

Marking Period 1 (MP1)	Science Curriculum Pacing Guide Grade 6
<b>MP1</b>  <b>Standards for Science Content</b>	<p>MS-ESS1-1 Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. (ESS U8L1/L2)</p> <p>MS-ESS3-2 Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. (ESS U5 L1/L2)</p> <p>MS-ETS1-1 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. (ESS U5/L2)</p>
<b>MP1</b>  <b>Topics</b>	<p>Earth and Space Sciences Unit 8- Patterns in the Solar System; Unit 5 - Earth's Natural Hazards</p>
<b>MP1</b>  <b>Skills/Concepts</b>	<ul style="list-style-type: none"> <li>•The moon moves across the sky daily, and its shape changes with a repeating pattern over approximately a month. (ESS U8L1)</li> <li>•The moon moves across the sky each day. (ESS U8L1)</li> <li>•The shape of the sunlit area of the moon that we see from Earth changes over an approximate 28-day cycle. (ESS U8L1)</li> <li>•In a lunar eclipse, we see Earth's shadow on the moon. In a solar eclipse, we see the moon as a dark circular disk on the sun. (ESS U8L1)</li> <li>•An average day in winter is colder and shorter than in summer. (ESS U8L2)</li> <li>•Star patterns, known as constellations, move across the sky every night and their rising times change throughout the year. (ESS U8L2)</li> <li>•Tsunami hazard zones can be identified. (ESS U5L1)</li> <li>•Natural hazards can have negative effects on humans and the environment. (ESS U5L1)</li> <li>•Natural hazards can sometimes be predicted given scientific understanding and data analysis. (ESS U5L1)</li> <li>•Patterns in data can sometimes be used to predict the likelihood of a geological hazard occurring. (ESS U5L1)</li> <li>•Patterns in data can sometimes be used to predict the likelihood of a weather or climate hazard occurring. (ESS U5L1)</li> <li>•During a flood, water flows into low areas, damaging homes and blocking transportation. (ESS U5L2)</li> <li>•A natural hazard mitigation plan includes preparation, response, and recovery. (ESS U5L2)</li> <li>•An engineering design process can be applied to develop a natural hazard mitigation plan that includes preparation, response, and recovery. (ESS U5L2)</li> </ul>
<b>MP1</b>  <b>Core Materials</b>	<p>HMH Into Science</p>

Marking Period 2 (MP2)	Science Curriculum Pacing Guide Grade 6
<b>MP2</b>  <b>Standards for Science Content</b>	<p>MS-ESS3-1 Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes. (ESS U6)</p> <p>MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. (ESS U6)</p> <p>MS-PS1-1 Develop models to describe the atomic composition of simple molecules and extended structures. (PS U3)</p> <p>MS-PS1-4 Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed. (PS U3)</p>
<b>MP2</b>  <b>Topics</b>	<p>Earth and Space Science Unit 6 - Resources in Earth Systems; Physical Science Unit 3 - The Structure of Matter</p>
<b>MP2</b>  <b>Skills/Concepts</b>	<ul style="list-style-type: none"> <li>· Material and energy resources from Earth systems are used by society in different ways. (ESS U6L1)</li> <li>· Natural resources are replenished at different rates, which affects the availability of each resource. (ESS U6L1)</li> <li>· Tradeoffs are required when using natural resources to balance positive and negative consequences to different Earth systems. (ESS U6L1)</li> <li>· Geologic processes cause the uneven distribution of some natural resources. (ESS U6L1)</li> <li>· In northern Africa, some places are heavily populated while others are not. (ESS U6L2)</li> <li>· Human population growth rates are affected by birth rates, death rates, human migration, and technological improvements that increase the human lifespan. (ESS U6L2)</li> <li>· The rate at which renewable and nonrenewable resources are used by a population can change over time due to a variety of factors. (ESS U6L2)</li> <li>· When added together, the use of a resource by individuals results in the total resource use of a population. (ESS U6L2)</li> <li>· The Colorado River no longer reaches the sea. (ESS U6L3)</li> <li>· Resource use increases as per capita consumption and population increase, affecting Earth's systems. (ESS U6L3)</li> <li>· The use of water affects all of Earth's systems. (ESS U6L3)</li> <li>· The use of plants, animals, and land affects all of Earth's systems. (ESS U6L3)</li> <li>· Matter has physical and chemical properties. (PS U3L1)</li> <li>· Matter exists in different states. (PS U3L1)</li> <li>· Matter is made of moving particles. (PS U3L1)</li> <li>· Energy changes can cause matter to change state. (PS U3L2)</li> <li>· Adding thermal energy to a substance causes its particles to move more and may cause it to change state. (PS U3L2)</li> <li>· Removing thermal energy from a substance causes its particles to move less and may cause it to change state. (PS U3L2).</li> <li>· Changes in pressure can affect the motion of particles and so may cause a substance to change state. (PS U3L2)</li> <li>· Each element has a unique set of properties. (PS U3L3)</li> <li>· Elements are organized by their properties in the periodic table. (PS U3L3)</li> </ul>
<b>MP2</b>  <b>Core Materials</b>	<p>HMH Into Science</p>

