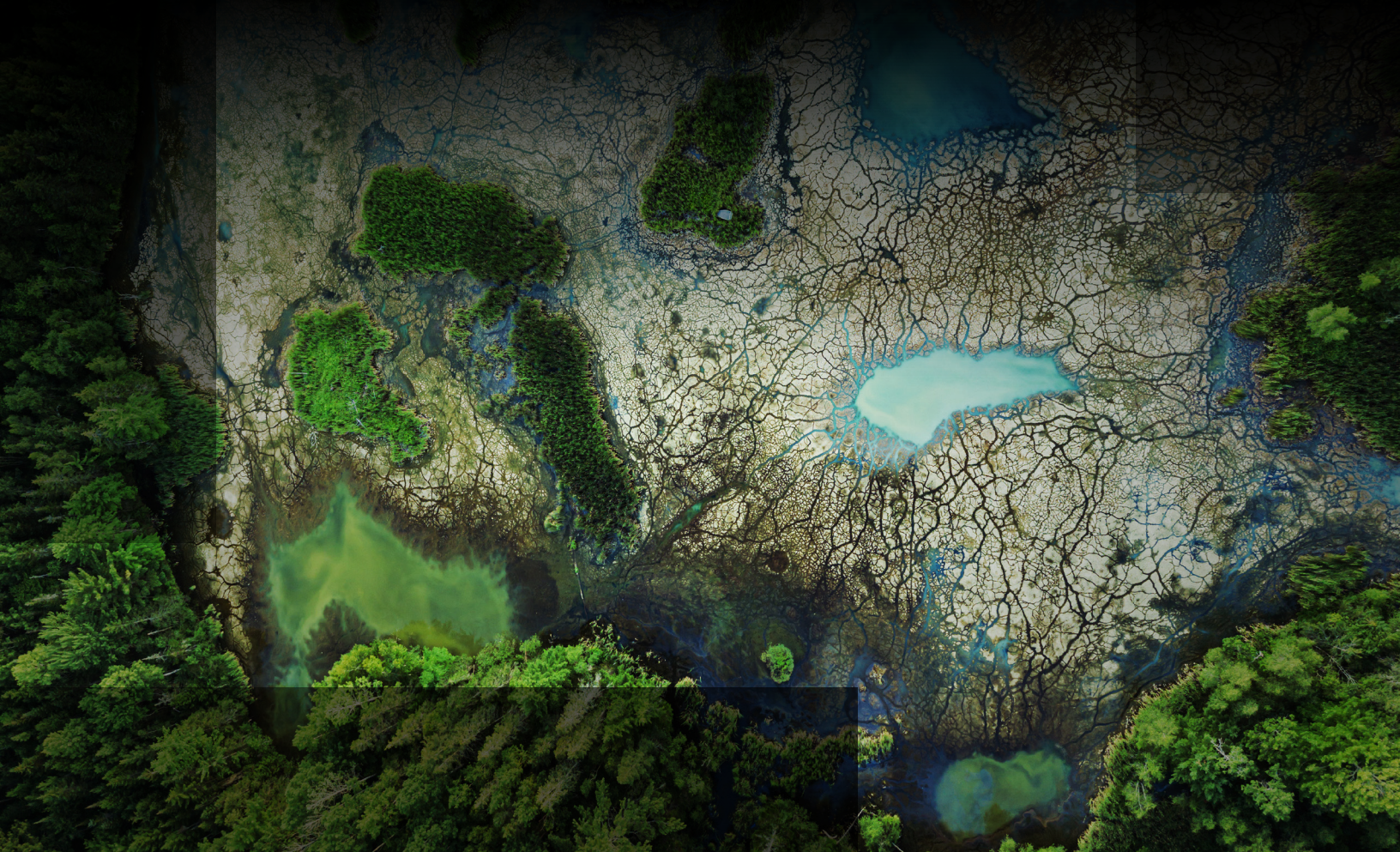


# ENVIRONMENTAL SCIENCE

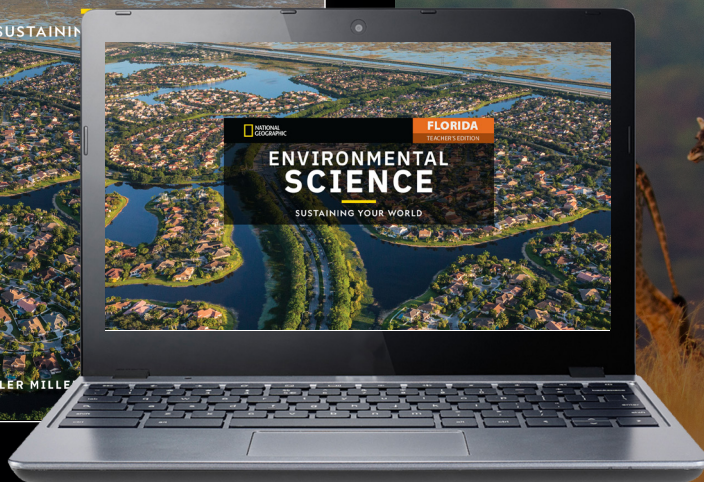
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SCOPE AND SEQUENCE



