CASE

Natural Resources and Ecology
Next Generation Science Standards Alignment

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Disciplinary Core Ideas									
Life Science									
LS1: From Molecules to Organisms: Structures and Processes									
• LS1.A: Structure and Function									
• LS1.B: Growth and Development of Organisms									
• LS1.C: Organization for Matter and Energy Flow in Organisms					X				
LS2: Ecosystems: Interactions, Energy, and Dynamics									
• LS2.A: Interdependent Relationships in Ecosystems					X	X			
• LS2.B: Cycles of Matter and Energy Transfer in Ecosystems					X				
• LS2.C: Ecosystem Dynamics, Functioning, and Resilience			X		X	X	X		X
• LS2.D: Social Interactions and Group Behavior									
LS3: Heredity: Inheritance and Variation of Traits									
• LS3.A: Inheritance of Traits									
• LS3.B: Variation of Traits						X			
LS4: Biological Evolution: Unity and Diversity									
• LS4.A: Evidence of Common Ancestry and Diversity									
• LS4.B: Natural Selection						X			
• LS4.C: Adaptation						X			
• LS4.D: Biodiversity and Humans						X	X		X
Earth and Space Science									
ESS1: Earth's Place in the Universe									
• ESS1.A: The Universe and Its Stars									
• ESS1.B: Earth and the Solar System									
• ESS1.C: The History of Planet Earth									
ESS2: Earth's Systems									
• ESS2.A: Earth Materials and Systems	X								
• ESS2.B: Plate Tectonics and Large-Scale System Interactions									
• ESS2.C: The Roles of Water in Earth's Surface Processes									
• ESS2.D: Weather and Climate									
• ESS2.E: Biogeology				X					
ESS3: Earth and Human Activity									
• ESS3.A: Natural Resources							X	X	
• ESS3.B: Natural Hazards									

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• ESS3.C: Human Impacts on Earth Systems	X							X	X
• ESS3.D: Global Climate Change									
Physical Science									
PS1: Matter and Its Interactions									
• PS1.A: Structure and Properties of Matter									
• PS1.B: Chemical Reactions									
• PS1.C: Nuclear Processes									
PS2: Motion and Stability: Forces and Interactions									
• PS2.A: Forces and Motion									
• PS2.B: Types of Interactions									
PS3: Energy									
• PS3.A: Definitions of Energy									
• PS3.B: Conservation of Energy and Energy Transfer					X				
• PS3.C: Relationship Between Energy and Forces									
• PS3.D: Energy in Chemical Processes and Everyday Life					X				
PS4: Waves and Their Applications in Technologies for Information Transfer									
• PS4.A: Wave Properties									
• PS4.B: Electromagnetic Radiation				X					
• PS4.C: Information Technologies and Instrumentation									
Engineering, Technology, and the Application of Science									
• ETS1: Engineering Design							X		
• ETS1.A: Defining and Delimiting Engineering Problems							X	X	X
• ETS1.B: Developing Possible Solutions									X
• ETS1.C: Optimizing the Design Solution									X

Science and Engineering Practices									
• Asking Questions and Defining Problems		X		X					
• Developing and Using Models		X	X	X		X	X	X	
• Planning and Carrying Out Investigations		X	X				X	X	
• Analyzing and Interpreting Data			X	X		X		X	
• Using Mathematics and Computational Thinking		X	X	X	X	X		X	
• Constructing Explanations and Designing Solutions		X	X			X			X
• Engaging in Argument from Evidence									X
• Obtaining, Evaluating, and Communicating Information	X	X			X		X	X	X

Crosscutting Concepts									
• Patterns		X	X	X		X	X		
• Cause and Effect: Mechanism and Prediction		X	X			X			
• Scale, Proportion, and Quantity				X					

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• Systems and System Models		x	x	x		x	x	x	
• Energy and Matter: Flows, Cycles, and Conservation			x	x	x		x	x	
• Structure and Function		x					x		
• Stability and Change						x			

Understandings about the Nature of Science									
• Scientific Investigations Use a Variety of Methods						x			
• Scientific Knowledge is Based on Empirical Evidence						x			
• Scientific Knowledge is Open to Revision in Light of New Evidence									
• Science Models, Laws, Mechanisms, & Theories Explain Natural Phenomena		x							
• Science is a Way of Knowing									
• Scientific Knowledge Assumes Order & Consistency in Natural Systems									
• Science is a Human Endeavor									
• Science Addresses Questions About the Natural and Material World.									