

**Textbook Alignment to the Utah Core – 9<sup>th</sup> Grade Earth Systems**

*This alignment has been completed using an “Independent Alignment Vendor” from the USOE approved list ([www.schools.utah.gov/curr/imc/indvendor.html](http://www.schools.utah.gov/curr/imc/indvendor.html).) Yes  No*

**Name of Company and Individual Conducting Alignment:** Nanette Kalis

A “Credential Sheet” has been completed on the above company/evaluator and is (Please check one of the following):

On record with the USOE.

The “Credential Sheet” is attached to this alignment.

**Instructional Materials Evaluation Criteria (name and grade of the core document used to align):** 9<sup>th</sup> Grade Earth System Core Curriculum

**Title:** Earth Science © 2008 Ecology E © 2008 ISBN#: 0-07-877802-6 0-07-877820-4

**Publisher:** Glencoe/McGraw-Hill

Overall percentage of coverage in the *Student Edition (SE) and Teacher Edition (TE)* of the Utah State Core Curriculum: \_\_\_\_\_%

Overall percentage of coverage in *ancillary materials* of the Utah Core Curriculum: \_\_\_\_\_%

**STANDARD I: Students will understand the scientific evidence that supports theories that explain how the universe and solar system developed.**

Percentage of coverage in the <i>student and teacher edition</i> for Standard I: _____%		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard I: _____%		
OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	<i>Not covered in TE, SE or ancillaries</i> ✓
<b>Objective 1.1:</b> Describe the big bang theory and evidence supporting it.				
a.	Determine the motion of a star relative to Earth based on a red or blue shift in the wavelength of light from the star.	<b>Student Edition:</b> 742-745 <b>Teacher Wraparound Edition:</b> IL 743; RE 745		
b.	Explain how evidence of red and blue shifts is used to determine whether the universe is expanding or contracting.	<b>Student Edition:</b> 742-745 <b>Teacher Wraparound Edition:</b> QD 743		
c.	Describe the big bang theory and the red shift evidence that supports this theory.	<b>Student Edition:</b> 742-745, 753 #26 <b>Teacher Wraparound Edition:</b> ACT 744; QD 743; SJ 744; UAA 745; V 744		
d.	Investigate and report how science has changed the accepted ideas regarding the nature of the universe throughout history.	<b>Student Edition:</b> 672-674, 676-679, 690-694, 734-736 <b>Teacher Wraparound Edition:</b> CFU 694; DI 734; IM 711; SJ 692; TFYI 704; TPK 690		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>e.</b>	Provide an example of how technology has helped scientists investigate the universe.	<b>Student Edition:</b> 628-633, 635-642, 643-649, 676-679 <i>Integrate Physics</i> 166 <i>Science Online</i> 645, 700 <b>Teacher Wraparound Edition:</b> ACT 672; CFU 649; DI 647, 697, 706; RE 166; SCB 626E-F; SJ 706		
<b>Objective 1.2:</b> Relate the structure and composition of the solar system to the processes that exist in the universe.				
<b>a.</b>	Compare the elements formed in the big bang (hydrogen, helium) with elements formed through nuclear fusion in stars.	<b>Student Edition:</b> 729, 734-739, 744 <i>Section Review</i> 739 <b>Teacher Wraparound Edition:</b> DIS 739; MM 736		
<b>b.</b>	Relate the life cycle of stars of various masses to the relative mass of elements produced.	<b>Student Edition:</b> 734-739 <b>Teacher Wraparound Edition:</b> DIS 739		
<b>c.</b>	Explain the origin of the heavy elements on Earth (i.e., heavy elements were formed by fusion in ancient stars).	<b>Student Edition:</b> 739 <b>Teacher Wraparound Edition</b> A 739; DIS 739		