# SCOPE AND SEQUENCE WITH PACING



Use the relative times shown as one tool to help prioritize segments of your course instruction and homework assignments. Timing is based on 50-minute periods or 90-minute blocks with consideration given to the amount and depth of the content presentation and the standards addressed.

As you allocate time, consider your students' backgrounds and the materials that are available to them at home. Many activities require very simple or no materials or advance preparation and may be assigned as homework, such as the Case Study/Tying It All Together activities and Chapter Activities A and B.

Assessment tools such as the Lesson Reviews, Chapter Reviews, and Chapter Assessments are not included in this scope and sequence as their application varies widely with teacher discretion.

The Investigations listed after this scope and sequence offer ways to assess standards that may require in-class time. Choose among these based on how you want to promote understanding of various concepts and your available laboratory equipment.

An asterisk (\*) indicates an honors-level standard.

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TITLE	PERIODS	BLOCKS	NGSSS
<b>UNIT 1: ECOLOGY AND ECOSYSTEMS</b>	0.5	0.25	
<b>CHAPTER 1 <i>The Environment and Sustainability</i></b>			
1.1 What Are Some Key Factors of Sustainability? (pp. 19–23)	2.0	1.0	SC.912.L.17.8, SC.912.L.17.9, SC.912.L.17.10, SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.18, SC.912.L.17.19, SC.912.L.17.20, SS.912.G.3.3*
1.2 How Are Our Ecological Footprints Affecting Earth? (pp. 23–28)	2.0	1.0	SC.912.L.17.11, SC.912.L.17.16, SC.912.L.17.18, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.3.5, SS.912.G.1.4*, SS.912.G.3.3*
1.3 What Causes Environmental Problems and Why Do They Persist? (pp. 28–35)	2.0	1.0	SC.912.L.17.18, SC.912.L.17.20, SS.912.G.3.3*
1.4 What Is an Environmentally Sustainable Society? (pp. 36–39)	1.0	0.5	SC.912.L.17.12, SC.912.L.17.18, SC.912.L.17.20, SC.912.N.4.2*, SS.912.G.5.3*
Case Study/Tying It All Together (p. 18, p. 40)	1.0	0.5	SC.912.L.17.20, SC.912.N.2.4
Chapter Activity A: Ecological Footprints (p. 43)	0.5	0.25	SC.912.L.17.20
Chapter Activity B: Promoting Environmental Sustainability (p. 43)	0.5	0.25	SC.912.L.17.20, SC.912.N.4.2*
<b>Total Chapter 1</b>	9.0	4.5	

<b>CHAPTER 2 <i>Science, Matter, Energy, and Systems</i></b>			
2.1 What Do Scientists Do? (49–54)	2.0	1.0	SC.912.L.17.11, SC.912.N.1.2, SC.912.N.1.6
2.2 What Is Matter? (pp. 55–58)	1.0	0.5	SC.912.P.10.4*
2.3 What Is Energy? (pp. 58–60)	1.0	0.5	SC.912.P.10.1, SC.912.P.10.4*
2.4 What Are Systems? (pp. 61–62)	1.0	0.5	SC.912.N.3.5, SC.912.P.10.2
Case Study/Tying It All Together (p. 48, p. 62)	1.0	0.5	SC.912.L.17.11, SC.912.N.1.2, SC.912.N.1.6
Chapter Activity A: Runoff (p. 65)	0.5	0.25	SC.912.N.3.5
Chapter Activity B: Water Chemistry (p. 65)	0.5	0.25	
<b>Total Chapter 2</b>	7.0	3.5	

<b>CHAPTER 3 <i>Ecosystem Dynamics</i></b>			
3.1 What Are Earth's Major Spheres, and How Do They Support Life? (pp. 72–73)	1.0	0.5	SC.912.L.17.6, SC.912.L.17.16
3.2 What Are the Major Ecosystem Components? (pp. 74–80)	2.0	1.0	SC.912.L.17.8, SC.912.L.17.9, SC.912.P.10.2

