

CVUSD Elementary Science Standards Map – Grade 8
2023-2024 District and State Assessments and Pacing Guide

CA Inspire Science_McGraw Hill Education

ANYTHING UNDERLINED IS A LINK!

[Assessment List](#)

MAPS NEEDED TO CREATE GRADE LEVEL TRACKERS

Gr8_Science_CMap

California Inspire Science, Grade 8								
Inspire Demo Account for Grades 6-8: https://my.mheducation.com/ Username: CAInspireMS Password: Review2020			CA Inspire Science Padlet (The password to access these is <i>Inspire</i>) 6-8 INT: https://mheducation.padlet.org/mhecalifornia/rbk49y65xqau0zed					
Units at a Glance								
Semester 1 August 24 - January 23, 2023 Benchmark 1 Grade 8, Dec. 4-15, 2023 Mastery Connect "Insert Title"					Semester 2 January 24-June 11, 2024			
1st Quarter: 45 days Aug 24 - Oct 27, 2023		2nd Quarter: 45 days Oct 30 - Jan 23, 2023		3rd Quarter: 45 days Jan 24 - April 8, 2024		4th Quarter: 45 days April 9 - June 11, 2024		
Optional Module Tests (not in Mastery Connect)								
First days of school 8/24 - 9/1 Routines and Procedures	UNIT 4 HUMANS & THEIR PLACE IN THE UNIVERSE		UNIT 1 CHANGE OVER TIME		UNIT 2 ENERGY AND MOTION	Science Testing Window	UNIT 3 UNDERSTANDING WAVES	
	Unit 4 Test with Key Teacher Use Only		Unit 1 Test with Key Teacher Use Only		Unit 2 Test with Key Teacher Use Only			
Scientific Method Scientific Inquiry CER Classroom Routines Data analysis & Graph plotting Measurements Basic Steps Fill in the gaps of any missing information Prerequisites	Module 1 Earth & Human Activity <i>TE pgs 4-26</i> Module Planner <i>TE pgs 2E-2F</i> DUAL LANGUAGE SUPPORT Unit 4 Mod 1 Gr 8 Unit 4 Mod 1 Pretest with KEY Teacher Only Reading Essentials Unit 4 Mod 1 Analyzing the Rock & Fossil Records Disciplinary Core Idea Typically as human populations & per capita consumption of natural resources increase, so do	Module 3 Exploring the Universe <i>TE pgs 120A-169</i> Module Planner <i>TE pgs 120E-120F</i> DUAL LANGUAGE SUPPORT Unit 4 Mod 3 Gr. 8 Unit 4 Mod 3 Pretest with Key Teacher Only Reading Essentials Unit 4 Mod 3 Disciplinary Core Idea Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained using models.	Module 1 Geologic Time <i>TE pages 4-26</i> Module Planner <i>TE pgs 2E-2F</i> DUAL LANGUAGE SUPPORT Unit 1 Mod. 1 Reading Essentials Unit 1 Mod 1 Disciplinary Core Idea DCI Gr. 6-8 <i>TE pg 2C</i> The Geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale	Module 3 Evidence of Evolution <i>TE pages 126A-169</i> Module Planner <i>TE pgs 126E-126F</i> DUAL LANGUAGE SUPPORT Unit 1 Mod 3 Reading Essentials Unit 1 Mod 3 Unit 1 Mod 3 Pretest Disciplinary Core Idea DCI Gr. 6-8 <i>TE pg 126C</i> The collection of fossils and their placement in chronological order is known as the fossil record. Mod 3 Lesson 1: Assessments:	Module 1 Forces and Motion <i>TE pages 2-94</i> Module Planner <i>TE pgs 2E-2F</i> DUAL LANGUAGE SUPPORT Unit 2 Mod 1 Assessments Reading Essentials Unit 2 Mod 1 Mod 1 Lesson 1: Topic: Position and Motion Assessments: Lesson Objective: Students will explore how to describe the position and motion of an object. <i>TE page 6B</i> Essential Question: How do units and direction	State Assessment: CAASPP April 8 - June 11 CAST March 25 - June 11 Module 3 Electromagnetic Forces <i>TE pages 168-260</i> Module Planner <i>TE pgs 168E-168F</i> DUAL LANGUAGE SUPPORT Unit 2 Mod 3 Reading Essentials Unit 2 Mod 3 Unit 2 Mod 2 Pretest Mod 3 Lesson 1: Topic: Magnetic Forces	Module 1 Introduction to Waves <i>TE pgs 2-54</i> Module Planner <i>TE pgs 2E-2F</i> DUAL LANGUAGE SUPPORT Unit 3 Mod 1 Reading Essentials Unit 3 Mod 1 Unit 3 Mod 1 Pretest Mod 1 Lesson 1: Topic: Wave Properties Assessments Lesson Objective: Students will explore wave properties by modeling waves using	Module 3 Information Technologies <i>TE pgs 150-194</i> Module Planner <i>TE pgs 150E-150F</i> DUAL LANGUAGE SUPPORT Unit 3 Mod 3 Reading Essentials Unit 3 Mod 3 Unit 3 Mod 3 Pretest Mod 3 Lesson 1: Topic: Communicating with Signals Assessments Lesson Objective: Students will explore different ways that information can be