<b>d.</b>	Present evidence that the process that formed Earth's heavy elements continues in stars today.	<b>Student Edition:</b> 729, 734-739 <b>Teacher Wraparound Edition:</b> DI 735; MM 736		
<b>e.</b>	Compare the life cycle of the sun to the life cycle of other stars.	<b>Student Edition:</b> 732, 734-739, 751 #20 <i>Science Online</i> 736 <i>Section Review</i> 739 <b>Teacher Wraparound Edition:</b> FF 738; VL 737		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>f.</b>	Relate the structure of the solar system to the forces acting upon it.	<b>Student Edition:</b> 692-694 <i>Integrate Physics</i> 692 <i>National Geographic</i> 693 <b>Teacher Wraparound Edition:</b> V 693		
<b>STANDARD II: Students will understand that the features of Earth's evolving environment affect living systems, and that life on Earth is unique in the solar system.</b>				
<b>Percentage of coverage in the student and teacher edition for Standard II: _____ %</b>		<b>Percentage of coverage not in student or teacher edition, but covered in the ancillary material for Standard II: _____ %</b>		
<b>Objective 2.1:</b> Describe the unique physical features of Earth's environment that make life on Earth possible.				
<b>a.</b>	Compare Earth's atmosphere, solar energy, and water to those of other planets and moons in the solar system.	<b>Student Edition:</b> 438, 646-647, 671-674, 676-679, 696-701, 702-709, 721 #15 <i>Section Review</i> 438 <b>Teacher Wraparound Edition:</b> ACT 708; SCB 688E; TFYI 697, 708; VL 646, 698		
<b>b.</b>	Compare the conditions that currently support life on Earth to the conditions that exist on other planets in the solar system.	<b>Student Edition:</b> 51, 438, 646-647, 696-701, 702-709, 721 #15		
<b>c.</b>	Evaluate evidence for existence of life in other star systems, planets, or moons, either now or in the past.	<b>Student Edition:</b> 696-701, 702-709 <i>Section Review</i> 694, 701 <b>Teacher Wraparound Edition:</b> MM 708; SCB 688E; SJ 709		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>Objective 2.2:</b> Analyze how ecosystems differ from each other due to abiotic and biotic factors.				
<b>a.</b>	Observe and list abiotic factors (e.g., temperature, water, nutrients, sunlight, pH, topography) in specific ecosystems.	<b>Teacher Wraparound Edition:</b> IL 550; SCB 540F	<b>Student Edition:</b> (E) 36-42 <i>MiniLAB</i> 38 <b>Teacher Wraparound Edition:</b> (E) A 42; DI 39; IL 39; LD 38; R 11, 42; SCB 34E; TPK 36	
<b>b.</b>	Observe and list biotic factors (e.g., plants, animals, organic matter) that affect a specific ecosystem (e.g., wetlands, deserts, aquatic).	<b>Student Edition:</b> <i>National Geographic</i> 555 <b>Teacher Wraparound Edition:</b> IL 550	<b>Student Edition:</b> (E) 10, 12-19, 20-24, 36 <i>MiniLAB</i> 13 <i>Lab</i> 43 <i>Use the Internet</i> <i>Lab</i> 82-83 <b>Teacher Wraparound Edition:</b> (E) ACT 37; DI 22; IL 14, 82; QD 24; R 11, 19; SJ 23	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>c.</b>	Predict how an ecosystem will change as a result of major changes in an abiotic and/or biotic factor.	<b>Student Edition:</b> 557-561 <b>Teacher Wraparound Edition:</b> DIS 564; WQ 150	<b>Student Edition:</b> (E) 12-19, 64-67, 68-75, 77-83, 130-136 <i>Science Online 65 National</i> <i>Geographic 66</i> <i>Integrate Earth Science 74</i> <i>Lab 76</i> <i>MiniLAB 135</i> <b>Teacher Wraparound Edition:</b> (E) A 76; CFU 24; IM 62F; V 18; VL 52	