TITLE	PERIODS	BLOCKS	NGSSS
3.3 What Happens to Energy in an Ecosystem? (pp. 81–83)	1.0	0.5	SC.912.L.17.9, SC.912.N.3.5
3.4 What Happens to Matter in an Ecosystem? (pp. 84–92)	2.0	1.0	SC.912.E.7.7, SC.912.E.7.9, SC.912.L.17.10, SC.912.L.17.16, SC.912.L.18.12*
3.5 How Do Scientists Study Ecosystems? (pp. 92–96)	2.0	1.0	SC.912.L.17.6, SC.912.L.17.16, SC.912.N.3.5, SS.912.G.1.1*, SS.912.G.1.4*, SS.912.G.3.5*
Case Study/Tying It All Together (p. 70, p. 96)	1.0	0.5	SS.912.G.5.4*, SC.912.L.17.8, SC.912.L.17.9
Chapter Activity A: Greenhouse Effect (p. 99)	0.5	0.25	SC.912.L.17.16, SC.912.N.3.5
Chapter Activity B: Plankton Studies (p. 99)	0.5	0.25	SS.912.G.5.4*
<b>Total Chapter 3</b>	10.0	5.0	

Unit 1 Engineering Project (pp. 100–101)	3.0	1.5	SC.912.L.17.16, SC.912.L.17.17*, SC.912.N.1.1, SC.912.N.1.5, SC.912.N.4.1, SC.912.N.4.2*
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<b>UNIT 2: BIODIVERSITY</b>	0.5	0.25	Introduction 1
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<b>CHAPTER 4 Biodiversity and Evolution</b>			
4.1 What Is Biodiversity and Why Is It Important? (pp. 109–114)	2.0	1.0	SC.912.L.15.3, SC.912.L.15.13, SC.912.L.17.1, SC.912.L.17.7, SC.912.L.17.8, SC.912.L.17.11, SS.912.G.3.1*
4.2 What Roles Do Species Play in Ecosystems? (pp. 115–119)	2.0	1.0	SC.912.L.15.3, SC.912.L.17.6, SC.912.L.17.8, SC.912.L.17.11, SC.912.L.17.17*, SC.912.L.17.19
4.3 How Does Life on Earth Change Over Time? (pp. 120–123)	1.0	0.5	SC.912.L.14.6, SC.912.L.15.3, SC.912.L.15.13
4.4 What Factors Affect Biodiversity? (pp. 124–127)	1.0	0.5	SC.912.E.7.4*, SC.912.L.15.3, SC.912.L.15.13, SC.912.L.16.10, SC.912.L.17.4, SC.912.L.17.8, SS.912.G.3.2*, HE.912.C.1.3
Case Study/Tying It All Together (p. 108, p. 128)	1.0	0.5	SC.912.L.15.13, SC.912.L.17.8
Chapter Activity A: Species Diversity (p. 131)	0.5	0.25	SS.912.G.1.1*
Chapter Activity B: Exploring Species Diversity (p. 131)	0.5	0.25	SS.912.G.1.1*
<b>Total Chapter 4</b>	8.0	4.0	

<b>CHAPTER 5 Species Interactions, Ecological Succession, and Population Control</b>			
5.1 How Do Species Interact? (pp. 137–141)	2.0	1.0	SC.912.L.17.6, SC.912.N.1.1
5.2 How Do Ecosystems Respond to Changing Conditions? (pp. 142–133)	1.0	0.5	SC.912.L.17.4, SC.912.L.17.8, SC.912.N.1.1

TITLE	PERIODS	BLOCKS	NGSSS
5.3 What Limits the Growth of Populations? (pp. 145–151)	2.0	1.0	SC.912.L.17.5, SC.912.N.1.1
Case Study/Tying It All Together (p. 136, p. 152)	1.0	0.5	SS.912.G.5.4*, SC.912.L.17.5, SC.912.N.1.1
Chapter Activity A: Populations (p. 155)	0.5	0.25	SC.912.L.17.6, SC.912.N.1.1
Chapter Activity B: Remote Penguin Population Monitoring (p. 155)	0.5	0.25	SC.912.L.17.4, SC.912.N.1.1
<b>Total Chapter 5</b>	<b>7.0</b>	<b>3.5</b>	

