

### MCS MYP Science 6 Subject Group Overview

Unit Name	Solar System and Beyond & Human Energy Needs	Earth – Moon – Sun & Human Energy Needs	Earth’s Changing Landscape Part I & Human Energy Needs	Earth’s Changing Landscape Part II & Human Energy Needs	Water in Earth’s Processes & Human Energy Needs	Climate and Weather & Human Energy Needs	Human Energy Needs
Time Frame	4.5 Weeks	4.5 Weeks	4 Weeks	5 Weeks	5 Weeks	8 Weeks	Ongoing Throughout Year
Standards	S6E1.a., b., c., d., e. S6E6.a.	S6E2.a., b., c. S6E3.d. S6E6.a.	S6E3.c. S6E5.a., f. S6E6.a.	S6E5.b., c., d., e., g., h. S6E6.a.	S6E3.a., b., c. S6E6.b. S6E6.a.b.c	S6E2.c. S6E3.d. S6E4.a., b., c., d., e. S6E6.b., c.	S6E6.a.
Approaches To Learning Instructional Strategies	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Ask questions</li> <li>● Develop models</li> <li>● Analyze &amp; interpret data</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Keep an Organized and logical system of information</li> <li>● Thinking: Critical Thinking, Creative Thinking &amp; Transfer</li> <li>● Use models and simulations to explore complex systems and issues</li> </ul>	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Develop &amp; use a model</li> <li>● Construct explanations</li> <li>● Analyze &amp; interpret data</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Thinking: Critical Thinking, Creative Thinking &amp; Transfer</li> <li>● Use models and simulations to explore complex systems and issues</li> </ul>	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Ask questions</li> <li>● Construct explanations</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Collect, record, and verify data</li> <li>● Collect and analyze data to identify solutions and make informed decisions</li> <li>● Make guesses, ask “what if” questions, and generate testable hypothesis</li> </ul>	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Plan &amp; carry out investigations</li> <li>● Construct explanations</li> <li>● Ask questions</li> <li>● Develop models</li> <li>● Construct an argument</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Make inferences and draw conclusions</li> <li>● Exercise leadership and take on variety of roles within groups</li> </ul>	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Ask questions</li> <li>● Plan &amp; carry out investigations</li> <li>● Design &amp; evaluate solutions</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Set goals that are challenging and realistic</li> <li>● Give and receive meaningful feedback</li> </ul>	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Analyze &amp; interpret data</li> <li>● Plan &amp; carry out investigations</li> <li>● Develop models</li> <li>● Construct explanations</li> <li>● Construct an argument</li> <li>● Design &amp; evaluate solutions</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media</li> </ul>	<p>SEP:</p> <ul style="list-style-type: none"> <li>● Ask questions</li> <li>● Plan &amp; carry out investigations</li> <li>● Develop models</li> <li>● Construct explanations</li> <li>● Construct an argument</li> <li>● Design &amp; evaluate solutions</li> </ul> <p>ATL:</p> <ul style="list-style-type: none"> <li>● Make connections between subject groups and disciplines</li> </ul>