<p>Observation Analysis Science prefixes, suffixes, terms for science vocabulary</p> <p>Introduction to Curriculum</p>	<p>the negative impacts on Earth unless the activities & technologies involved are engineered otherwise <i>TE page xiii</i></p> <p>Mod 1 Lesson 1: Topic: Human Population Growth</p> <p>Post Test</p> <p>Lesson Objective: Students will learn how human population growth has increased. They will investigate the factors that affect the growth of human populations. <i>TE pg. 6</i></p> <p>Essential Question: How does a growing human population affect consumption of resources? Claim: The relationship between human population growth and resource consumption is... <i>TE page 8</i></p> <p>Mod 1 Lesson 2: Topic: People & the Environment Assessments:</p> <p>Lesson Objective: Students will learn how people use resources and how increased consumption of resources affects Earth's systems. <i>TE pg. 28</i></p> <p>Essential Question: How does resource consumption affect the environment? Claim: The consumption of natural resources like trees, impacts... and can be mitigated by.... <i>TE pages 30-31</i></p> <p>Module 2 The Sun-Earth-Moon System <i>TE pgs 52A-122</i></p> <p>Module Planner</p>	<p>Earth and its solar system are part of the Milky Way galaxy, one of many in the universe <i>TE pg. 120C</i></p> <p>Mod 3 Lesson 1 Topic: The Universe and Its Stars Assessments:</p> <p>Lesson Objective: Students will develop and use models to describe the role of gravity in the formation of stars and the solar system. <i>TE pg. 124</i></p> <p>Essential Question: How does gravity affect the formation of objects in space? Claim: To form the universe, galaxies, solar systems and planets you need... <i>TE pgs 126-127</i></p> <p>Mod 3 Lesson 2 Topic: The Universe and Its Stars Assessments: Lesson Objective: Students will learn about the different types of objects in the solar system. Essential Question: What are the distinguishing objects in our solar system? Claim: The objects of the solar system can be analyzed and interpreted by... <i>TE pgs 144-145</i></p>	<p>Mod 1 Lesson 1: Topic: Analyzing the Rock & Fossil Records</p> <p>Lesson Objective: Students will explore the sequencing of events preserved in the geologic record. <i>TE pg. 6</i></p> <p>Essential Question: How is the analysis of rock formations and the fossils they contain used to establish relative ages of major events in Earth's history? Claim: The sequence of past geologic events can be determined by...</p> <p>Pretest Unit 1 Mod 1</p> <p>Mod 1 Lesson 2: Topic: Building a Timeline Assessments: Lesson Objective Students will explore how the geologic time scale is interpreted from rock strata and used to organize Earth's history. <i>TE pg 28B</i></p> <p>Essential Question: How do geologists correlate rock strata across regions to develop the geologic time scale and organize Earth's history? Claim: The sequence of past geologic events can be determined by... <i>TE pgs 30-31</i></p> <p>Module 2 Natural Selection & Adaptations <i>TE pages 54A-125</i></p> <p>Module Planner <i>TE pgs 54E-54F</i></p> <p>DUAL LANGUAGE SUPPORT Unit 1 Mod 2 ■ Gr.8 Unit 1 Mod 2 Pretes...