Recognize how age and magnetic clues support seafloor spreading. 		<p>Alignment with NYS Core Curriculum:</p> <p>LE 1.2i: The male and female reproductive systems are responsible for producing sex cells necessary for the production of offspring. 4.2a: The male sex cell is the sperm. The female sex cell is the egg. The fertilization of an egg by a sperm results in a fertilized egg. Also Covered: LE 1.2h</p>
	<p>Lesson 28 (45 min)</p> <p>Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Transparency: <i>The Main Event</i></p> <p>Lab: <i>Seafloor Spreading Rates</i>, p. 157 (Lab worksheet available in the Chapter FastFile, pp. 5-6)</p> <p>Suggested Time: 1 class period</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 80-83 – Take Home Science Notebook, pp. 57-59 – NY Physical Setting box, p. 155 – Complete lab wrap-up questions – Section 2 Review, p. 156 – Read text, pp. 158-167

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WEEK 6 (continued)	<p>Section 3: Theory of Plate Tectonics, pp. 158–167</p> <p>Objectives</p> <ul style="list-style-type: none"> • Compare and contrast different types of plate boundaries. • Explain how heat inside Earth causes plate tectonics. • Recognize features caused by plate tectonics. 		<p>Alignment with NYS Core Curriculum:</p> <p>PS 2.2e: The Theory of Plate Tectonics explains how the “solid” lithosphere consists of a series of plates that “float” on the partially molten section of the mantle. Convection cells within the mantle may be the driving force for the movement of the plates. Also Covered: PS 2.1c, 2.2b, 2.2c, 2.2f.</p>
	<p>Lesson 29 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Transparency: <i>Valley of Ten Thousand Smokes</i> National Geographic <i>Visualizing Plate Boundaries</i>, p. 161 MiniLAB: <i>Modeling Convection Currents</i>, p. 163 (Lab worksheet available in the Chapter FastFile, p. 4) Suggested Time: 10-15 minutes</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 84-92 – NY Physical Setting boxes, pp. 159, 162, 163, 165 – Complete lab wrap-up questions – Read text, pp. 168-169
WEEK 7	<p>Lesson 30 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Lab: <i>Predicting Tectonic Activity</i>, pp. 168-169 (Lab worksheet available in the Chapter FastFile, pp. 7-8) Suggested Time: 2 class periods</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Take Home Science Notebook, pp. 60-64 – Section 3 Review, p. 167
	<p>Lesson 31 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p>Investigation/Activity</p> <p>Lab: Predicting Tectonic Activity, continued</p> <p>Essential Question Activity: <i>Provide Examples</i>, Teacher Edition, p. 171</p>	<p>Homework/Extra Practice</p> <ul style="list-style-type: none"> – Complete lab wrap-up questions – Fast File: Chapter Review, pp. 37-38 – Visit glencoe.com for <ul style="list-style-type: none"> ~ Self Check Quiz ~ Chapter Review
	<p>Lesson 31 (45 min) Advanced Planning/Notes to Teachers</p>	<p>Investigation/Activity</p> <p>Chapter Assessment Options: Intermediate-Level Science Examination Practice <i>ExamView® Assessment Suite</i> Chapter Review at glencoe.com For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.</p>	<p>Homework/Extra Practice</p> <p>Read text, Earthquakes and Volcanoes, pp. 176-186</p>

Chapter 7: Earthquakes and Volcanoes, pp. 176–207

Major Understandings: **PS 2.2a:** The interior of Earth is hot. Heat flow and movement of material within Earth cause sections of Earth’s crust to move. This may result in earthquakes, volcanic eruption, and the creation of mountains and ocean basins. **2.2b:** Analysis of earthquake wave data (vibrational disturbances) leads to the conclusion that there are layers within Earth. These layers—the crust, mantle, outer core, and inner core—have distinct properties. **2.2c:** Folded, tilted, faulted, and displaced rock layers suggest past crustal movement. **2.2e:** The Theory of Plate Tectonics explains how the “solid” lithosphere consists of a series of plates that “float” on the partially molten section of the mantle. Convection cells within the mantle may be the driving force for the movement of the plates. **2.2f:** Plates may collide, move apart, or slide past one another. Most volcanic activity and mountain building occur at the boundaries of these plates, often resulting in earthquakes.

