

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	5 Weeks
Standards	S6E1.a., b., c., d., e.	S6E2.a., b., c. S6E3.d.	S6E3.c. S6E5.a., f.	S6E5.b., c., d., e., g., h.	S6E3.a., b., c. S6E6.b.	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"> ● Ask questions ● Develop models ● Analyze & interpret data <p>ATL:</p> <ul style="list-style-type: none"> ● Bring necessary equipment and supplies to class ● Practice focus and concentration 	<p>SEP:</p> <ul style="list-style-type: none"> ● Develop & use a model ● Construct explanations ● Analyze & interpret data <p>ATL:</p> <ul style="list-style-type: none"> ● Read critically and for comprehension ● Take effective notes in class 	<p>SEP:</p> <ul style="list-style-type: none"> ● Ask questions ● Construct explanations <p>ATL:</p> <ul style="list-style-type: none"> ● Use a variety of organizers for academic writing tasks ● Make effective summary notes for studying 	<p>SEP:</p> <ul style="list-style-type: none"> ● Plan & carry out investigations ● Construct explanations ● Ask questions ● Develop models ● Construct an argument <p>ATL:</p> <ul style="list-style-type: none"> ● Make inferences and draw conclusions ● Negotiate ideas and knowledge with peers and teachers 	<p>SEP:</p> <ul style="list-style-type: none"> ● Ask questions ● Plan & carry out investigations ● Design & evaluate solutions <p>ATL:</p> <ul style="list-style-type: none"> ● Access information to be informed and to inform others ● Collect and analyze data to identify solutions and/or make informed decisions. 	<p>SEP:</p> <ul style="list-style-type: none"> ● Analyze & interpret data ● Plan & carry out investigations ● Develop models ● Construct explanations ● Construct an argument ● Design & evaluate solutions <p>ATL:</p> <ul style="list-style-type: none"> ● Collect, record, and verify data ● Gather and organize relevant information to formulate an argument 	<p>SEP:</p> <ul style="list-style-type: none"> ● Ask questions ● Plan & carry out investigations ● Develop models ● Construct explanations ● Construct an argument ● Design & evaluate solutions <p>ATL:</p> <ul style="list-style-type: none"> ● Take responsibility for one’s own actions ● Listen actively to other perspectives and ideas

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Statement of Inquiry	<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? Why do we see major geologic events in the Ring of Fire?</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? How do tornadoes and thunderstorms form?</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>
Global Context	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
Key Concepts	Systems	Change	Cause and effect	Change	Systems	Systems	Relationships
Related Concepts	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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<p>Design Cycle Transdisciplinary</p>	<p>Engineering Design Cycle (A-D)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Origins of the Universe ● Milky Way Galaxy ● Engineering & Technology ● Gravity ● Inertia ● Formation of the Solar System ● Structure of the Solar System 	<p>Engineering Design Cycle (A-D)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Lunar Cycle (Eclipses) ● Day/Night ● Seasons ● Elliptical Orbit ● Tilt of the Earth ● Revolution/Rotation ● Direct/In direct Sunlight ● Gravity ● Tides 	<p>Engineering Design Cycle (A-D)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Plate Tectonics ● Land Features ● Catastrophic Events 	<p>Engineering Design Cycle (A-D)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Rock Strata ● Rock Cycle ● Thermal Energy Transfer ● Mineral Formation ● Weathering ● Erosion ● Deposition ● Land Features 	<p>Engineering Design Cycle (A-D)</p> <p>Water Desalination (A-D)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Water Cycle ● Thermal Energy Transfer ● Sunlight ● Temperature ● Salinity 	<p>Engineering Design Cycle (A-D)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Ocean and Atmosphere Patterns ● Waves, Currents ● Water Cycle ● Air Masses ● Unequal Heating and Rotation of the Earth ● Weather ● Natural Hazards 	<p>Engineering Design Cycle (A-D)</p> <p>Solar Energy Systems (A-B)</p> <p>Core Ideas:</p> <ul style="list-style-type: none"> ● Renewable and NonRenewable Resources ● Global Climate Change
<p>MYP Assessments/ Performance Tasks</p>	<p>Solar System & Beyond Unit Assessment (A,D)</p> <p>Science Fair (B)</p>	<p>Earth-Moon-Sun Unit Assessment (A)</p> <p>Science Fair (B)</p>	<p>Earth’s Changing Landscape Part I Unit Assessment (A)</p> <p>Science Fair (C)</p>	<p>Earth’s Changing Landscape Part II Unit Assessment (A,D)</p> <p>Semester 1 Benchmark (A)</p> <p>Stream Table Investigation (MYP B,C)</p> <p>Minerals & Soil Lab (MYP B,C)</p>	<p>Water Cycle Lab (MYP B,C)</p>	<p>Climate & Weather Unit Assessment (A)</p> <p>Heat Transfer Lab (MYP B,C)</p> <p>Climatologist (MYP A, D)</p>	<p>Engineering Design Cycle Project (MYP A, B, C, D)</p>
<p>Differentiation For Tiered Learners</p>	<p>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.</p>						