

## Food Science and Safety Next Generation Science Standards Alignment

	Unit 1 – Introduction to Food Science	Unit 2 – Chemistry of Food	Unit 3 – Safety of Our Food	Unit 4 – Food Processing and Preservation	Unit 5 – Food Health and Security	Unit 6 – Product, Preference, and Availability	Unit 7 – Food Product Development
<b>Disciplinary Core Ideas</b>							
<b>Life Science</b>							
<b>LS1: From Molecules to Organisms: Structures and Processes</b>							
• LS1.A: Structure and Function							
• LS1.B: Growth and Development of Organisms							
• LS1.C: Organization for Matter and Energy Flow in Organisms							
<b>LS2: Ecosystems: Interactions, Energy, and Dynamics</b>							
• LS2.A: Interdependent Relationships in Ecosystems							
• LS2.B: Cycles of Matter and Energy Transfer in Ecosystems							
• LS2.C: Ecosystem Dynamics, Functioning, and Resilience							
• LS2.D: Social Interactions and Group Behavior							
<b>LS3: Heredity: Inheritance and Variation of Traits</b>							
• LS3.A: Inheritance of Traits							
• LS3.B: Variation of Traits							
<b>LS4: Biological Evolution: Unity and Diversity</b>							
• LS4.A: Evidence of Common Ancestry and Diversity							
• LS4.B: Natural Selection							
• LS4.C: Adaptation							
• LS4.D: Biodiversity and Humans							
<b>Earth and Space Science</b>							
<b>ESS1: Earth’s Place in the Universe</b>							
• ESS1.A: The Universe and Its Stars							
• ESS1.B: Earth and the Solar System							
• ESS1.C: The History of Planet Earth							
<b>ESS2: Earth’s Systems</b>							
• ESS2.A: Earth Materials and Systems							
• 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							
<b>ESS3: Earth and Human Activity</b>							
• ESS3.A: Natural Resources							
• ESS3.B: Natural Hazards							

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• ESS3.C: Human Impacts on Earth Systems							
• ESS3.D: Global Climate Change							
<b>Physical Science</b>							
<b>PS1: Matter and Its Interactions</b>							
• PS1.A: Structure and Properties of Matter							
• PS1.B: Chemical Reactions							
• PS1.C: Nuclear Processes							
<b>PS2: Motion and Stability: Forces and Interactions</b>							
• PS2.A: Forces and Motion							
• PS2.B: Types of Interactions							
<b>PS3: Energy</b>							
• PS3.A: Definitions of Energy							
• PS3.B: Conservation of Energy and Energy Transfer							
• PS3.C: Relationship Between Energy and Forces							
• PS3.D: Energy in Chemical Processes and Everyday Life							
<b>PS4: Waves and Their Applications in Technologies for Information Transfer</b>							
• PS4.A: Wave Properties							
• PS4.B: Electromagnetic Radiation							
• PS4.C: Information Technologies and Instrumentation							
<b>Engineering, Technology, and the Application of Science</b>							
• ETS1: Engineering Design			X			X	X
• ETS1.A: Defining and Delimiting Engineering Problems			X			X	X
• ETS1.B: Developing Possible Solutions			X			X	X
• ETS1.C: Optimizing the Design Solution			X			X	X
<b>Science and Engineering Practices</b>							
• Asking Questions and Defining Problems	X	X	X	X	X	X	X
• Developing and Using Models			X			X	X
• Planning and Carrying Out Investigations	X			X		X	X
• Analyzing and Interpreting Data	X	X	X	X	X	X	X
• Using Mathematics and Computational Thinking							
• Constructing Explanations and Designing Solutions			X	X	X	X	X
• Engaging in Argument from Evidence			X		X		
• Obtaining, Evaluating, and Communicating Information	X		X	X	X	X	X
<b>Crosscutting Concepts</b>							
• Patterns		X	X	X			
• Cause and Effect: Mechanism and Prediction	X	X	X	X		X	X
• Scale, Proportion, and Quantity							

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

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