## CHAPTER 6 *Ecosystems and Climate*

6.1 What Factors Influence Climate? (pp. 161–166)	2.0	1.0	SC.912.E.7.4*, SC.912.E.7.7, SC.912.E.7.8, SC.912.L.17.4, SC.912.L.17.8, SC.912.L.17.16, SS.912.G.3.1*, SS.912.G.3.2*, SS.912.G.3.5*
6.2 What Are the Major Types of Terrestrial Ecosystems? (pp. 167–179)	3.0	1.5	SC.912.E.7.4*, SC.912.L.17.4, SC.912.L.17.7, SC.912.L.17.10, SC.912.L.17.18, SS.912.G.3.1*, SS.912.G.3.2*, SS.912.G.3.5*
6.3 What Are the Major Types of Marine Ecosystems? (pp. 180–185)	2.0	1.0	SC.912.E.7.4*, SC.912.E.7.9, SC.912.L.17.5, SC.912.L.17.7, SC.912.L.17.8, SC.912.L.17.17*, SS.912.G.3.1*, SS.912.G.3.2*, SS.912.G.3.5*, SS.912.G.5.1*
6.4 What Are the Major Types of Freshwater Systems? (pp. 186–189)	1.0	0.5	SC.912.E.7.4*, SC.912.L.17.7, SC.912.L.17.8, SS.912.G.3.1*, SS.912.G.3.2*, SS.912.G.3.5*
Case Study/Tying It All Together (p. 160, p. 190)	1.0	0.5	SC.912.L.17.4, SC.912.L.17.6, SC.912.L.17.7, SC.912.L.17.8, SC.912.L.17.16, SC.912.L.17.17*, SC.912.L.17.18, SS.912.G.5.4*
Chapter Activity A: Leaf Characteristics (p. 193)	0.5	0.25	SC.912.L.17.7
Chapter Activity B: Cataloging Historical Weather Data (p. 193)	0.5	0.25	
<b>Total Chapter 6</b>	<b>10.0</b>	<b>5.0</b>	
Unit 2 Engineering Project (pp. 194–195)	3.0	1.5	SC.912.L.17.7, SC.912.N.1.1, SC.912.N.1.3, SC.912.N.1.5, SC.912.N.1.5, SC.912.N.4.1

TITLE	PERIODS	BLOCKS	NGSSS
<b>UNIT 3: SUSTAINING BIODIVERSITY</b>	0.5	0.25	
<b>CHAPTER 7 <i>Saving Species and Ecosystem Services</i></b>			
7.1 What Causes Extinction and What Are Its Impacts? (pp. 213–220)	2.0	1.0	SC.912.E.7.7, SC.912.L.15.3, SC.912.L.17.8, SC.912.L.17.9
7.2 What Role Do Humans Play in the Loss of Species and Ecosystem Services? (pp. 221–230)	2.0	1.0	SC.912.L.15.3, SC.912.L.17.5, SC.912.L.17.8, SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.16, SC.912.L.17.18, SC.912.L.17.19, SS.912.G.1.4*
7.3 How Can We Sustain Wild Species and Ecosystem Services? (pp. 231–238)	3.0	1.5	SC.912.E.7.8, SC.912.L.17.8, SC.912.L.17.11, SC.912.L.17.17*, SC.912.N.1.3, SC.912.N.2.4, SC.912.N.4.2*
Case Study/Tying It All Together (p. 212, p. 239)	1.0	0.5	SC.912.L.15.3, SC.912.L.17.8, SS.912.G.5.4*, SC.912.N.1.3
Chapter Activity A: Endangered Species Data Habitat (p. 241)	0.5	0.25	
Chapter Activity B: Creating Honeybee Habitat (p. 241)	0.5	0.25	
<b>Total Chapter 7</b>	9.0	4.5	

<b>CHAPTER 8 <i>Sustaining Biodiversity</i></b>			
8.1 How Can Forests Be Better Managed? (pp. 247–254)	2.0	1.0	SC.912.L.17.8, SC.912.L.17.11, SC.912.L.17.16, SC.912.L.17.19, SC.912.N.2.4, SC.912.N.4.2, SS.912.G.5.4*
8.2 How Can Grasslands Be Better Managed? (pp. 255–256)	1.0	0.5	SC.912.L.17.8, SC.912.L.17.11, SC.912.N.4.2*
8.3 How Can Protected Lands Be Better Managed? (pp. 257–261)	2.0	1.0	SC.912.L.17.12, SC.912.N.4.2*
8.4 How Does the Ecosystem Approach Help Protect Terrestrial Biodiversity? (pp. 262–265)	1.0	0.5	SC.912.L.17.20, SC.912.N.4.2*
8.5 How Does the Ecosystem Approach Help Protect Aquatic Biodiversity? (pp. 266–272)	2.0	1.0	SC.912.L.17.8, SC.912.L.17.19, SC.912.N.1.3
Case Study/Tying It All Together (p. 246, p. 273)	1.0	0.5	SC.912.L.17.12, SS.912.G.5.4*, SC.912.N.1.1
Chapter Activity A: Ocean Acidification (p. 275)	0.5	0.25	SC.912.N.1.1
Chapter Activity B: Impact of Deforestation (p. 275)	0.5	0.25	SC.912.N.1.1
<b>Total Chapter 8</b>	10.0	5.0	