<b>d.</b>	Explain that energy enters the vast majority of Earth's ecosystems through photosynthesis, and compare the path of energy through two different ecosystems.	<b>Student Edition:</b> 502, 549-551 <i>Section Review 556</i> <b>Teacher Wraparound Edition:</b> MM 550; TFYI 551; VL 55	<b>Student Edition:</b> (E) 20-21, 50-53 <i>Integrate Earth Science 51</i> <b>Teacher Wraparound Edition:</b> (E) A 53; ACT 51; CFU 53; DI 51, 52; IM 62F; MM 22; QD 52; R 53; SCB 34F; TFYI 52; UAA 52; VL 52	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>e.</b>	Analyze interactions within an ecosystem (e.g., water temperature and fish species, weathering and water pH).	<b>Student Edition:</b> 185-186, 551-556 <i>National Geographic</i> 189 <i>Integrate Life Science</i> 455, 529 <i>Accidents in Science</i> 564 <b>Teacher Wraparound Edition:</b> CB 564; DI 554; IL 550; SJ 528	<b>Student Edition:</b> (E) 12-19, 20-24, 68-75, 77-83 <i>Launch Lab</i> 35 <i>Science Online</i> 41 <i>MiniLAB</i> 78 <i>Use the Internet</i> <i>Lab</i> 84-85 <b>Teacher Wraparound Edition:</b> (E) A 11; CFU 11, 83; DI 22; IL 39; IM 6F, 62F; R 10, 42; VL 23	
<b>f.</b>	Plan and conduct an experiment to investigate how abiotic factors influence organisms and how organisms influence the physical environment.	<b>Student Edition:</b> <i>MiniLAB</i> 224 <i>Launch Lab</i> 291 <b>Teacher Wraparound Edition:</b> A 556; ACT 213; IL 550; R 227	<b>Student Edition:</b> (E) 13, 36-42 <i>Launch Lab</i> 13, 63 <i>Design Your Own Lab</i> 26-27 <i>Lab</i> 43, 76 <b>Teacher Wraparound Edition:</b> (E) A 27, 43; CFU 42; DI 15; IL 39; IM 62F; R 19, 42	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>Objective 2.3:</b> Examine Earth's diversity of life as it changes over time.				
<b>a.</b>	Observe and chart the diversity in a specific area.	<b>Student Edition:</b> 551-556 <i>Use the Internet Lab</i> 414-415 <b>Teacher Wraparound Edition:</b> ACT 564; CC 554	<b>Student Edition:</b> (E) 68-75, 77-83 <i>Launch Lab</i> 7, 125 <i>Lab</i> 76 <i>MiniLAB</i> 78 <i>Use the Internet Lab</i> 84-85 <i>Applying Math</i> 129 <b>Teacher Wraparound Edition:</b> (E) LD 128	
<b>b.</b>	Compare the diversity of life in various biomes specific to number of species, biomass, and type of organisms.	<b>Student Edition:</b> 488-491 <b>Teacher Wraparound Edition:</b> ACT 555; CC 554	<b>Student Edition:</b> (E) 68-75, 77-83, 126-136 <i>Section Review</i> 75 <i>Science Online</i> 81 <i>Use the Internet Lab</i> 84-85 <i>Applying Math</i> 129 <b>Teacher Wraparound Edition:</b> (E) R 75; SJ 80	
<b>c.</b>	Explain factors that contribute to the extinction of a species.	<b>Student Edition:</b> 399, 406, 411, 419 #22 <i>Section Review</i> 399, 406 <b>Teacher Wraparound Edition:</b> DIS 416; SCB 390E; SJ 404; TFYI 411; VL 409	<b>Student Edition:</b> (E) <i>MiniLAB</i> 133, 135 <b>Teacher Wraparound Edition:</b> (E) CB 3; QD 131; SJ 131; TFYI 132	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in <i>Student Edition (SE)</i> and <i>Teacher Edition (TE)</i> (pg #'s, etc.)</b>	<b>Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)</b>	<b><i>Not covered in TE, SE or ancillaries ✓</i></b>
<b>d.</b>	Compare evidence supporting various theories that explain the causes of large-scale extinctions in the past with factors causing the loss of species today.	<b>Student Edition:</b> 399, 406, 411, 421 #13 <b>Teacher Wraparound Edition:</b> DIS 406; SCB 390E; TFYI 411	<b>Student Edition:</b> (E) 126-136 <i>MiniLAB</i> 133 <b>Teacher Wraparound Edition:</b> (E) QD 140; SJ 131	
<b>e.</b>	Evaluate the biological, esthetic, ethical, social, or economic arguments with regard to maintaining biodiversity.	<b>Student Edition:</b> <i>Use the Internet Lab</i> 562-563 <b>Teacher Wraparound Edition:</b> VL 124	<b>Student Edition:</b> (E) 126-136, 138-143 <i>Lab</i> 144-145 <i>Science and Society</i> 146 <b>Teacher Wraparound Edition:</b> (E) A 143; ACT 128; DIS 130, 131; R 136; SJ 130; UAA 130	

OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	<i>Not covered in TE, SE or ancillaries</i> ✓
<b>STANDARD III: Students will understand that gravity, density, and convection move Earth's plates and this movement causes the plates to impact other Earth systems.</b>				
Percentage of coverage in the <i>student and teacher edition</i> for Standard III: _____ %		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard III: _____ %		
<b>Objective 3.1:</b> Explain the evidence that supports the theory of plate tectonics.				
a.	Define and describe the location of the major plates and plate boundaries.	<b>Student Edition:</b> 280-289, 300-303, 332-335 <i>Use the Internet Lab</i> 290-291 <b>Teacher Wraparound Edition:</b> A 289; DI 288, 302; TFYI 287, 288; VL 284		
b.	Compare the movement and results of movement along convergent, divergent, and transform plate boundaries.	<b>Student Edition:</b> 280-289, 297 #25 <i>National Geographic</i> 283 <i>Integrate Physics</i> 288 <i>Section Review</i> 289 <b>Teacher Wraparound Edition:</b> A 289; ACT 274; FF 281; LD 282; MM 286-287; USW 282; V 283		
c.	Relate the location of earthquakes and volcanoes to plate boundaries.	<b>Student Edition:</b> 280-289, 295 #15, 297 #10, 300-303, 332-335 <i>Science Online</i> 282 <i>Use the Internet Lab</i> 290-291 <i>Integrate Earth Science</i> 292 <b>Teacher Wraparound Edition:</b> A 291, 335; ACT 272, 283; AIL 290; CC 287; DI 288; DIS 278; R 335; SCB 298E		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>d.</b>	Explain Alfred Wegener's continental drift hypothesis, his evidence, and why it was not accepted in his time.	<b>Student Edition:</b> 272-275, 295 #19, 297 #28 <i>Launch Lab</i> 271 <i>Science Online</i> 273 <i>MiniLAB</i> 274 <i>Applying Science</i> 282 <b>Teacher Wraparound Edition:</b> A 275; DIS 273; QD 281; TFYI 274		
<b>e.</b>	Evaluate the evidence for the current theory of plate tectonics.	<b>Student Edition:</b> 276-278, 280-289, 295 #17, 297 #29 <i>Lab</i> 279 <i>National Geographic</i> 283 <i>MiniLAB</i> 285 <b>Teacher Wraparound Edition:</b> CFU 278; DI 277, 288; MM 286; SJ 281; TFYI 288; VL 284		
<b>Objective 3.2:</b> Describe the processes within Earth that result in plate motion and relate it to changes in other Earth systems.				
<b>a.</b>	Identify the energy sources that cause material to move within Earth.	<b>Student Edition:</b> 285-289, 295 #22, 297 #20 <i>MiniLAB</i> 285 <b>Teacher Wraparound Edition:</b> A 285; R 298		
<b>b.</b>	Model the movement of materials within Earth.	<b>Student Edition:</b> 295 #22 <i>Lab</i> 279 <i>MiniLAB</i> 285, 334 <i>Launch Lab</i> 299 <b>Teacher Wraparound Edition:</b> A 285; ACT 302, 306; DI 286, 306; LD 282, 308; MM 286, 287; QD 302; R 303		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>c.</b>	Model the movement and interaction of plates.	<b>Student Edition:</b> <i>Launch Lab</i> 271 <i>Lab</i> 279 <i>Applying Science</i> 282 <i>Integrate Physics</i> 288 <b>Teacher Wraparound Edition:</b> CFU 335; LD 282; MM 286, 287; QD 273, 281, 302; R 303, 335		
<b>d.</b>	Relate the movement and interaction of plates to volcanic eruptions, mountain building, and climate changes.	<b>Student Edition:</b> 274, 280-289, 295 #15, 297 #26-#27, 300-303, 332-335, 498 <i>Science Online</i> 282 <i>National Geographic</i> 283 <i>Use the Internet Lab</i> 290-291 <i>Integrate Earth Science</i> 292 <b>Teacher Wraparound Edition:</b> A 289; 291; CC 297; DI 286, 288; LD 282; SCB 270F; TFYI 274; V 283		
<b>e.</b>	Predict the effects of plate movement on other Earth systems (e.g., volcanic eruptions affect weather, mountain building diverts waterways, uplift changes elevation that alters plant and animal diversity, upwelling from ocean vents results in changes in biomass).	<b>Student Edition:</b> 313-319, 330-331, 399, 406 <i>Science Online</i> 316 <i>Science and History</i> 506 <b>Teacher Wraparound Edition:</b> A 303; ACT 283; DIS 506; QD 316; SJ 333		

OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	<i>Not covered in TE, SE or ancillaries</i> ✓
<b>STANDARD IV: Students will understand that water cycles through and between reservoirs in the hydrosphere and affects the other spheres of the Earth system.</b>				
Percentage of coverage in the <i>student and teacher edition</i> for Standard IV: _____ %		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard IV: _____ %		
<b>Objective 4.1:</b> Explain the water cycle in terms of its reservoirs, the movement between reservoirs, and the energy to move water. Evaluate the importance of freshwater to the biosphere.				
a.	Identify the reservoirs of Earth's water cycle (e.g., ocean, ice caps/glaciers, atmosphere, lakes, rivers, biosphere, groundwater) locally and globally, and graph or chart relative amounts in global reservoirs.	<b>Student Edition:</b> 215-220, 238-248, 249-254, 437-438, 514-517 <i>Science Online</i> 242 <b>Teacher Wraparound Edition:</b> CC 605; DI 253, 257; TFYI 251	<b>Student Edition:</b> (E) 44-45	
b.	Illustrate the movement of water on Earth and describe how the processes that move water (e.g., evaporation of water, melting of ice/snow, ocean currents, movement of water vapor by wind) use energy from the sun.	<b>Student Edition:</b> 238-248, 249-254, 435-438, 451 #15-#17; 518-523 <i>Science Online</i> 519 <i>MiniLAB</i> 521 <b>Teacher Wraparound Edition:</b> A 238, 437; LD 522; SCB 236E-F; SJ 437; VL 519	<b>Student Edition:</b> (E) 44-45 <b>Teacher Wraparound Edition:</b> (E) IL 39; SJ 45	
c.	Relate the physical and chemical properties of water to a water pollution issue.	<b>Student Edition:</b> 557-561, 600-607 <i>Integrate Health</i> 606 <i>Lab</i> 608 <b>Teacher Wraparound Edition:</b> A 607; ACT 559; DIS 251; IL 253, 605; IM 604; SCB 540F; SJ 251; TFYI 560; UAA 251	<b>Student Edition:</b> (E) 107-108 <b>Teacher Wraparound Edition:</b> (E) ACT 107; IL 108; QD 107	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>d.</b>	Make inferences about the quality and/or quantity of freshwater, using data collected from local water systems.	<b>Student Edition:</b> 600-607, 621 #23, 623 #21 <i>National Geographic</i> 603 <i>Lab</i> 608 <b>Teacher Wraparound Edition:</b> A 607; ACT 606; DI 601, 606; IL 253, 605; QD 601; V 603	<b>Student Edition:</b> (E) <i>Use the Internet</i> <i>Lab</i> 84-85 <b>Teacher Wraparound Edition:</b> (E) SJ 108	
<b>e.</b>	Analyze how communities deal with water shortages, distribution, and quality in designing a long-term water use plan.	<b>Student Edition:</b> 600-607, 621 #25 <i>National Geographic</i> 603 <i>Extra Try at Home Labs</i> 778 <b>Teacher Wraparound Edition:</b> ACT 603; DIS 607; IL 605; R 607; V 603	<b>Student Edition:</b> (E) <i>Science and Society</i> 86 <b>Teacher Wraparound Edition:</b> (E) DIS 86	
<b>Objective 4.2:</b> Analyze the physical and biological dynamics of the oceans.				
<b>a.</b>	Describe the physical dynamics of the oceans (e.g., wave action, ocean currents, El Nino, tides).	<b>Student Edition:</b> 493, 518-523, 524-530 <i>MiniLAB</i> 493, 521, 525 <i>National Geographic</i> 494-495 <i>Launch Lab</i> 513 <i>Science Online</i> 519, 527 <b>Teacher Wraparound Edition:</b> A 521; CB 495; DI 519; LD 522		
