Berkeley County Schools
Fifth Grade Science Curriculum Maps

Nine Weeks 1st

Modules 0 (The Haunted House) and 1 (Matter Mysteries Hotline)- Physical Science

Driving Question & Topics	Standards	Full Lessons	Fast Track Lessons	Supplemental Activities
Module 0: The Haunted House How do scientists and engineers work as a team? • Norms and expectations for science lass • Collaboration • Examining evidence • Safety • Constructing and writing scientific explanations	S.4.2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. (This is a 4th grade standard.)	L1: Welcome to Science Class L2: Energy Evidence L3: Work as a Team L4: Will It Light Up? L5: There Must Be an Explanation L6: Solve the Case L7: We Are Scientists	There are no Fast Track lessons for this module.	
Module 1: Matter Mysteries Hotline DQ1: What are the properties of different materials? • Properties of materials • Properties of matter • Design/ carry out an investigation • Carry out fair tests • Proposing a design based on determined goals	S.5.1 Make observations and measurements to identify materials based on their properties. S.5.17 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.	L1: Investigating Mystery Materials L2: Engineering the Next Step in Space L3: Fair Tests L4: Reflecting on the Data L5: Building a Cloud L6: Designing a Solution L7: Proposing Materials Based on Their Properties	FT1: Mystery Materials FT2: Investigating Properties of Materials FT3: Solve the Case!	

Module 1: Matter Mysteries Hotline DQ2: How can we identify a mystery substance? • Observe, measure, and discuss properties • Testing mystery substances • Design an investigation • Create a data table • Construct a scientific explanation • Using properties to identify unknown substances	S.5.1 Make observations and measurements to identify materials based on their properties. S.5.4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances	L1: Investigating Mystery Substances (Day 1) L2: Investigating Mystery Substances (Day 2) L3: Mystery Mixture L4: Introduction to Scientific Explanation L5: Properties of Unknown Substances	FT1: Investigating Mystery Substances FT2: Identify the Mystery Mixture! FT3: All's Well that Ends Well	
Module 1: Matter Mysteries Hotline DQ3: What can cause substances to change? • Carry out an investigation • Measure and record data • Graph and analyze data • Use a model • Physical and chemical changes • Summarizing • Collect evidence from a text	S.5.2 Develop a model to describe that matter is made of particles too small to be seen. S.5.3 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. S.5.4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	L1: Making Banana Bread L2; Analyzing Data L3: Making Lava Lamps L4: Investigating Chemical Changes (Part 1) L5: Investigating Chemical Changes (Part 2) L6: Investigating Chemical Changes (Part 3) L7: Writing a Scientific Explanation L8: What's Happening to Storyteller Lane?	FT1: Investigating Changes FT2: Chemical Reactions (Part1) FT3: Chemical Reactions (Part 2) FT4: Chemical Reactions (Part 3) FT5: A Scientific Explanation	

Module 1: Matter Mysteries Hotline DQ4: How can we design a substance with certain properties? • Design fair tests • Properties of individual substances • Conduct an investigation • Collect data • Test and revise recipes • Reflect on a design based on goals • Chemical and physical reactions • Construct an argument	S.5.4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances. S.5.17 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.	L1: Designing an Investigation L2: Designing, Making, and Testing Clay (Part 1) L3: Designing, Making, and Testing Clay (Part 2) L4: Designing, Making, and Testing Clay (Part 3) L5: Designing, Making, and Testing Clay (Part 4) L6: Making Design Arguments	FT: Designing Clay FT2: Our Results	
Module 1: Matter Mysteries Hotline DQ5: How are solids, liquids, and gases the same, and how are they different? • States of matter • Construct an explanation • Solids, liquids, and gases • Design and carry out an investigation • Gather data • Reflect on data	S.5.1 Make observations and measurements to identify materials based on their properties. S.5.2 Develop a model to describe that matter is made of particles too small to be seen.	L1: What's the Matter? L2: Solids, Liquids, and Gases (Part 1) L3: Solids, Liquids, and Gases (Part 2)	FT1: Properties of Matter FT2: Investigating a Solid, a Liquid, and a Gas FT3: Investigating Gas	
Module 1: Matter Mysteries Hotline	S.5.2 Develop a model to describe that matter is	L1: States of Matter	FT1: Solid, Liquid, or Gas?	