Unit 3 Engineering Project (pp. 276–277)	4.0	2.0	SC.912.N.1.1, SC.912.N.1.3, SC.912.N.1.3, SC.912.N.1.5, SC.912.N.4.1
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TITLE	PERIODS	BLOCKS	NGSSS
<b>UNIT 4: ENVIRONMENTAL QUALITY</b>	0.5	0.25	
<b>CHAPTER 9 <i>Food, Soil, and Pest Management</i></b>			
9.1 What Is Food Security? (pp. 285–289)	2.0	1.0	SC.912.L.14.6, SC.912.L.17.20, HE.912.C.1.3
9.2 How Is Food Produced? (pp. 290–301)	3.0	1.5	SC.912.L.14.6, SC.912.L.16.10, SC.912.L.17.8, SC.912.L.17.9, SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.17*, SC.912.N.4.2*, HE.912.C.1.3
9.3 How Are Environmental Issues and Food Production Connected? (pp. 302–311)	2.0	1.0	SC.912.L.17.8, SC.912.L.17.9, SC.912.L.17.12, SC.912.L.17.15, SC.912.L.17.16, SC.912.L.17.18, SC.912.L.17.20, HE.912.C.1.3
9.4 How Can Society Manage Agricultural Pests More Sustainably? (pp. 311–314)	1.0	0.5	SC.912.L.14.6, SC.912.L.16.10, SC.912.L.17.8, SC.912.L.17.9, SC.912.L.17.17*, SC.912.N.4.2*, HE.912.C.1.3
9.5 What Are Sustainable Solutions for Food Production? (pp. 315–321)	2.0	1.0	SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.16, SC.912.L.17.17*, SC.912.L.17.20, SC.912.N.4.2*, SS.912.G.5.2*, HE.912.C.1.3
Case Study/Tying It All Together (p. 284, p. 322)	1.0	0.5	SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.16, SC.912.L.17.20, SS.912.G.5.2*
Chapter Activity A: Fish Consumption (p. 325)	0.5	0.25	
Chapter Activity B: Waste Not (p. 325)	0.5	0.25	SC.912.L.17.20
<b>Total Chapter 9</b>	12.0	6.0	

<b>CHAPTER 10 <i>Water Resources and Pollution</i></b>			
10.1 Why Is Fresh Water in Short Supply? (pp. 331–333)	1.0	0.5	SC.912.L.17.4, SC.912.L.17.11, SC.912.L.17.16, SC.912.L.17.19, SC.912.L.17.20, SS.912.G.1.4*
10.2 How Can People Increase Freshwater Supplies? (pp. 334–338)	2.0	1.0	SC.912.L.17.11, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.1
10.3 How Can People Use Fresh Water More Sustainably? (pp. 339–341)	2.0	1.0	SC.912.L.17.11, SC.912.L.17.20, SC.912.N.4.1
10.4 How Can People Reduce Water Pollution? (pp. 342–355)	3.0	1.5	SC.912.L.17.16, HE.912.C.1.3
Case Study/Tying It All Together (p. 330, p. 356)	1.0	0.5	SC.912.L.17.11, SC.912.L.17.17*, SC.912.L.17.18, SC.912.L.17.19, SC.912.N.4.1, SS.912.G.1.4*, SS.912.G.3.3*, SS.912.G.5.1*
Chapter Activity A: Oil Spill Cleanup (p. 359)	0.5	0.25	SC.912.L.17.16, SC.912.N.4.1



TITLE	PERIODS	BLOCKS	NGSSS
Chapter Activity B: Water Footprint Awareness (p. 359)	0.5	0.25	SC.912.L.17.19, SC.912.L.17.20
<b>Total Chapter 10</b>	10.0	5.0	

