

**Berkeley County Schools  
Fourth Grade Science Curriculum Maps**

**Nine Weeks: 1<sup>st</sup> Nine Weeks**

**Module 0 (Catapult Challenge), 1 (Egg Racers), 2 (Sparks Energy, Inc).- Physical Science**

Driving Question & Topic	Standards	Full Lessons	Fast Track Lessons	Supplemental Activities
<p><b>Module 0: Catapult Challenge</b></p> <p><b>DQ:</b> How do scientists and engineers work as a team?</p> <ul style="list-style-type: none"> <li>• Welcome to Science</li> <li>• Scientists &amp; Engineers</li> <li>• Working as a Team</li> </ul>		<p>L1: Welcome to Science Class L2: Scientists and Engineers L3: Work as a Team L4: Create a Catapult L5: I Can Explain L6: Make a Plan L7: Launch It!</p>	<p>No FT lessons for module 0</p>	
<p><b>Module 1: Egg Racers</b></p> <p>DQ 1: What is energy and how is it transferred from one thing to another?</p> <ul style="list-style-type: none"> <li>• Energy</li> </ul>	<p><b>S.4.1</b> Use evidence to construct an explanation relating the speed of an object to the energy of that object.</p> <p><b>S.4.2</b> Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</p>	<p>L1: Go, Egg, Go! L2: What is Energy? L3: Energy All Around L4: Transferring Energy L5: Driving Force</p>	<p>FT1: Go, Egg, Go! FT2: Energy All Around FT3: Transferring Energy</p>	
<p><b>Module 1: Egg Racers</b></p> <p>DQ 2: How can I increase my car's energy?</p> <ul style="list-style-type: none"> <li>• Energy</li> </ul>	<p><b>S.4.1</b> Use evidence to construct an explanation relating the speed of an object to the energy of that object.</p>	<p>L1: Is There More Energy? L2: Make It Go Faster! L3: Energy Transfer Tournament L4: Write to Egg</p>	<p>FT1: Is There More Energy? FT2: Make It Go Faster! FT3: Energy Transfer Tournament</p>	
<p><b>Module 1: Egg Racers</b></p>	<p><b>S.4.1</b> Use evidence to construct an explanation relating the speed of an object to the energy of that object.</p>	<p>L1: Crashing Balls L2: Beware! Accident in Progress</p>	<p>FT1: Crashing Balls FT2: Beware! Accident in Progress</p>	

<p>DQ3: How does the energy of a moving object change during a collision?</p> <ul style="list-style-type: none"> <li>• Energy</li> </ul>	<p><b>S.4.3</b> Ask questions and predict outcomes about the changes in energy that occur when objects collide</p>	<p>L3: The Crash Scene Detective L4: What Makes Vehicles Safe?</p>		
<p><b>Module 1: Egg Racers</b></p> <p>DQ 4: How can I make my car safer so my egg is not damaged?</p> <ul style="list-style-type: none"> <li>• Engineering Design</li> <li>• Energy</li> </ul>	<p><b>S.4.16</b> Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p> <p><b>S.4.3</b> Ask questions and predict outcomes about the changes in energy that occur when objects collide.</p>	<p>L1: Fair is Fair! L2: Let's Save Egg! L3: Final Fine-Tuning L4: Egg Crash Day L5: Crash Test Dummies</p>	<p>FT1: Egg Crash Challenge (part 1) FT2: Egg Crash Challenge (part 2) FT3: Egg Crash Challenge (part 3)</p>	
<p><b>Module 2: Sparks Energy, Inc.</b></p> <p>DQ 1: How can people make practical use of energy transfers?</p> <ul style="list-style-type: none"> <li>• Engineering Design</li> <li>• Energy</li> </ul>	<p><b>S.4.14</b> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p><b>S.4.2</b> Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</p> <p><b>S.4.4</b> Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.</p>	<p>L1: Sparks Energy, Inc. L2: Going Through the Motions L3: A Place in the Sun L4: Meltdown! L5: What's Cooking? L6: A Watched Pot Never Boils? L7: Cooked to Perfection</p>	<p>FT1: Using Energy Transfers FT2: The Sun's Energy FT3: Our Solar Cookers FT4: Speed It Up!</p>	

Nine Weeks 2nd

Module 2 (Sparks Energy, Inc. Continued)-Physical Science and 3 (Time-Traveling Tour Guides)-Earth Science