Marking Period 3 (MP3)	Science Curriculum Pacing Guide Grade 6
<b>MP3</b>  <b>Standards for Science Content</b>	<p>MS-PS1-1 Develop models to describe the atomic composition of simple molecules and extended structures. (PS U3)</p> <p>MS-PS1-4 Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed. (PS U3)</p> <p>MS-PS3-1 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. (PS U1)</p> <p>MS-PS3-2 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. (PS U1)</p> <p>MS-PS3-5 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. (PS U1)</p> <p>MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. (PS U1)</p> <p>MS-ETS1-4 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 (PS U1)</p> <p>MS-PS3-3 Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer. (PS U2)</p> <p>MS-PS3-4 Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. (PS U2)</p>
<b>MP3</b>  <b>Topics</b>	Physical Science Unit 3 Lesson 4 - Molecules and Extended Structures; Physical Science Unit 1 - Energy; Physical Science Unit 2 - Energy Transfer
<b>MP3</b>  <b>Skills/Concepts</b>	<ul style="list-style-type: none"> <li>•Students use macroscopic models to explain how microscopic atoms combine to make a variety of substances with unique properties. (PS U3L4)</li> <li>•Students construct and interpret graphical displays of data to describe the relationship of kinetic energy to mass and speed of the object, as well as develop a model to explain how potential energy can be stored and released in a system. (PS U1L1)</li> <li>•Students construct, use, and present arguments to support claims that when the kinetic energy of an object changes, energy is transformed or transferred to or from the object. (PS U1L2)</li> <li>•Students will be able to evaluate, model, test, and improve solutions that depend on energy transformations. (PS U1L3)</li> <li>•Students investigate and explain relationships among temperature, thermal energy, and heat, as well as use proportional relationships to determine the amount of thermal energy in a sample. (PS U2L1)</li> <li>•Students research, develop, and test a device to minimize the flow of thermal energy. (PS U2L2)</li> </ul>
<b>MP3</b>  <b>Core Materials</b>	HMH Into Science

Marking Period 4 (MP4)	Science Curriculum Pacing Guide Grade 6
<b>MP4</b>  <b>Standards for Science Content</b>	<p>MS-LS1-1 Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells. (LS U1)</p> <p>MS-LS1-2 Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. (LS U1)</p> <p>MS-LS1-3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. (LS U1)</p> <p>MS-LS1-8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories. (LS U1)</p> <p>MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. (LS U4)</p> <p>MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services. (LS U4)</p>
	<p>MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. (LS U4)</p>
<b>MP4</b>  <b>Topics</b>	<p>Life Science Unit 1 - Cells and Organization in Organisms; Life Science Unit 4 - Ecosystem Dynamics</p>
<b>MP4</b>  <b>Skills/Concepts</b>	<ul style="list-style-type: none"> <li>•Students use a model to describe how a cell's functions are performed by specific cell structures. (LS U1L1)</li> <li>•Students use evidence to support an explanation about how the survival needs of plants are met by systems working together. (LS U1L2)</li> <li>•Students use evidence to evaluate how survival needs of animals are met by systems working together. (LS U3)</li> <li>•Students use evidence to support an explanation of how changes in biodiversity can affect ecosystem health. (LS U4L1)</li> <li>•Students use evidence to support an explanation of how changes in ecosystems cause changes in populations. (LS U4L2)</li> <li>•Students evaluate competing design solutions for maintaining biodiversity, natural resources, and ecosystem services. (LS U4L3)</li> </ul>
<b>MP4</b>  <b>Core Materials</b>	<p>HMH Into Science</p>