DQ6: How can we model solids, liquids, and gases? • States of matter • Gather evidence • Plan and create 3D models • Particle differences between states of matter • Summarize informational text • Provide details and examples	made of particles too small to be seen. S.5.17 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.	L2: Modeling Kinds of Matter L3: Sharing Models L4: Engineering in Action A1: Benchmark Assessment: What is Matter Made Of? A2: Multiple Choice Assessment	FT2: Modeling States of Matter FT3: Gallery Walk A1: Benchmark Assessment: What is Matter Made Of? A2: Multiple Choice Assessment	

Nine Weeks: 2nd

Module 4 (Galactic Guidebook)- Physical/ Space Science

Driving Question & Topics	Standards	Full Lessons	Fast Track Lessons	Supplemental Activities
Module 4: Galactic Guidebook DQ1: How can we investigate patterns in the sky? • Solar system • Develop a model • Patterns of movement in the solar system • Collect data and measurements • Changes/ patterns in shadow positions	S.5.14 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	L1: Galactic Expectations L2: Shadow Schedule L3: The Longest Day L4: Constellation Observations	FT1: Galactic Guidebook FT2: Daylight Data Patterns	

• Length of day patterns • Represent/ analyze data • Constellations				
Module 4: Galactic Guidebook DQ2: Why is the Sun the brightest star? • Location of stars relative to the Earth/ Solar System • Gather evidence and observations • Constellations • Identify accurate models • Write and revise a scientific argument	S.5.13 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	L1: How Far is a Star? L2: Constellation Sensation L3: Star Light, Star Bright L4: The Brightest Star	FT1: How Far is a Star? FT2: Star Light, Star Bright FT3: The Brightest Star	
Module 4: Galactic Guidebook DQ3: Why do we see the Sun during the day and the stars at night? • Observe that Earth is a sphere • Identify observable patterns in apparent movement • Using models • The Sun is the largest star in the Solar System • Movement of the Earth • Day and night • Support a claim • Write and revise a scientific explanation	S.5.13 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth S.5.14 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	L1: The Science of Size L2: Rising Stars L3: Celestial Navigation L4: Stars in Their Eyes L5: You Spin Me Right Round L6: The World Keeps Turning L7: Shadow Tracking	FT1: Constellation Patterns FT2: You Spin Me Right Round FT3: The World Keeps Turning	

• Change in shadow length and direction				
Module 4: Galactic Guidebook DQ4: Why don't we fall off the Earth? • Make predictions • Carry out an investigation • Direction and speed of objects • Earth's gravity • Write an explanation • Write a scientific argument • Earth's gravitational pull	S.3.5 Support an argument that the gravitational force exerted by Earth on objects is directed toward the center of the Earth. (This is a 3rd grade standard.)	L1: Why Don't We Fall Off the Earth? L2: Feel the Force L3: The Force of Gravity	FT1: Earth's Gravity	
Module 4: Galactic Guidebook DQ5: Why do the stars seem to move? • Perceived movement of constellations • Patterns in the positions of constellations • Orbit of the Earth around the Sun • Earth's axis • Patterns of Earth's movements • Using model • Apparent motion • Write and revise a scientific explanation • Analyze graphs and data • Patterns in shadows	S.5.14 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	L1: Stars on the Move L2: Farming by the Stars L3: Star Signs L4: Written in the Stars L5: Shadow Analysis L6: Galactic Planning L7: Galactic Recording L8: Galactic Guidebook A1: Benchmark Assessment- Earth's Daily and Seasonal Patterns	FT1: Tracking Constellations FT2: Star Signs FT3: Analyzing Shadow Data FT4: Galactic Planning FT5: Galactic Recording A1: Benchmark Assessment- Earth's Daily and Seasonal Patterns A2: Multiple Choice Assessment A3: Multiple Choice Assessment Extension	

• Patterns in the sky		A2: Multiple Choice Assessment A3: Multiple Choice Assessment Extension		

Nine Weeks: 3rd

Module 3 (H20 Response Team) - Earth Science **Standards S.5.11 and S.5.12 are not explicitly taught in Twig.

Driving Question and Topics:	Standards	Full Lessons	Fast Track Lessons	Supplemental Activities
Module 3: H2O Response Team DQ1: How much fresh water is on Earth? • Hydrosphere • Hydrologists • Water sources • Water percentages • Water scarcity • Create visual model	S.5.8 Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. S.5.10 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	L1: The Blue Planet L2: Who Needs Water? L3: Water Around the World L4: All the Water on Earth L5: Finding Fresh Water	FT1: Water on Earth FT2: Earth's Fresh Water	
Module 3: H2O Response Team DQ2: How do humans work to protect the hydrosphere? • Build a model/diagram • Watershed • Pollution	S.5.9 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	L1: Watershed Models L2: Protecting Our Water L3: Water Research L4: Conservation Ideas	FT1: Protecting Earth's Water FT2: Water Conservation	Extend this lesson by discussing how humans can protect Earth's natural resources. (S.5.11 and S.5.12).