Driving Question & Topic	Standard	Full Lessons	Fast Track Lessons	Supplemental Activities
<p><b>Module 2: Sparks Energy, Inc.</b></p> <p>DQ 2: How can people use energy resources to generate electricity?</p> <ul style="list-style-type: none"> <li>• Earth’s Systems: Processes that Shape the Earth</li> <li>• Engineering Design</li> <li>• Energy</li> </ul>	<p><b>S.4.10</b> Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.</p> <p><b>S.4.15</b> Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p><b>S.4.2</b> Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</p> <p><b>S.4.4</b> Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.</p>	<p>L1: Harnessing the Sun’s Power            L2: It’s Electrifying!            L3: A Light Bulb Moment            L4: Get Your Motor Runnin’            L5: Blowing in the Wind            L6: Building Our Turbines            L7: Improving Our Turbines            L8: Harnessing the Wind’s Power            L9: Writing Our Reports            L10: Testing the Water</p>	<p>FT1: Solar Power            FT2: Light the Bulb            FT3: Make Your Motor Spin            FT4: Turning Wind Turbines            FT5: Refining Our Turbines            FT6: Wind and Water Power</p>	
<p><b>Module 2: Sparks Energy, Inc.</b></p> <p>DQ 3: What are the main energy resources used in the United States?</p> <ul style="list-style-type: none"> <li>• Energy</li> </ul>	<p><b>S.4.2</b> Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</p>	<p>L1: How Do We Use Energy?            L2: The Mystery of Easter Island            L3: A Slow Burn            L4: Going Nuclear            L5: Energy and Our Environment            L6: The Great Debate            L7: Writing Our Final Articles</p>	<p>FT1: Energy Resources            FT2: Burning Fossil Fuels            FT3: Nuclear Power            FT4: Writing Our Articles</p>	
<p><b>Module 3: Time-Traveling Tour Guides</b></p>	<p><b>S.4.12</b> Make observations and/or measurements to provide evidence of</p>	<p>L1: Small Changes We See</p>	<p>FT1: Our Changing Globe</p>	

<p>DQ 1: What makes landscapes change over time?</p> <ul style="list-style-type: none"> <li>• Earth's Systems: Processes that Shape the Earth</li> </ul>	<p>the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.</p> <p><b>S.4.13</b> Analyze and interpret data from maps to describe patterns of Earth's geological features.</p>	<p>L2: Time Travelling Around the Globe L3: In Human Time L4: The Newbie Tour Guide</p>	<p>FT2: The Newbie Tour Guide</p>	
<p><b>Module 3: Time-Traveling Tour Guides</b></p> <p>DQ 2: Why do we see different rock layers in the Grand Canyon?</p> <ul style="list-style-type: none"> <li>• Earth's Systems: Processes that Shape the Earth</li> </ul>	<p><b>S.4.10</b> Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.</p> <p><b>S.4.11</b> Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.</p>	<p>L1: The Oldest Fossil of All L2: Early Landscapes L3: Changes Continue L4: Support Your Explanation</p>	<p>FT1: The Oldest Fossil of All FT2: Reading the Rocks FT3: Support Your Explanation</p>	
<p><b>Module 3: Time-Traveling Tour Guides</b></p> <p>DQ 3: How did the Colorado River sculpt the Grand Canyon?</p> <ul style="list-style-type: none"> <li>• Earth's Systems: Processes that Shape the Earth</li> </ul>	<p><b>S.4.12</b> Make observations and/or measurements to provide evidence of the effects of <i>weathering</i> or the rate of erosion by water, ice, wind, or vegetation.</p> <p><b>S.4.13</b> Analyze and interpret data from maps to describe patterns of Earth's geological features.</p>	<p>L1: Down to the Delta L2: It's All Downhill from Here L3: Trickle and Torrents L4: Certified Tour Guides</p>	<p>FT1: Down to the Delta FT2: Standing in the Way of the Flow FT3: Certified Tour Guides</p>	
<p><b>Module 3: Time-Traveling Tour Guides</b></p> <p>DQ 4: What other amazing landscapes have been sculpted by weathering and erosion?</p>	<p><b>S.4.12</b> Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.</p> <p><b>S.4.15</b> Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p>	<p>L1: Earth Movers L2: Glaciers on the Move L3: On a Windy Day L4: Blown Away L5: Upstream and Downstream L6: Engineering and Flood Protection</p>	<p>FT1: Glaciers on the Move FT2: On a Windy Day FT3: Blown Away FT4: Engineering and Flood Protection</p>	

<ul style="list-style-type: none"> <li>Earth's Systems: Processes that Shape the Earth</li> </ul>	<b>S.4.16</b> Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.			
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Nine Weeks: 3rd