<b>b.</b>	Determine how physical properties of oceans affect organisms (e.g., salinity, depth, tides, temperature).	<b>Student Edition:</b> 514-517, 549-556, 557-561 <i>Integrate Life Science</i> 529 <i>Design Your Own Lab</i> 532-533 <i>Section Review</i> 556 <b>Teacher Wraparound Edition:</b> CC 521; DIS 516; IL 551; LD 552; SCB 540F; SJ 528; TFYI 560; V 555	<b>Student Edition:</b> (E) 80-83 <i>Section Review</i> 83 <b>Teacher Wraparound Edition:</b> (E) DIS 81; VL 82	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in <i>Student Edition (SE)</i> and <i>Teacher Edition (TE)</i> (pg #'s, etc.)</b>	<b>Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)</b>	<b><i>Not covered in TE, SE or ancillaries</i> ✓</b>
<b>c.</b>	Model energy flow in ocean ecosystems.	<b>Student Edition:</b> 549-551 <i>Applying Skills</i> 556 <b>Teacher Wraparound Edition:</b> MM 550; TPK 549; VL 550	<b>Student Edition:</b> (E) <i>Integrate Earth Science</i> 51 <b>Teacher Wraparound Edition:</b> (E) ACT 51	
<b>d.</b>	Research and report on changing ocean levels over geologic time, and relate changes in ocean level to changes in the water cycle.	<b>Student Edition:</b> 399, 405-406, 500, 511 #17 <b>Teacher Wraparound Edition:</b> CC 218; CFU 258; DI 218; DIS 405; VL 500		
<b>e.</b>	Describe how changing sea levels could affect life on Earth.	<b>Student Edition:</b> 406, 500 <b>Teacher Wraparound Edition:</b> A 413; CC 16, 218		
<b>STANDARD V: Students will understand that Earth's atmosphere interacts with and is altered by the lithosphere, hydrosphere, and biosphere.</b>				
<b>Percentage of coverage in the <i>student and teacher edition</i> for Standard V: _____ %</b>		<b>Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard V: _____ %</b>		
<b>Objective 5.1:</b> Describe how matter in the atmosphere cycles through other Earth systems.				
<b>a.</b>	Trace movement of a carbon atom from the atmosphere through a plant, animal, and decomposer, and back into the atmosphere.	<b>Student Edition:</b> 502, 511 #13 <b>Teacher Wraparound Edition:</b> CFU 502; UAA 580	<b>Student Edition:</b> (E) 49, 61 #15 <i>National Geographic</i> 49 <b>Teacher Wraparound Edition:</b> (E) ACT 48; DI 48; R 49; V 48	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<i>Not covered in TE, SE or ancillaries ✓</i>
<b>b.</b>	Diagram the nitrogen cycle and provide examples of human actions that affect this cycle (e.g., fertilizers, crop rotation, fossil fuel combustion).	<b>Student Edition:</b> 427, 578-579, 609-610	<b>Student Edition:</b> (E) 46-47, 61 #21 <b>Teacher Wraparound Edition:</b> (E) A 49; DI 46; R 49	
<b>c.</b>	Interpret evidence suggesting that humans are influencing the carbon cycle.	<b>Student Edition:</b> 499-502, 511 #14-#15 <i>Science Online</i> 501 <b>Teacher Wraparound Edition:</b> A 503; DIS 427, 501; LD 124, 500; VL 500	<b>Student Edition:</b> (E) 49, 104, 136, 151 #19 <i>Section Review</i> 49 <i>Science Online</i> 104	
<b>d.</b>	Research ways the biosphere, hydrosphere, and lithosphere interact with the atmosphere (e.g., volcanic eruptions putting ash and gases into the atmosphere, hurricanes, changes in vegetation).	<b>Student Edition:</b> 468-469, 484-487, 518-520, 611 <i>Integrate Environment</i> 468 <i>Science and History</i> 506 <b>Teacher Wraparound Edition:</b> A 502; CC 498; CFU 502; DI 338; DIS 520; TFYI 427, 468; UAA 580	<b>Student Edition:</b> (E) 44-49, 102-104, 121 #26, 135 <i>MiniLAB</i> 135 <b>Teacher Wraparound Edition:</b> (E) CFU 49	
<b>Objective 5.2:</b> Trace ways in which the atmosphere has been altered by living systems and has itself strongly affected living systems over the course of Earth's history.				
<b>a.</b>	Define ozone and compare its effects in the lower and upper atmosphere.	<b>Student Edition:</b> 426-433, 611 <i>Science Online</i> 428 <b>Teacher Wraparound Edition:</b> A 433; IM 428; MM 432	<b>Student Edition:</b> (E) 105, 136 <b>Teacher Wraparound Edition:</b> (E) DI 105; QD 105	