</p> <p>Reading Essentials Unit 1 Mod 2</p> <p>Pretest Unit 1 Mod 2</p> <p>DCI: Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes inherited. <i>TE pg 54C</i></p>	<p>Topic: Fossil Evidence of Evolution Essential Question: What can fossils tell us about evolution? Claim: The Tiktaalik fossil offers evidence of evolution... <i>TE pgs 132-133</i></p> <p>Mod 3 Lesson 2: Topic: Biological Evidence of Evolution</p> <p>Essential Question:What evidence for evolution can living organisms provide Claim: The evolutionary relationship of bats and birds... <i>TE pgs 150-151</i></p>	<p>describe position and motion? <i>TE page 6B</i></p> <p>Claim: The position and motion of the train is best described by ... <i>TE page 8</i></p> <p>Mod 1 Lesson 2: Topic: Force and Acceleration Assessments: Lesson Objective: Students will explore how force affects motion. Essential Question: How does a push or pull affect motion? <i>TE page 34B</i></p> <p>Claim: When you push or pull a water tube ... <i>TE page 36</i></p> <p>Mod 1 Lesson 3: Topic: Force Pairs Assessments: Lesson Objective: Students will explore how the force exerted by one object on a second object is equal in strength and opposite in direction to the force that the second object exerts on the first. <i>TE page 58B</i></p> <p>Essential Question: How does Newton's third law relate to force pairs and collisions? <i>TE page 58B</i></p> <p>Claim: When an airboat pushes on the air ... <i>TE page 60</i></p> <p>Mod 1 Lesson 4: Topic: Gravitational Force Assessments: Lesson Objective: Students will explore the attractive nature of gravitational force, the factors that affect it, and how it affects the motion of objects. <i>TE page 76B</i></p> <p>Essential Question: How do objects interact with non-contact forces? <i>TE page 76B</i></p> <p>Claim: The pencil and the book both fall down at the same time because ... <i>TE page 78</i></p> <p>Module 2 Mechanical Energy <i>TE pages 104-160</i></p>	<p>Assessments Lesson Objective: Students will explore magnets, their properties, and what affects the strength of magnetic fields. <i>TE page 172B</i></p> <p>Essential Question: How do magnetic fields interact? <i>TE page 172B</i></p> <p>Claim: Magnets can make an object move without touching it because... <i>TE page 174</i></p> <p>Mod 3 Lesson 2: Topic: Electric Forces Assessments Lesson Objective: Students will explore electric charges, electric fields, and what affects the strength of electric forces. <i>TE page 198B</i></p> <p>Essential Question: How do electric charges attract and repel objects? <i>TE page 198B</i></p> <p>Claim: The water is attracted to the balloon because ... <i>TE page 200</i></p> <p>Mod 3 Lesson 3: Topic: Simple Circuits Assessments Lesson Objective: Students will explore simple circuits and the movement of electrically charged particles in electric currents and the factors that affect electric currents. <i>TE page 218B</i></p> <p>Essential Question: How does a simple circuit function? <i>TE page 218B</i></p> <p>Claim: A lightbulb lights because of a circuit... <i>TE page 220</i></p> <p>Mod 3 Lesson 4: Topic: Electromagnetism Assessments Lesson Objective: Students will explore electromagnetism, or the interaction between electric charges and magnets. <i>TE page 234B</i></p> <p>Essential Question: What is the relationship</p>	<p>mathematical representations and identifying patterns in data gathered by observing a variety of waves. <i>TE page 6B</i></p> <p>Essential Question: How do the properties of waves correspond with observations of waves? <i>TE page 6B</i></p> <p>Claim: A wave you see or feel is the result of ... <i>TE page 8</i></p> <p>Mod 1 Lesson 2: Topic: Mechanical Wave Interactions Assessments Lesson Objective: Students will use structures to investigate how waves are reflected, absorbed, or transmitted through various materials, and develop models to describe the phenomena they observe. <i>TE page 36B</i></p> <p>Essential Question: How are waves reflected, absorbed, and transmitted through various materials? <i>TE page 36B</i></p> <p>Claim: Recording studios have foam on the walls because ... <i>TE page 38</i></p> <p>Module 2 Light <i>TE pages 62-142</i></p> <p>Module Planner <i>TE pages 62E-62F</i></p> <p>DUAL LANGUAGE SUPPORT Unit 3 Mod 2</p> <p>Reading Essentials Unit 2 Mod 2</p> <p>Assessments</p> <p>Mod 2 Lesson 1: Topic: How Light Travels Assessments Lesson Objective: Students will explore light as a type of wave. They will develop and use models to describe how</p>	<p>encoded and transmitted, while obtaining, evaluating, and communicating information about the role of science in developing and using information technologies. <i>TE page 154B</i></p> <p>Essential Question: How do people communicate? <i>TE page 154B</i></p> <p>Claim: You can share information by ... <i>TE page 156</i></p> <p>Mod 3 Lesson 2: Topic: Modern Communication with Digital Signals Assessments Lesson Objective: Students will compare digitized signals to analog signals, constructing explanations about how noise can cause an analog signal to degrade over time, whereas a digital signal can be reproduced and transmitted consistently. <i>TE page 170B</i></p> <p>Essential Question: Why are digital signals more reliable than analog signals? <i>TE page 170B</i></p> <p>Claim: Tape discs are no longer used because ... <i>TE page 172</i></p>
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<p><i>TE pg 52 E-52F</i></p> <p>DUAL LANGUAGE SUPPORT Unit 4 Mod. 2</p> <p>Reading Essentials Unit 4 Mod 2</p> <p>DCI: Patterns of the apparent motion of the sun, the moon and the stars in the sky can be observed, described, predicted and explained with models <i>TE pg 52C, 120C</i></p> <p>Gr. 8 Unit 4 Mod 2 Pretest with Key Teacher Only</p> <p>Mod 2 Lesson 1 Topic: Earth's Motion Around the Sun Assessments: Lesson Objective: Students will explore Earth's motion and the seasons using models to explain Earth's rotation, revolution and the patterns of the seasons, day and night, and the apparent motions of the Sun, Moon, and stars. <i>TE pg. 56</i> Essential Question: What causes the cyclic pattern of the seasons? Claim: Seasons are caused by... <i>TE pgs 58-59</i></p> <p>Mod 2 Lesson 2 Topic: Lunar Phases Assessments: Lesson Objective: Students will explore the phases of the Moon. They will develop and use models to explain how the Moon's rotation and revolution relate to the pattern of lunar phases. Essential Question: What causes the cyclic pattern of lunar phases Claim: The Moon's changing shape is caused by... <i>TE pgs 78-79</i></p> <p>Mod 2 Lesson 3 Topic: Eclipses</p>		<p>Mod 2 Lesson 1 Topic: How Traits Change Assessments: Lesson Objective: Students will explore the nature and mutation of genetic material. <i>TE pg 58B</i> Essential Question: How do changes to genetic material alter proteins and, thereby, traits? Claim: A change in traits may be caused by... <i>TE pgs 60-61</i></p> <p>Mod 2 Lesson 2 Topic:The Theory of Evolution by Natural Selection Assessments: Lesson Objective: Students will explore how similar variations in a population due to inherited mutations can result in an adaptation over generations due to its interactions with the environment <i>TE pg 80B</i> Essential Question: How can variations in a population result in an adaptation as a consequence of its interactions with its environment over time? Claim: ... Organisms change over time... <i>TE pgs 82-83</i></p> <p>Mod 2 Lesson 3 Topic:Artificial Selection Assessments: Lesson Objective: Students will explore how the process of natural selection can be applied in artificial settings through selective breeding. <i>TE pg 102B</i> Essential Question: How can humans selectively alter the traits of organisms? Claim: ... Humans can control traits in organisms... <i>TE pgs 82-83</i></p>		<p>Module Planner 104E-104F</p> <p>DUAL LANGUAGE SUPPORT Unit 2 Mod 2</p> <p>Reading