**Module 4: Earthquake Engineering**

Driving Question & Topic	Standard	Full Lessons	Fast Track Lessons	Supplemental Activities
<p><b>Module 4: Earthquake Engineering</b></p> <p>DQ 1: How are waves involved in Earthquakes?</p> <ul style="list-style-type: none"> <li>Engineering Design</li> <li>Waves: Waves and Information</li> </ul>	<p>S.4.14 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>S.4.5 Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.</p>	<p>L1: My House Collapsed!</p> <p>L2: Making Waves</p> <p>L3: Learning the Ropes</p> <p>L4: Rocks and Ducks</p> <p>L5: How Big Was That Earthquake?</p>	<p>FT1: Observing Waves</p> <p>FT2: Making Waves</p> <p>FT3: Exploring Earthquakes</p>	<p>BrainPOP: Earthquakes</p> <p><a href="https://www.brainpop.com/science/earthsystem/earthquakes/">https://www.brainpop.com/science/earthsystem/earthquakes/</a></p>
<p><b>Module 4: Earthquake Engineering</b></p> <p>DQ 2: How can patterns help us predict where earthquakes and volcanoes will occur?</p> <ul style="list-style-type: none"> <li>Earth's Systems: Processes that Shape the Earth</li> </ul>	<p>S.4.13 Analyze and interpret data from maps to describe patterns of Earth's geological features.</p>	<p>L1: Explore the World</p> <p>L2: An Earthquake Is Born</p> <p>L3: Little Earthquake, Where Are You?</p> <p>L4: California Shakin'</p> <p>L5: Earthquakes in Oklahoma</p>	<p>FT1: Earthquake Patterns</p> <p>FT2: Earthquake Reports</p>	<p>BrainPOP: Volcanoes</p> <p><a href="https://www.brainpop.com/science/forcesofnature/volcanoes/">https://www.brainpop.com/science/forcesofnature/volcanoes/</a></p> <p>BrainPOP: Plate Tectonics</p> <p><a href="https://www.brainpop.com/science/earthsystem/platetectonics/">https://www.brainpop.com/science/earthsystem/platetectonics/</a></p>

<p><b>Module 4: Earthquake Engineering</b></p> <p>DQ 3: How can building materials and shapes affect the severity of earthquake damage?</p> <ul style="list-style-type: none"> <li>• Engineering/Design</li> </ul>	<p>S.4.14 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>S.4.15 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>S.4.16 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>L1: Overloaded L2: Materials and Forces L3: Straw, Brick, or Wood, Mr. Wolf? L4: Earthquakes Around the World</p>	<p>FT1: Testing Shapes FT2: Testing Materials</p>	<p>BrainPOP: Engineering Design Process <a href="https://www.brainpop.com/technology/scienceandindustry/engineeringdesignprocess/">https://www.brainpop.com/technology/scienceandindustry/engineeringdesignprocess/</a></p>
<p><b>Module 4: Earthquake Engineering</b></p> <p>DQ 4: How can our understanding of earthquakes and materials help us build safer buildings?</p> <ul style="list-style-type: none"> <li>• Engineering/Design</li> </ul>	<p>S.4.14 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>S.4.15 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>S.4.16 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>L1: Back to the Drawing Board L2: Let's Build It! L3: Rumble and Shake! It's an Earthquake!</p>	<p>FT1: Engineering Design Challenge</p>	
<p><b>Module 4: Earthquake Engineering</b></p> <p>DQ 5: What can we learn from engineers that will help us revise our designs?</p> <ul style="list-style-type: none"> <li>• Engineering/Design</li> </ul>		<p>L1: Better Safe than Sorry L2: Civil Engineering L3: Think Outside the Box L4: A Bright Idea</p>	<p>FT1: Earthquake Engineers</p>	

<p><b>Module 4: Earthquake Engineering</b></p> <p>DQ 6: How can we redesign our buildings to make them safer during earthquakes?</p> <ul style="list-style-type: none"> <li>• Earth's Systems: Processes that Shape the Earth</li> <li>• Engineering/Design</li> <li>• Waves: Waves and Information</li> </ul>	<p>S.4.13 Analyze and interpret data from maps to describe patterns of Earth's geological features.</p> <p>S.4.14 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>S.4.15 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>S.4.16 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p> <p>S.4.6 Generate and compare multiple solutions that use patterns to transfer information</p>	<p>L1: Final Little Changes L2: Built to Last L3: Rumble! Tumble! Crumble! L4: Preparing Our Presentation L5: Presenting Our Work</p>	<p>FT1: Redesign Structures FT2: Test Final Structures</p>	
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Nine Weeks: 4th

**Module 6: Super Survivors**

Driving Question & Topic	Standard	Full Lessons	Fast Track Lessons	Supplemental Activities
<p><b>Module 5: Super Survivors</b></p> <p>DQ 1: How do internal and external structures work together to help</p>	<p>S.4.8 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p>	<p>L1: Amazing Animals L2: Extreme Plants L3: What's in a Stem? L4: Fantastic Flowers L5: Breathe In, Breathe Out</p>	<p>FT1: Plant Survivors FT2: Fantastic Flower Parts FT3: Take a Breath FT4: Bird Bills FT5: On the Hunt</p>	<p>BrainPOP: Plant Growth <a href="https://www.brainpop.com/science/cellularlifeandgenetics/plantgrowth/">https://www.brainpop.com/science/cellularlifeandgenetics/plantgrowth/</a></p>