<b>b.</b>	Describe the role of living organisms in producing the ozone layer and how the ozone layer affected the development of life on Earth.	<b>Student Edition:</b> 400-401, 426-433, 449 #17 <i>Integrate Chemistry</i> 401 <b>Teacher Wraparound Edition:</b> DIS 401; SCB 424E		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>c.</b>	Compare the rate at which CO <sub>2</sub> is put into the atmosphere to the rate at which it is removed through the carbon cycle.	<b>Student Edition:</b> 499-502, 511 #14-#15 <b>Teacher Wraparound Edition:</b> CFU 502; DIS 499, 501; UAA 580	<b>Student Edition:</b> (E) 49	
<b>d.</b>	Analyze data relating to the concentration of atmospheric CO <sub>2</sub> over the past 100 years.	<b>Student Edition:</b> 500-502 <i>Science Online</i> 499 <b>Teacher Wraparound Edition:</b> DIS 501	<b>Student Edition:</b> (E) <i>Applying Math</i> 121	
<b>e.</b>	Research, evaluate, and report on international efforts to protect the atmosphere.	<b>Student Edition:</b> 432-433, 613-615 <i>Integrate Career</i> 497 <b>Teacher Wraparound Edition:</b> DIS 432; R 502; TFYI 614	<b>Student Edition:</b> (E) 103, 149 #18 <b>Teacher Wraparound Edition:</b> (E) TFYI 105	
<b>STANDARD VI: Students will understand the source and distribution of energy on Earth and its effects on Earth systems.</b>				
<b>Percentage of coverage in the student and teacher edition for Standard VI: _____ %</b>		<b>Percentage of coverage not in student or teacher edition, but covered in the ancillary material for Standard VI: _____ %</b>		
<b>Objective 6.1:</b> Describe the transformation of solar energy into heat and chemical energy on Earth and eventually the radiation of energy to space.				
<b>a.</b>	Illustrate the distribution of energy coming from the sun that is reflected, changed into heat, or stored by plants.	<b>Student Edition:</b> 435-438, 449 #26 <i>Lab</i> 136 <i>MiniLAB</i> 437 <i>Design Your Own Lab</i> 444-445 <b>Teacher Wraparound Edition:</b> A 136, 445; ATP 152; CFU 438; DI 436		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>b.</b>	Describe the pathways for converting and storing light energy as chemical energy (e.g., light energy converted to chemical energy stored in plants, plants become fossil fuel).	<b>Student Edition:</b> 120-123, 130-135, 549-550 <b>Teacher Wraparound Edition:</b> DI 405; LD 132; TFYI 551	<b>Student Edition:</b> (E) 20, 37-38, 50 <i>Science Online</i> 49 <b>Teacher Wraparound Edition:</b> (E) FF 22	
<b>c.</b>	Investigate the conversion of light energy from the sun into heat energy by various Earth materials.	<b>Student Edition:</b> 130-135, 147 #24, 435-438, 449 #26 <i>Lab</i> 136 <i>Integrate Physics</i> 436 <i>Design Your Own Lab</i> 444-445 <b>Teacher Wraparound Edition:</b> A 136, 445; ATP 152; DIS 436; QD 131		
<b>d.</b>	Demonstrate how absorbed solar energy eventually leaves the Earth system as heat radiating to space.	<b>Student Edition:</b> 435-438 <i>Integrate Earth Science</i> 446 <b>Teacher Wraparound Edition:</b> CFU 438		
<b>e.</b>	Construct a model that demonstrates the reduction of heat loss due to a greenhouse effect.	<b>Student Edition:</b> 499-502 <i>Science Online</i> 499 <i>Lab</i> 503		
<b>f.</b>	Research global changes and relate them to Earth systems (e.g., global warming, solar fluctuations).	<b>Student Edition:</b> 492-502, 509 #19, 511 #17 <i>Integrate Environment</i> 468 <i>MiniLAB</i> 493 <i>National Geographic</i> 494-495 <i>Science Online</i> 499 <b>Teacher Wraparound Edition:</b> A 503; ACT 494; CB 495; DI 338; TFYI 427	<b>Student Edition:</b> (E) 104-105	