Essentials Unit 2 Mod 2</p> <p>Gr. 8 Unit 2 Mod 2 Pretest with Key Teacher Only</p> <p>Mod 2 Lesson 1: Topic: Kinetic Energy Assessments Lesson Objective: Students will explore the definition of kinetic energy by analyzing and interpreting data they gather by investigating proportional relationships among kinetic energy, mass, and speed. <i>TE page 108B</i> Essential Question: What factors determine the kinetic energy of an object? <i>TE page 108B</i> Claim: The distance an object, such as a ball, travels is determined by ... <i>TE page 110</i></p> <p>Mod 2 Lesson 2: Topic: Potential Energy Assessments Lesson Objective: Students will explore how the potential energy of an object is affected by distance from Earth and mass. <i>TE page 126B</i> Essential Question: What factors determine the potential energy of an object? <i>TE page 126B</i> Claim: You can increase the potential energy of an object, such as a ball, by ... <i>TE page 128</i></p> <p>Mod 2 Lesson 3: Topic: Conservation of Energy Assessments Lesson Objective: Students will explore the conservation of energy and the relationship between energy and force, including how the exertion of a force can cause a transfer of energy. <i>TE page 142B</i></p>	<p>between electricity and magnetism? <i>TE page 234B</i> Claim: The wire attracts the metal filings when the current is on but not when the current is turned off because ... <i>TE page 236</i></p>	<p>light waves travel and interact with matter. <i>TE page 66B</i> Essential Question: How are light waves similar to and different from mechanical waves in how they travel and interact? <i>TE page 66B</i> Claim: Light is similar to and different from mechanical waves, like sound, by ... <i>TE page 68</i></p> <p>Mod 2 Lesson 2: Topic: Reflection and Mirrors Assessments Lesson Objective: Students will develop and use models to investigate how light interacts with matter through reflection. They will examine the structure and function of plane, convex, and concave mirrors. <i>TE page 86B</i> Essential Question: How does light reflect? <i>TE page 86B</i> Claim: Eyes sometimes appear to glow in the dark because ... <i>TE page 88</i></p> <p>Mod 2 Lesson 3: Topic: Refraction and Lenses Assessments Lesson Objective: Students will develop and use models to investigate how light interacts with matter through refraction. <i>TE page 106B</i> Essential Question: How does light refract through materials? <i>TE page 106B</i> Claim: The polar bear's body looks different in the water because ... <i>TE page 108</i></p> <p>Mod 2 Lesson 4: Topic: Color of Light Assessments Lesson Objective: Students will explore the frequency-dependent bending of light at a surface between media</p>	
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	<p>Assessments: Lesson Objective: Students will explore eclipses of the Sun and Moon using models to explain how the motions of earth and the Moon relate to the pattern of solar and lunar eclipses. Essential Question: What causes the cyclic pattern of eclipses Claim: Eclipses occur because... <i>TE pgs 94-95</i></p>				<p>Essential Question: How are different types of energy used? <i>TE page 142B</i> Claim: When an object, such as a pendulum, changes position, its energy ... <i>TE page 144</i></p>		<p>that results in the separation of the colors of light. <i>TE page 124B</i> Essential Question: What are colors? <i>TE page 124B</i> Claim: Colors appear from white light because ... <i>TE page 126</i></p>	
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Performance Expectations