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<b>Statement of Inquiry</b>	<p>Scientific and technical advancements have led to changes in the models used to explain the motion and orientation of objects in space.</p> <p>Phenomena: How/why do our planets orbit the sun? Why is Earth the only planet in our solar system that is able to support life?</p>	<p>System models can be used to demonstrate and explain the motion and orientation of the Earth, Moon, and Sun.</p> <p>Phenomena: Why do we see the moon in different phases? What causes solar and lunar eclipses? Why doesn't everyone experience four seasons?</p>	<p>Scientific and technical innovations allow us to visualize, model, and explain changes to the Earth's surface.</p> <p>Phenomena: What causes major geologic events, such as earthquakes and volcanoes, and how do they impact Earth's surface?</p>	<p>Scientific and technical innovations allow us to visualize, model, and explain changes to the Earth's surface.</p> <p>Phenomenon: What drives weathering, erosion, and deposition and how do these processes impact the Earth's surface?</p>	<p>Sustainable management of the Earth's water resources means that human needs must be balanced with those of the natural world.</p> <p>Phenomena: Why is the water cycle a self-renewing process? How do humans impact the water cycle?</p>	<p>Innovations and advancements in science and technology allow meteorologists to identify patterns and more accurately predict weather systems.</p> <p>Phenomena: What causes local and global winds? Why do different parts of the Earth experience different climates? What is the safest storm to encounter?</p>	<p>Scientific and technological advancements have allowed for the use of renewable and sustainable energy resources.</p> <p>Phenomenon: How can renewable resources, such as hydro, solar, wind, geothermal, and tidal, be used as energy resources?</p>
<b>Global Context</b>	Scientific and technical innovation	Motion and orientation in time and space	Scientific and technical innovation	Scientific and technical innovation	Globalization and sustainability	Scientific and technical innovation	Scientific and technical innovation
<b>Key Concepts</b>	Systems	Change	Cause and effect	Change	Systems	Systems	Relationships
<b>Related Concepts</b>	Movement (MYP) Models (MYP/CCC)	Movement (MYP) Models (MYP/CCC)	Transformation (MYP) Energy (MYP/CCC)	Transformation (MYP) Energy (MYP/CCC)	Environment (MYP) Transformation (MYP) Balance (MYP) Energy (MYP/CCC)	Patterns (MYP/CCC)	Energy (MYP/CCC)

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<b>Design Cycle Transdisciplinary</b>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Origins of the Universe</li> <li>● Milky Way Galaxy</li> <li>● Engineering &amp; Technology</li> <li>● Gravity</li> <li>● Inertia</li> <li>● Formation of the Solar System</li> <li>● Structure of the Solar System</li> </ul>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Lunar Cycle (Eclipses)</li> <li>● Day/Night</li> <li>● Seasons</li> <li>● Elliptical Orbit</li> <li>● Tilt of the Earth</li> <li>● Revolution/Rotation</li> <li>● Direct/In direct Sunlight</li> <li>● Gravity</li> <li>● Tides</li> </ul>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Plate Tectonics</li> <li>● Geological Features</li> <li>● Geological Events</li> </ul>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Mineral Formation</li> <li>● Rock Cycle</li> <li>● Thermal Energy Transfer</li> <li>● Weathering</li> <li>● Erosion</li> <li>● Deposition</li> <li>● Geological Features</li> </ul>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Water Cycle</li> <li>● Thermal Energy Transfer</li> <li>● Sunlight</li> <li>● Temperature</li> <li>● Salinity</li> <li>● Density</li> </ul>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Ocean and Atmosphere Patterns</li> <li>● Waves and Currents</li> <li>● Water Cycle</li> <li>● Air Masses</li> <li>● Unequal Heating and Rotation of the Earth</li> <li>● Weather</li> <li>● Catastrophic Events</li> </ul>	Engineering Design Cycle (A-D)  Core Ideas: <ul style="list-style-type: none"> <li>● Renewable and NonRenewable Resources</li> <li>● Global Climate Change</li> </ul>
<b>MYP Assessments/ Performance Tasks</b>	Solar System & Beyond Unit Assessment (A) Gravity and Inertia Models (B) Universe Data Analysis (C)	Earth-Moon-Sun Unit Assessment (A) Moon Phases Model (A)	Earth's Changing Landscape Part I Unit Assessment (A) Earth's Edible Plates Model Lab (B)	Earth's Changing Landscape Part II Unit Assessment (A) Construct Explanations of weathering, erosion, & deposition (D)	Water in Earth's Processes Assessment (A) Dirty Water Reflections (D)	Safest Storm to Encounter (C)	Climate Crisis Reflections and Solutions (D)
<b>Differentiation For Tiered Learners</b>	Marietta City Schools teachers provide specific differentiation of learning experiences for all students. Details for differentiation for common learning experiences are included on the district unit planners.						