### CHAPTER 11 *Geology and Nonrenewable Resources*

11.1 How Do Geological Processes Relate to Society and the Environment? (pp. 365–369)	2.0	1.0	SC.912.L.17.19, SC.912.P.10.4*, SS.912.G.1.4*
11.2 What Are Earth’s Mineral Resources and How Long Might Reserves Last? (pp. 370–375)	2.0	1.0	SC.912.L.17.19, SC.912.N.4.2*
11.3 What Are the Effects of Using Mineral Resources? (pp. 376–382)	2.0	1.0	SC.912.L.17.16, SC.912.L.17.18, SC.912.L.17.19, SC.912.N.4.2*, SS.912.G.1.4*, SS.912.G.3.3*
11.4 How Can Society Use Mineral Resources More Sustainably? (pp. 383–385)	1.0	0.5	SC.912.L.17.15, SC.912.L.17.17*, SC.912.L.17.18, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.2*
Case Study/Tying It All Together (p. 364, p. 386)	1.0	0.5	SC.912.L.17.17*, SC.912.L.17.19, SC.912.L.17.20
Chapter Activity A: Product Life Cycles (p. 389)	0.5	0.25	SC.912.L.17.16, SC.912.L.17.17*, SC.912.L.17.18, SC.912.L.17.19, SC.912.N.4.2*, SS.912.G.1.4
Chapter Activity B: Establishing a Recycling Program (p. 389)	0.5	0.25	SC.912.L.17.15, SC.912.L.17.16, SC.912.L.17.17*, SC.912.L.17.20
<b>Total Chapter 11</b>	9.0	4.5	

### CHAPTER 12 *Nonrenewable Resources*

12.1 What Is Net Energy and Why Is It Important? (pp. 395–396)	1.0	0.5	SC.912.L.17.11, SC.912.L.17.19, SC.912.P.10.1
12.2 What Are the Advantages and Disadvantages of Using Fossil Fuel? (pp. 397–407)	3.0	1.5	SC.912.E.6.6, SC.912.L.17.11, SC.912.L.17.16, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.2*
12.3 What Are the Advantages and Disadvantages of Using Nuclear Power? (pp. 408–415)	2.0	1.0	SC.912.E.6.6, SC.912.L.17.14, SC.912.L.17.19
Case Study/Tying It All Together (p. 394, p. 416)	1.0	0.5	SC.912.L.17.11, SC.912.L.17.19, SC.912.N.4.2*, SS.912.G.5.3*
Chapter Activity A: Fracking (p. 419)	0.5	0.25	SC.912.N.1.4
Chapter Activity B: EPA’s My Environment (p. 419)	0.5	0.25	
<b>Total Chapter 12</b>	8.0	4.0	

TITLE	PERIODS	BLOCKS	NGSSS
<b>CHAPTER 13 <i>Renewable Energy Resources</i></b>			
13.1 Why Is Energy Efficiency an Important Energy Resource? (pp. 425–432)	2.0	1.0	SC.912.E.6.6, SC.912.L.17.11, SC.912.L.17.20, SC.912.N.3.5, SC.912.N.4.2*
13.2 What Are Sources of Renewable Energy? (pp. 433–448)	4.0	2.0	SC.912.E.6.6, SC.912.L.17.11, SC.912.L.17.16, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.2*, SC.912.P.10.1
13.3 How Can Society Transition to a More Sustainable Energy Future? (pp. 449–451)	1.0	0.5	SC.912.E.6.6, SC.912.L.17.11, SC.912.L.17.20, SS.912.G.3.3*
Case Study/Tying It All Together (p. 424, p. 452)	1.0	0.5	SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.2*, SC.912.P.10.1, SS.912.G.3.2*, SS.912.G.3.3*, SS.912.G.5.3*
Chapter Activity A: Wind Turbines (p. 455)	0.5	0.25	
Chapter Activity B: Energy Efficiency at School (p. 455)	0.5	0.25	
<b>Total Chapter 13</b>	<b>9.0</b>	<b>4.5</b>	
Unit 4 Engineering Project (pp. 456–457)	3.0	1.5	SC.912.N.1.1, SC.912.N.1.3, SC.912.N.1.5, SC.912.N.4.1, SC.912.P.10.1
<b>UNIT 5: ENVIRONMENTAL CONCERNS</b>	<b>0.5</b>	<b>0.25</b>	<b>Introduction 1</b>
<b>CHAPTER 14 <i>Human Population and Urbanization</i></b>			
14.1 How Many People Can Earth Support? (pp. 475–475)	1.0	0.5	SC.912.L.17.1, SC.912.L.17.5, SC.912.L.17.18, SS.912.G.5.2*
14.2 What Factors Influence the Size of the Human Population? (pp. 477–482)	2.0	1.0	SC.912.L.17.1, SC.912.L.17.5, SC.912.L.17.18, SC.912.L.17.20
14.3 What Are the Effects of Urbanization on the Environment? (pp. 483–488)	2.0	1.0	SC.912.L.17.18, SC.912.L.17.20, HE.912.C.1.3
14.4 How Can Cities Become More Sustainable? (pp. 489–493)	2.0	1.0	SC.912.L.17.17*, SC.912.L.17.18, SC.912.L.17.20, SC.912.N.4.2, HE.912.C.1.3
Case Study/Tying It All Together (p. 474, p. 494)	1.0	0.5	SC.912.N.1.1, SS.912.G.5.2*, SS.912.G.5.3*
Chapter Activity A: Transportation Trade-Offs (p. 497)	0.5	0.25	SC.912.N.1.1, SC.912.N.4.2*
Chapter Activity B: Historical Population Changes (p. 497)	0.5	0.25	
<b>Total Chapter 14</b>	<b>9.0</b>	<b>4.5</b>	