	<p>Unit 4 Module 1 <i>TE page 2B</i> Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems MS-ESS3-4</p> <p>Unit 4 Module 2 <i>TE pg 52B</i> Develop & use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon and the seasons. MS-ESS1-1</p>	<p>Unit 4 Module 3 <i>TE pg 120B</i> Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. MS-ESS1-2</p> <p>Analyze & interpret data to determine scale properties of objects in the solar system. MS-ESS1-3</p>	<p>Unit 1 Module 1 <i>TE page 2B</i> Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6 billion-year-old history. MS-ESS1-4</p> <p>Unit 1 Module 2 <i>TE pg 54B</i> Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial or neutral effects to the structure and function of the organism MS-LS3-1</p> <p>Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproduction in a specific environment. MS-LS4-4</p> <p>Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms. MS-LS4-5</p> <p>Use mathematical representations to support explanation of how natural</p>	<p>Unit 1 Module 3 <i>TE pg 126B</i> Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past MS-LS4-1</p> <p>Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships MS-LS4-2</p> <p>Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.</p>	<p>Unit 2 Module 1 <i>TE pg 2B</i> Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects. MS-PS2-1.</p> <p>Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object. MS-PS2-2.</p> <p>Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects. MS-PS2-4.</p> <p>Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</p>	<p>Unit 2 Module 3 Ask questions about data to determine the factors that affect the strength of electric and magnetic forces. MS-PS2-3.</p> <p>Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact. MS-PS2-5.</p> <p>Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. MS-PS3-2.</p> <p>Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential</p>	<p>Unit 4 Module 1 <i>TE pg. 2B</i> Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy of a wave. MS-PS4-1.</p> <p>Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials. MS-PS4-2.</p> <p>Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. MS-ETS1-2.</p> <p>Unit 4 Module 2 <i>TE pg 62B</i> Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials. MS-PS4-2.</p> <p>Develop a model to generate data</p>	<p>Unit 4 Module 3 <i>TE pg 150B</i> Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals. MS-PS4-3.</p>
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			<p>selection may lead to increases and decreases of specific traits in populations over time.</p> <p>MS-LS4-6</p>		<p>MS-ETS1-1. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.</p> <p>MS-ETS1-2. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.</p> <p>MS-ETS1-3. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.</p> <p>MS-ETS1-4 Unit 1 Module 2 Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.</p> <p>MS-PS3-1. Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.</p> <p>MS-PS3-2. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes energy is transferred to or from the object.</p> <p>MS-PS3-5.</p>	<p>impacts on people and the natural environment that may limit possible solutions.</p> <p>MS-ETS1-1. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.</p> <p>MS-ETS1-2. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.</p> <p>MS-ETS1-3. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.</p> <p>MS-ETS1-4</p>	<p>for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.</p> <p>MS-ETS1-4</p>	
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STEM MODULE PROJECTS Please move this section to be above Performance Expectations

Module 1 7.6 Billion & Counting	Module 3 Wanted: Space Investigator	Module 1 <i>History of Rock</i>	Module 3 <i>It's All Relative</i>	Module 1 Crash Course	Module 3	Module 1 Don't Make Waves	Module 3
