Unit Name	Solar System and Beyond	Earth-Moon-Sun	Earth's Changing Landscape I	Earth's Changing Landscape II	Water in Earth's Processes	Climate and Weather	STEM Conservation Capstone
CAPSTONE Connective Theme	Energy Harvested In Our Solar System	Seasonal Energy Resources	Energy in Earth Surfaces I	Energy in Earth Surfaces II	Hydroelectric Energy	Atmospheric Energy	Community Conservation
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. S6E6.a MCS Gifted Standards MCSS5A MCSS2C MCSS4C MCSS3A MCSS3B MCSS3C	S6E2.a., b., c. S6E3.d. S6E6.a MCS Gifted Standards MCSS5B MCSS4A MCSS2B MCSS3A MCSS3B MCSS3C	S6E3.c. S6E5.a., f. S6E6.a MCS Gifted Standards MCSS5C MCSS2D MCSS4E MCSS3A MCSS3B MCSS3C	S6E5.b., c., d., e., g., h. S6E6.c MCS Gifted Standards MCSS5D MCSS4B MCSS2A MCSS3A MCSS3B MCSS3C	S6E3.a., b.,c. S6E6.b. MCS Gifted Standards MCSS5E MCSS3A MCSS3B MCSS3C MCSS4D	S6E4.a., b., c., d., e. MCS Gifted Standards MCSS2D MCSS3A MCSS3B MCSS3C	S6E6.b MCS Gifted Standards MCSS2D MCSS3A MCSS3B MCSS3C MCSS5A MCSS2C

#### Science & Science & Engineering Engineering Practices Practices Practices Practices Practices Practices Practices Practices Students will ask Students will develop • Students will ask • Students will plan and • Students will ask Students will analyze Students will design • questions to and use models to questions to identify carry out an questions to and interpret data to and evaluate solutions determine changes in demonstrate the and communicate, using investigation of the determine where compare and contrast for sustaining water, models of Earth's phases of the moon. graphs and maps, the characteristics of soil, water is located on Earth's atmospheric soil, and air. position in the Solar Students will construct composition, location, minerals and how Earth's surface. Students will ask layers. System and origins of an explanation of the and subsurface minerals contribute to Students will plan and Students will plan and questions to • cause of solar and determine the the universe. topography of the rock formation. carry out carry out investigations Students will develop lunar eclipses. world's oceans. • Students will construct investigations to to demonstrate how differences between a model to represent Students will analyze Students will ask an explanation of how illustrate the role of energy from the sun renewable/sustainable the position of the and interpret data to to classify rocks. questions to compare the Sun's energy in transfers heat to air. energy resources and solar system and relate the tilt of the and contrast Earth's • Students will ask the cycling of water. land, and water. how they are used in develop a model to Earth to the crust, mantle, inner and questions to identify ٠ Students will ask Students will develop a our everyday lives.. explain the interaction distribution of outer core. types of weathering, questions to model demonstrating (Renewable agents of erosion and of gravity and inertia. sunlight. • Students will construct communicate, using unequal heating and Sustainable resource Students will ask Students will analyze an explanation of how deposition. graphs and maps, the global winds systems. examples: Hydro, solar, and interpret data to movement of • Students will develop a composition, • wind, geothermal, tidal, questions to compare Students will analyze and lithospheric plates can model to demonstrate location, and interpret weather data to biomass) and contrast comets, create graphic subsurface asteroids, and representations of the cause major geologic how natural processes explain the effects of (Nonrenewable energy meteoroids. causes and effects of events. and human activity topography of moisture evaporating resource examples: fossil Students will ask waves. currents. and Students will ask change Earth's surface. fuels. oil. coal. and natural oceans. from the ocean on questions to tides. questions to determine • Students will construct ٠ Students will design weather patterns and gas) determine the Students will ask the differences between an argument using and evaluate events. differences between questions to renewable/sustainable maps and data to solutions for Students will construct renewable/sustainable determine the energy resources. support a claim of how sustaining water, soil, an explanation of the differences between fossils show evidence energy resources. and air. relationship between air renewable/sustainable of Earth's changing pressure, weather fronts, surface, climate, and and air masses. energy resources. rise in global temperatures over the past century.