WEEK 7 (continued)	Section 1: Earthquakes, pp. 178–186 Objectives <ul style="list-style-type: none"> • Explain how earthquakes are caused by a buildup of strain in Earth’s crust. • Compare and contrast primary, secondary, and surface waves. • Recognize earthquake hazards and know how to prepare for them. 		Alignment with NYS Core Curriculum: PS 2.2a: The interior of Earth is hot. Heat flow and movement of material within Earth cause sections of Earth’s crust to move. This may result in earthquakes, volcanic eruption, and the creation of mountains and ocean basins. 2.2c: Folded, tilted, faulted, and displaced rock layers suggest past crustal movement. Also Covered: PS 2.2b, 2.2f.
	Lesson 33 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Launch Lab: <i>Construct with Strength</i> , p. 177 Transparency: <i>Nobody’s Fault at All</i> MiniLAB: <i>Observing Deformation</i> , p. 179 (Lab worksheet available in the Chapter FastFile, p. 3) Suggested Time: 10-15 minutes	Homework/Extra Practice <ul style="list-style-type: none"> – Reading Essentials, pp. 93-100 – Take Home Science Notebook, pp. 65-68 – NY Physical Setting boxes, pp. 180, 183 – Complete lab wrap-up questions – Section 1 Review, p. 186 – Read text, pp. 187-192
	Section 2: Volcanoes, pp. 187–193 Objectives <ul style="list-style-type: none"> • Explain how volcanoes can affect people. • Describe how types of materials are produced by volcanoes. • Compare how three different volcano forms develop. 		Alignment with NYS Core Curriculum: LE 3.2b: Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to permit its survival. PS 2.1f: Fossils can be used to study past climates and environments. Also Covered: LE 3.2c
	Lesson 34 (45 min) Advanced Planning/Notes to Teachers Lab setup	Investigation/Activity Transparency: <i>Does the stork bring baby islands?</i> MiniLAB: <i>Modeling an Eruption</i> , p. 188 (Lab worksheet available in the Chapter FastFile, p. 4) Suggested Time: 10-15 minutes Virtual Lab CD: <i>Magma</i>	Homework/Extra Practice <ul style="list-style-type: none"> – Reading Essentials, pp. 101-105 – Take Home Science Notebook, pp. 69-71 – NY Physical Setting box, p. 187 – Complete lab wrap-up questions – Read text, p. 193

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WEEK 8	<p>Lesson 35 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Lab: <i>Disruptive Eruptions</i>, p. 193 (Lab worksheet available in the Chapter FastFile, pp. 5-6)</p> <p>Suggested Time: 1 class period</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> – Complete lab wrap-up questions – Section 2 Review, p. 192 – Read text, pp. 194-201
	<p>Section 3: Earthquakes, Volcanoes, and Plate Tectonics, pp. 194–199</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Explain how the locations of volcanoes and earthquake epicenters are related to plate boundaries. • Explain how heat within Earth causes Earth’s plates to move. 		<p style="text-align: center;">Alignment with NYS Core Curriculum:</p> <p>PS 2.2a: The interior of Earth is hot. Heat flow and movement of material within Earth cause sections of Earth’s crust to move. This may result in earthquakes, volcanic eruption, and the creation of mountains and ocean basins. Also Covered: PS 2.2e, 2.2f</p>
	<p>Lesson 36 (45 min) Advanced Planning/Notes to Teachers</p> <p>Lab setup</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Transparency: <i>Earth Shattering</i> Lab: <i>Seismic Waves</i>, p. 200-201 (Lab worksheet available in the Chapter FastFile, pp. 7-8)</p> <p>Suggested Time: 1 class period</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> – Reading Essentials, pp. 106-110 – Take Home Science Notebook, pp. 72-76 – NY Physical Setting box, p. 195 – Complete lab wrap-up questions – Section 3 Review, p. 199
	<p>Lesson 37 (45 min) Advanced Planning/Notes to Teachers</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Essential Question Activity: <i>Student Journal</i>, Teacher Edition, p. 203</p>	<p style="text-align: center;">Homework/Extra Practice</p> <ul style="list-style-type: none"> – Fast File: Chapter Review, pp. 35-36 – Visit glencoe.com for <ul style="list-style-type: none"> ~ Self Check Quiz ~ Chapter Review
	<p>Lesson 38 (45 min) Advanced Planning/Notes to Teachers</p>	<p style="text-align: center;">Investigation/Activity</p> <p>Chapter Assessment Options: Intermediate-Level Science Examination Practice ExamView® Assessment Suite Chapter Review at glencoe.com</p> <p>For additional assessment options, refer to <i>Performance Assessment in the Science Classroom</i> for rubrics and task lists.</p>	<p style="text-align: center;">Homework/Extra Practice</p> <p>Read text, <i>Waves, Sound, and Light</i>, pp. 210-218</p>