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
<b>Objective 6.2:</b> Relate energy sources and transformation to the effects on Earth systems.				
<b>a.</b>	Describe the difference between climate and weather, and how technology is used to monitor changes in each.	<b>Student Edition:</b> 16-17, 454-461, 470-472, 484-487 <i>Science Online</i> 17 <i>MiniLAB</i> 456 <i>Model and Invent Lab</i> 474-475 <b>Teacher Wraparound Edition:</b> IL 464; QD 429; SJ 466; TFYI 7	<b>Teacher Wraparound Edition:</b> (E) DIS 41	
<b>b.</b>	Describe the effect of solar energy on the determination of climate and weather (e.g., El Nino, solar intensity).	<b>Student Edition:</b> 435-438, 439-443, 454-461, 462-469, 479 #22, 484-487 <i>Launch Lab</i> 453 <b>Teacher Wraparound Edition:</b> A 438; CFU 443; IM 424F, 482F		
<b>c.</b>	Explain how uneven heating at the equator and polar regions creates atmospheric and oceanic convection currents that move heat energy around Earth.	<b>Student Edition:</b> 435-438, 439-443, 518-523 <i>Science Online</i> 440, 519 <i>MiniLAB</i> 485 <b>Teacher Wraparound Edition:</b> CFU 443; IM 424F; UAA 436	<b>Student Edition:</b> (E) 41 <b>Teacher Wraparound Edition:</b> (E) DI 41	
<b>d.</b>	Describe the Coriolis effect and its role in global wind and ocean current patterns.	<b>Student Edition:</b> 439-443, 518-523, 539 #18 <i>Science Online</i> 440 <i>Section Review</i> 443 <b>Teacher Wraparound Edition:</b> ACT 441; QD 440; TFYI 440; V 441		

<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in Student Edition (SE) and Teacher Edition (TE) (pg #'s, etc.)</b>	<b>Coverage in Ancillary Material (titles, pg #'s, etc.)</b>	<b>Not covered in TE, SE or ancillaries ✓</b>
e.	Relate how weather patterns are the result of interactions among ocean currents, air currents, and topography.	<b>Student Edition:</b> 454-461, 462-469, 479 #22, 484-487, 509 #27, 520, 539 #15 <i>Applying Science</i> 486 <b>Teacher Wraparound Edition:</b> CC 485; CFU 487; DI 521; DIS 487, 520; FF 486; R 487; TFYI 465, 486; VL 487	<b>Student Edition:</b> (E) 41-42 <b>Teacher Wraparound Edition:</b> (E) QD 41	