• Biosphere • Hydrosphere • Water distribution • Importance of water • Water conservation • Research	S.5.10 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. S.5.15 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.			
Module 3: H2O Response Team DQ3: Why are some places in California drier than others? • Rain conditions • Clouds • Earth's spheres • Hydrosphere • Geosphere • Rain shadow effect • Make diagrams • Write a scientific explanation	S.5.10 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	L1: Rain, Rain, Go Away? L2: Make It Rain L3: Exploring the Mojave L4: Investigating the Geosphere L5: In the Mountain's Shadow L6: The Rain Shadow Effect L7: Let Me Explain	FT1: Why Does it Rain? FT2: Rain in the Mojave FT3: In the Mountain's Shadow FT4: The Rain Shadow Effect	
Module 3: H2O Response Team DQ4: Why are oceans salty? • Salinity • Create a salt water model • Freshwater scarcity • Desalination process • Sphere interactions	S.5.10 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	L1: A Drop in the Ocean L2: The Salty Sea L3: How the Sea Gets Salty L4: Salination Models L5: Exploring Desalination	FT1: Salty Seawater FT2: How the Sea Gets Salty FT3: Salination Models	

		L6: To Salinate, or Desalinate? L7: Ocean Systems		
Module 3: H2O Response Team DQ5: How can we design a solution to a hydrosphere problem? • Water pollution • Drought • Water conservation • Fair tests • Create a water-saving campaign design	S.5.9 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. S.5.15 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost S.5.16 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. S.5.17 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.	L1: Conservation Solutions L2: Testing Our Solutions L3: Fair Testing L4: Designing Our Campaign L5: Presenting Our Campaign A1: Benchmark Assessment: Water Pollution A2: Multiple Choice Assessment	FT1: Designing Conservation Solutions FT2: Testing Conservation Solutions FT3: Design and Present Campaigns	Extend this lesson by discussing other Earth processes to cover standards: S.5.11 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. S.5.12 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on the human population.

Nine Weeks: 4th

Module 2 (Yellowstone Uncovered) - Life Science

Driving Question and Topics:	Standards	Full Lessons	Fast Track Lessons	Supplemental Activities
Module 2: Yellowstone Uncovered DQ1: What do plants need to grow? • Photosynthesis • Plant matter • Ecologist • Hydroponics • Nutrients • Producers • Create line graphs	S.5.5 Support an argument that plants get the materials they need for growth chiefly from air and water.	L1: Thinking About Plant Needs L2: Investigating Plant Needs L3: Ranger Training: A Tour of Yellowstone National Park	FT1: Plant Needs FT2: Exploring Yellowstone National Park	
Module 2: Yellowstone Uncovered DQ2: What do animals need in order to grow and heal? • Ecosystems • Living (biotic) vs nonliving (abiotic) things • Food chains • Predators and prey • Food webs • Producers and Consumers • Create an ecosystem model	S.5.6 Use models to describe that energy in animals' food (used for body repair, growth, motion, and maintenance of body warmth) originated as energy from the sun. S.5.7 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	L1: Observing Animals L2: Tough Cats L3: Investigating Where Animals Get Matter L4: Food Chains L5: Food Webs L6: Writing an Explanation L7: Modeling Ecosystems	FT1: Animal Observations FT2: Who Eats Who? FT3: Introducing Food Webs FT4: Ecosystems	

Module 2: Yellowstone Uncovered DQ3: Where do plants get their matter? • Photosynthesis • Carbohydrates • Energy • Plant matter relationships • Data gathering • Using multiple sources • Draw and label models	S.5.5 Support an argument that plants get the materials they need for growth chiefly from air and water. S.5.6 Use models to describe that energy in animals' food (used for body repair, growth, motion, and maintenance of body warmth) originated as energy from the sun. S.5.7 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	L1: Interpreting Data and Sharing Findings L2: Analyzing Results L3: How to Survive in Yellowstone National Park L4: Writing About Matter	FT1: Plant Needs – Findings FT2: Arguments About Matter	
Module 2: Yellowstone Uncovered DQ4: Where do organisms get the energy they need to grow, heal, move, and maintain their body temperature? • Energy transfer • Photosynthesis • Food chain • Relationships between organisms • Decomposers • Solar energy • Draft a scientific argument	S.5.6 Use models to describe that energy in animals' food (used for body repair, growth, motion, and maintenance of body warmth) originated as energy from the sun. S.5.7 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	L1: Thinking About Energy L2: Undersea Story L3: Modeling Energy Flow L4: Writing About Energy Flow	FT1: Where Do Animals Get Energy? FT2: Energy in Food Chains	

Module 2: Yellowstone Uncovered DQ5: What happens to matter in an ecosystem? • Ecosystem • Matter • Roles of organisms • Living and nonliving organisms • Decomposers • Write a scientific argument	S.5.5 Support an argument that plants get the materials they need for growth chiefly from air and water. S.5.6 Use models to describe that energy in animals' food (used for body repair, growth, motion, and maintenance of body warmth) originated as energy from the sun. S.5.7 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	L1: Investigating Where Matter Goes L2: Fighting for Scraps L3: Modeling the Role of Decomposers L4: Final Arguments A1: Benchmark Assessment: From Matter to Organisms	FT1: Decomposers FT2: Final Matter Arguments	
Module 2: Yellowstone Uncovered DQ6: How can ecosystems change? • Causes and effects on ecosystems • Food webs and food chains • Matter and energy flow in ecosystems • Making changes to an ecosystem • Pollution • Ecologists • Compare and contrast viewpoints	S.5.7 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	L1: Small Change, Big Effects L2: Bringing Back the Wolves A1: Multiple Choice Assessment	FT1: Change in Ecosystems	