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<p><i>TE pgs_2F,2J, 4,45-51</i> Students will present an argument in a panel discussion about how the growing population impacts Earth</p> <p>Module 2 Patterns In the Sky <i>TE pgs 52F, 111-118th</i> Make a model of the Sun-Earth-Moon System</p>	<p><i>TE pgs 120F, 163-168</i> Create a model to describe the role of gravity in the solar system and the Milky Way Galaxy</p>	<p><i>TE pgs 2F, 49-53</i> <i>Create and present a video blog that explains how rocks and fossils provide evidence about major events in Earth's history.</i></p> <p>Module 2 <i>Population Probabilities</i> <i>TE pg 54F, 56, 117-124</i> Design and perform and experiment.</p>	<p><i>TE pgs 126 F, 163-168</i> Create a museum exhibit and presentation showing how modern and fossilized organisms are related</p>	<p><i>TE pgs 2J, 4,95-102</i> Design a safety barrier to reduce the damage in a collision.</p> <p>Module 2 Energy at the Amusement Park <i>TE pgs 104J, 106, 161-166</i> Construct, use, and present arguments about energy transfer in an amusement park.</p>	<p>The Great Metal Pick-Up Machine <i>TE pgs 168J, 170, 261-266</i></p> <p>Build and test an electromagnet crane.</p>	<p><i>TE pgs 2J, 4,55-60</i> Design and build a model structure to protect a coastline from ocean waves.</p> <p>Module 2 Optical Illusions <i>TE pgs 62J, 64, 143-148</i></p>	<p>Out With the Old, In With the New <i>TE pgs 150J, 152, 195-198</i></p> <p>Create a brochure for a cable TV provider that compares analog and digital signals and explains the benefits of switching to digital.</p>
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THREE-DIMENSIONAL LEARNING: SEP, DCI, CCC

UNIT 4: HUMANS & THEIR PLACE IN THE UNIVERSE	UNIT 1: CHANGE OVER TIME	UNIT 2: ENERGY & MOTION	UNIT 3: UNDERSTANDING WAVES				
<p>SEP: Science & Engineering Practices Module 1 Earth & Human</p> <p>Activity <i>TE pg 2A</i></p> <ul style="list-style-type: none"> Engaging in Argument from Evidence <p>Module 2 The Sun-Moon-Earth System <i>TE pg 52A</i></p> <ul style="list-style-type: none"> Developing & Using Models <p>Module 3 Earth & Human</p> <p>Activity <i>TE pg 120A</i></p> <ul style="list-style-type: none"> Developing & Using Models Analyzing and Interpreting Data <p>DCI: Disciplinary Core Ideas</p> <p>Module 1</p> <ul style="list-style-type: none"> Human Impacts on Earth Systems <p>Module 2</p> <ul style="list-style-type: none"> ESS1.A The Universe and Its Stars ESS1.B Earth & the Solar System <p>Module 3</p> <ul style="list-style-type: none"> ESS1.A The Universe and Its Stars ESS1.B Earth & the Solar System 	<p>Please delete this box</p> <p>Please delete this box</p> <p>CCC Cross Cutting Concepts</p> <p>Module 1</p> <ul style="list-style-type: none"> Cause and Effect Influence of Science, Engineering and Tech on Society & the Natural World Science addresses questions about the natural and material world <p>Module 2</p> <ul style="list-style-type: none"> Patterns Scientific Knowledge assumes an order & consistency in natural systems <p>Module 3</p> <ul style="list-style-type: none"> Scale, Proportion & Quantity Systems & Systems Models Interdependence of Science, Engineering, and Technology Scientific Knowledge Assumes an Order & Consistency in Natural Systems 	<p>SEP: Science and Engineering Practices Module 1 Geologic Time</p> <p><i>TE pg. 2A</i></p> <ul style="list-style-type: none"> Constructing Explanations & Designing Solutions <p>Module 2 Natural Selection & Adaptations <i>TE pg_54A</i></p> <ul style="list-style-type: none"> Developing & Using Models Using Mathematics & Computational Solutions Obtaining, Evaluating and Communicating Information <p>Module 3 Evidence of Evolution <i>TE pg. 126A</i></p> <ul style="list-style-type: none"> Analyzing & Interpreting Data Constructing Explanations & Designing Solutions <p>DCI: Disciplinary Core Ideas</p> <p>Module 1</p> <ul