<p>plants and animals live and survive?</p> <ul style="list-style-type: none"> <li>Structure, Function, and Information Processing</li> </ul>		<p>L6: Mimicking Mouthparts L7: Animal Escape Artist</p>		
<p><b>Module 5: Super Survivors</b></p> <p>DQ 2: How do humans and other animals sense and respond to the environment?</p> <ul style="list-style-type: none"> <li>Structure, Function, and Information Processing</li> </ul>	<p>S.4.8 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>S.4.9 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</p>	<p>L1: Super Sense: Hearing L2: Super Sense: Touch L3: Super Sense: Smell L4: Super Sense: Sight</p>	<p>FT1: A Sense of Smell FT2: Seeing Eyes</p>	
<p><b>Module 5: Super Survivors</b></p> <p>DQ 3: How do humans and other animals take in visual information?</p> <ul style="list-style-type: none"> <li>Structure, Function, and Information Processing</li> </ul>	<p>S.4.7 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.</p>	<p>L1: Underground Vision L2: Light and Sight L3: Time to Reflect L4: Mirror, Mirror L5: The Light in My Eyes</p>	<p>FT1: Seeing Underground FT2: On Reflection FT3: Light and Vision</p>	<p>BrainPOP: Light <a href="https://www.brainpop.com/science/energy/light/">https://www.brainpop.com/science/energy/light/</a> Eyes <a href="https://www.brainpop.com/health/bodysystems/eyes/">https://www.brainpop.com/health/bodysystems/eyes/</a></p>
<p><b>Module 5: Super Survivors</b></p> <p>DQ 4: How does the brain make sense of and respond to information?</p>	<p>S.4.7 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.</p> <p>S.4.9 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</p>	<p>L1: Seeing is Believing L2: Modeling How We See L3: Sixth Sense L4: Stimulus Training L5: Brain and Behavior</p>	<p>FT1: Optical Illusions FT2: Stimulus Training FT3: Brain and Behavior FT4: Fast as a Dragonfly</p>	<p>BrainPOPs: Brain <a href="https://www.brainpop.com/health/bodysystems/brain/">https://www.brainpop.com/health/bodysystems/brain/</a> Nervous System <a href="https://www.brainpop.com/health/bodysystems/nervoussystem/">https://www.brainpop.com/health/bodysystems/nervoussystem/</a></p>



<ul style="list-style-type: none"> <li>Structure, Function, and Information Processing</li> </ul>		L6: Fast as a Dragonfly		
<p><b>Module 5: Super Survivors</b></p> <p>DQ 5: How do waves affect our ability to communicate?</p> <ul style="list-style-type: none"> <li>Energy</li> <li>Waves: Waves and Information</li> </ul>	<p>S.4.2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</p> <p>S.4.5 Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.</p>	<p>L1: Communication Challenge  L2: Long-Distance Communication  L3: The Sound of Distant Drums  L4: Sounds in Solids and Liquids  L5: The Ocean in Motion  L6: Breaking Waves  L7: Wave Patterns</p>	<p>FT1: Communication Methods  FT2: The Sound of Distant Drums  FT3: Sounds in Solids and Liquids  FT4: Wave Models</p>	<p>BrainPOPs: Sound  <a href="https://www.brainpop.com/science/energy/sound/">https://www.brainpop.com/science/energy/sound/</a>  Waves  <a href="https://www.brainpop.com/science/energy/waves/">https://www.brainpop.com/science/energy/waves/</a></p>
<p><b>Module 5: Super Survivors</b></p> <p>DQ 6: How can we transfer information over long distances?</p> <ul style="list-style-type: none"> <li>Waves: Waves and Information</li> <li>Engineering Design</li> </ul>	<p>S.4.5 Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.</p> <p>S.4.6 Generate and compare multiple solutions that use patterns to transfer information.</p> <p>S.4.15 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>S.4.16 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	<p>L1: New Communications  L2: Creative Communications  L3: Sharing Our Work  L4: Changing Conditions  L5: Information Digitization  L6: Digitizing Images  L7: Binary-Coded Messages  L8: Communicating with Patterns  L9: Testing, Testing!  L10: S.O.S.</p>	<p>FT1: New Communications  FT2: A Communication Challenge  FT3: Information Digitization  FT4: Binary Code  FT5: Communicating with Patterns  FT6: Testing, Testing!  FT7: S.O.S.</p>	