TITLE	PERIODS	BLOCKS	NGSSS
<b>CHAPTER 15 <i>Environmental Hazards and Human Health</i></b>			
15.1 What Are the Major Types of Health Hazards? (pp. 503–504)	1.0	0.5	SC.912.L.14.6
15.2 How Do Biological Hazards Threaten Human Health? (pp. 504–511)	2.0	1.0	SC.912.L.14.6, SC.912.L.17.6
15.3 How Do Chemical Hazards Threaten Human Health? (pp. 511–515)	2.0	1.0	SC.912.L.14.6, SC.912.N.4.2
15.4 How Can People Evaluate Risks from Chemical Hazards? (pp. 515–521)	2.0	1.0	SC.912.L.14.6, SC.912.L.17.6
15.5 How Do People Perceive and Avoid Risks? (pp. 522–526)	2.0	1.0	SC.912.N.4.2*
Case Study/Tying It All Together (p. 502, p. 536)	1.0	0.5	SC.912.L.17.6, SC.912.N.1.1, SC.912.N.4.1, HE.912.C.1.3
Chapter Activity A: Disease Transmission (p. 529)	0.5	0.25	SC.912.L.14.6, SC.912.N.1.1
Chapter Activity B: Tracking Influenza (p. 529)	0.5	0.25	SC.912.L.14.6
<b>Total Chapter 15</b>	<b>11.0</b>	<b>5.5</b>	

<b>CHAPTER 16 <i>Air Pollution, Climate Change, and Ozone Depletion</i></b>			
16.1 What Are the Major Air Pollution Problems? (pp. 535–545)	3.0	1.5	SC.912.L.17.17*, SC.912.E.7.7, SC.912.N.4.2*, SS.912.G.1.4*, HE.912.C.1.3
16.2 What Are the Effects of Climate Change? (pp. 546–562)	4.0	2.0	SC.912.E.7.7, SC.912.E.7.8, SC.912.E.7.9, SC.912.L.17.4, SC.912.L.17.8, SC.912.N.3.5, SS.912.G.3.3*, SS.912.G.5.2*, HE.912.C.1.3
16.3 How Can People Slow Climate Change? (pp. 563–568)	2.0	1.0	SC.912.L.17.20, SC.912.N.4.2*
16.4 How Can People Reverse Ozone Depletion? (pp. 569–572)	1.0	0.5	SC.912.L.17.16
Case Study/Tying It All Together (p. 534, p. 572)	1.0	0.5	SC.912.L.17.16, SC.912.N.3.5, SS.912.G.5.2*
Chapter Activity A: Climate Models (p. 575)	0.5	0.25	SC.912.E.7.7
Chapter Activity B: Bird Counts (p. 575)	0.5	0.25	
<b>Total Chapter 16</b>	<b>12.0</b>	<b>6.0</b>	

<b>CHAPTER 17 <i>Solid and Hazardous Waste</i></b>			
17.1 What Are Problems Related to Solid Hazardous Waste? (pp. 581–586)	2.0	1.0	SC.912.L.17.14, SC.912.L.17.20, SC.912.N.4.2*
17.2 How Should Society Deal with Solid Waste? (pp. 587–596)	3.0	1.5	SC.912.L.17.14, SC.912.L.17.20, SC.912.N.4.2*

TITLE	PERIODS	BLOCKS	NGSSS
17.3 How Should Society Deal with Hazardous Waste? (pp. 596–60)	2.0	1.0	SC.912.L.17.14, SC.912.L.17.15
17.4 How Can Society Transition to a Low-Waste Economy? (pp. 604–607)	1.0	0.5	SC.912.L.17.14, SC.912.L.17.17*, SC.912.N.1.1, SC.912.N.4.2*
Case Study/Tying It All Together (p. 580, p. 608)	1.0	0.5	SC.912.L.17.14, SC.912.L.17.15, SS.912.G.5.3*
Chapter Activity A: Composting (p. 611)	0.5	0.25	SC.912.L.17.14, SC.912.N.1.1
Chapter Activity B: Promoting Zero Waste (p. 611)	0.5	0.25	SC.912.L.17.14, SC.912.N.1.1
<b>Total Chapter 17</b>	10.0	5.0	