style="list-style-type: none"> ESS1.C The History of Planet Earth <p>Module 2</p> <ul style="list-style-type: none"> LS3.A Inheritance of Traits LS3.B Variation of 	<p>Please delete this box</p> <p>Please delete this box</p> <p>CCC: Crosscutting Concepts</p> <p>Module 1</p> <ul style="list-style-type: none"> Scale, Proportion & Quantity <p>Module 2</p> <ul style="list-style-type: none"> Cause & Effect Structure & Function <p>Module 3</p> <ul style="list-style-type: none"> Patterns 	<p>SEP: Science and Engineering Practices Module 1 Forces & Motion</p> <p><i>TE pg 2A</i></p> <ul style="list-style-type: none"> Developing and Using Models Planning and Carrying Out Investigations Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Engaging in Argument from Evidence <p>Module 2: Mechanical Energy <i>TE pg 104A</i></p> <ul style="list-style-type: none"> Developing and Using Models Analyzing and Interpreting Data Engaging in Argument from Evidence <p>Module 3 Electromagnetic Forces <i>TE pg 168A</i></p> <ul style="list-style-type: none"> Asking Questions and Defining Problems Developing and Using Models Planning and Carrying Out Investigations Analyzing and 	<p>Please delete this box</p> <p>DCI: Disciplinary Core Ideas</p> <p>Module 1</p> <ul style="list-style-type: none"> PS2.A: Forces and Motion PS2.B: Types of Interactions ETS1.A: Defining and Delimiting Engineering Problems ETS1.B: Developing Possible Solutions ETS1.C: Optimizing the Design Solution <p>Module 2</p> <ul style="list-style-type: none"> PS3.A : Definitions of Energy PS3.B: Conservation of Energy and Energy Transfer PS3.C: Relationship between Energy and Forces <p>Module 3</p> <ul style="list-style-type: none"> PS2.B Types of Interactions PS3.A: Definition of Energy PS3.C: Relationship Between Energy & Forces 	<p>SEP: Science and Engineering Practices Module 1 Intro to Waves</p> <p><i>TE pg 2A</i></p> <ul style="list-style-type: none"> Using Mathematics & Computational Thinking Developing and Using Models Engaging in Argument from Evidence <p>Module 2 Light <i>TE pg 62A</i></p> <ul style="list-style-type: none"> Developing and Using Models <p>Module 3 Information Technologies <i>TE pg 150A</i></p> <ul style="list-style-type: none"> Developing and Using Models Obtaining, Evaluating, and Communicating Information <p>DCI: Disciplinary Core Ideas</p> <p>Module 1 Intro to Waves</p> <ul style="list-style-type: none"> PS4.A: Wave Properties ETS1.B: Developing Possible Solutions 	<p>Please delete this box</p> <p>Please delete this box</p> <p>CCC: Crosscutting Concepts</p> <p>Module 1</p> <ul style="list-style-type: none"> Structure and Function Patterns <p>Module 2</p> <ul style="list-style-type: none"> Structure and Function Systems and System Models Scale, Proportion, and Quantity Energy and Matter <p>Module 3</p> <ul style="list-style-type: none"> Cause & Effect Systems & Systems Models Systems & Systems Models Structure and Function

	<p>Solar System</p>		<p>Traits</p> <ul style="list-style-type: none"> • LS4.B Natural Selection • LS4.C Adaptation <p>Module 3</p> <ul style="list-style-type: none"> • LS4.A Evidence of Common Ancestry & Diversity 		<p>Interpreting Data</p> <ul style="list-style-type: none"> • Engaging in Argument from Evidence 	<ul style="list-style-type: none"> • ETS1.A Defining & Delimiting Engineering Problems • ETS1.B: Developing Possible Solutions • ETS1.C: Optimizing the Design Solution 	<p>Module 2 Light</p> <ul style="list-style-type: none"> • PS4.A: Wave Properties • PS4.B: Electromagnetic Radiation • ETS1.B: Developing Possible Solutions • ETS1.C: Optimizing the Design Solution <p>Module 3</p> <ul style="list-style-type: none"> • PS4.C: Information Technologies and Instrumentation 	
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