### CHAPTER 18 *Environmental Economics, Politics, and Worldviews*

18.1 How Are Economic Systems Related to the Biosphere? (pp. 617–620)	1.0	0.5	SC.912.E.6.6, SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.13, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.1, HE.912.C.1.3
18.2 How Can People Use Economic Tools to Address Environmental Problems? (pp. 620–625)	2.0	1.0	SC.912.E.6.6, SC.912.L.17.11, SC.912.L.17.12, SC.912.L.17.13, SC.912.L.17.19, SC.912.L.17.20, SC.912.N.4.1, HE.912.C.1.3
18.3 How Can Society Enact More Just Environmental Policies? (pp. 625–634)	2.0	1.0	SC.912.L.17.12, SC.912.L.17.13, SC.912.L.17.17*, SC.912.L.17.20, SC.912.N.2.1, SC.912.N.2.2, SS.912.G.1.4*, HE.912.C.1.3
18.4 How Can Society Live More Sustainably? (pp. 635–638)	1.0	0.5	SC.912.L.17.12, SC.912.L.17.14, SC.912.L.17.17*, SC.912.L.17.18, SC.912.L.17.20, HE.912.C.1.3
Case Study/Tying It All Together (p. 616, p. 638)	1.0	0.5	SC.912.L.17.12, SC.912.L.17.13, SC.912.L.17.16, SC.912.L.17.17*, SC.912.L.17.18, SC.912.L.17.20, SS.912.G.5.1*
Chapter Activity A: Sustainability (p. 641)	0.5	0.25	
Chapter Activity B: Your Watershed (p. 641)	0.5	0.25	SC.912.L.17.20
<b>Total Chapter 18</b>	8.0	4.0	

Unit 5 Engineering Project (pp. 642–643)	3.0	1.5	SC.912.N.1.1, SC.912.N.4.1
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<b>Total</b>	186.5	93.25	
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## CHAPTER INVESTIGATIONS

CHAPTER INVESTIGATIONS	PERIODS	BLOCKS	TEKS
Chapter 1 Investigation: Tragedy of the Commons: Trash in the Ocean	1	0.5	SC.912.L.17.9, SC.912.L.17.17*
Chapter 2 Investigation: Energy in the Environment: Modeling the Greenhouse Effect and Feedback Effects	1	0.5	SC.912.L.17.16
Chapter 3 Investigation: Urban Runoff	1	0.5	SC.912.L.17.16, SC.912.N.4.2*
Chapter 4 Investigation: Modeling Natural Selection Due to Predation	1	0.5	SC.912.L.17.6, SC.912.L.17.16, SC.912.L.17.18, SC.912.L.17.20
Chapter 5 Investigation: Ecological Succession in a Jar	1	0.5	SC.912.L.17.4, SC.912.L.17.8, SC.912.N.1.1, SC.912.N.1.6
Chapter 6 Investigation: Modeling a Watershed	2	1	SC.912.L.17.7, SC.912.L.17.16
Chapter 7 Investigation: Biomagnification	1	0.5	SC.912.L.17.9
Chapter 8 Investigation: Overfishing	1	0.5	SC.912.N.1.1
Chapter 9 Investigation: Crossbreeding and Transgenesis in Plants	2	1	SC.912.L.16.10, SC.912.L.17.4, SC.912.L.17.8, SC.912.L.17.15, SC.912.L.17.16, SC.912.N.4.2*, HE.912.C.1.3
Chapter 10 Investigation: Design and Build a Water Filter	2	1	SC.912.L.17.4, SC.912.L.17.16, HE.912.C.1.3
Chapter 11 Investigation: Identifying Rocks and Minerals	2	1	SC.912.L.17.19
Chapter 12 Investigation: Simulate an Oil Spill Clean-Up	2	1	
Chapter 13 Investigation: An Energy Audit	2	1	SC.912.N.2.4, SC.912.P.10.1
Chapter 14 Investigation: An Urban Garden	1	0.5	SC.912.L.17.7, SC.912.N.1.1, SC.912.N.4.2*
Chapter 15 Investigation: Evaluating Risk	2	1	SC.912.L.14.6, SC.912.N.1.1
Chapter 16 Investigation: Filtering Air Pollution	2	1	SC.912.L.14.6, HE.912.C.1.3
Chapter 17 Investigation: Secondary Recycling	1	0.5	SC.912.N.1.1
Chapter 18 Investigation: Reducing External Costs	1	0.5	SC.912.N.4.2
<b>Total</b>	<b>26</b>	<b>13</b>	