Approaches	Critical Thinking: Use	Critical Thinking: Use	Critical Thinking: Use	Critical Thinking: Use	Critical Thinking: Use	Critical Thinking: Use	Creative Thinking:
To Learning	models and simulations	models and simulations	models and simulations to	models and simulations to	models and	models and	Generating novel ideas
Instructional	to explore complex	to explore complex	explore complex systems	explore complex systems	simulations to explore	simulations to explore	and considering new
Strategies	systems and issues.	systems and issues.	and issues.	and issues.	complex systems and	complex systems and	perspectives.
	-				issues	issues	
	Gather and organize	Gather and organize	Gather and organize	Gather and organize			Transfer skills: Combine
	relevant information to	relevant information to	relevant information to	relevant information to	Research: Collect and	Research: Collect and	knowledge,
	formulate an argument.	formulate an argument.	formulate an argument.	formulate an argument.	analyze data to	analyze data to identify	understanding and skill
					identify solutions and	solutions and make	to create products or
	Research: Finding,	Research: Finding,	Research: Collect and	Communication:	make informed	informed decisions.	solutions.
	interpreting, judging and	interpreting, judging and	analyze data to identify	Collaborate with peers and	decisions.		
	creating information.	creating information.	solutions and make	experts using a variety of		Collaboration: Working	Research: Collect and
			informed decisions.	digital environments and	Collaboration:	effectively with others.	analyze data to identify
	Collaboration: Working	Collaboration: Working		media.	Working effectively		solutions and make
	effectively with others.	effectively with others.	Collaboration: Working		with others.		informed decisions.
			effectively with others.	Collaboration: Working			
				effectively with others.			

Statement of	Scientific and technical	System models can be	Scientific and technical	Scientific and technical	Sustainable management	Innovations and	Scientific and
Inquiry	advancements have led	used to demonstrate and	innovations allow us to	innovations allow us	of the Earth's water	advancements in science	technological
	to changes in the models	explain the motion and	visualize, model, and	to visualize, model, and	resources means that	and technology allow	advancements have
	used to explain the	orientation of the Earth,	explain changes to the	explain changes to the	human needs must be	meteorologists to identify	allowed for the use of
	motion and orientation	Moon, and Sun.	Earth's surface.	Earth's surface.	balanced with those of	patterns and more	renewable and
	of objects in space.				the natural world.	accurately predict	sustainable energy
		Phenomenon: Why	Phenomenon: Why do we	Phenomenon:		weather systems.	resources.
	Phenomenon: Why is	doesn't everyone	see major geologic events	What drives weathering,	Phenomenon:		
	Earth the only planet in	experience four seasons?	in the Ring of Fire?	erosion, and deposition	How does human activity	Phenomenon: Why do	Phenomenon: How can
	our solar system that is			and how do these	impact the water cycle?	different parts of the	we expand the use of
	able to support life?	CER: Students answer	CER: Students answer the	processes impact Earth's		Earth experience	natural resources, such
		the phenomenon in a	phenomenon in a	surface?	CER: Students answer	different climates?	as hydro, solar, wind,
	CER: Students answer	Claim-Evidence-Reasonin	Claim-Evidence-Reasoning		the phenomenon in a		geothermal, and tidal a
	the phenomenon in a	g constructed response	constructed response as a	<b>CER:</b> Students answer the	Claim-Evidence-Reasonin	CER: Students answer	sources of energy
	Claim-Evidence-Reasonin	as a formative	formative assessment.	phenomenon in a	g constructed response	the phenomenon in a	without contributing to
	g constructed response	assessment. Allow	Allow students to make	Claim-Evidence-Reasoning	as a formative	Claim-Evidence-Reasonin	pollution of land, air, o
	as a formative	students to make edits	edits to their constructed	constructed response as a	assessment. Allow	g constructed response as	water?
	assessment. Allow	to their constructed	response throughout the	formative assessment.	students to make edits to	a formative assessment.	
	students to make edits	response throughout the	unit for a final summative	Allow students to make	their constructed	Allow students to make	
	to their constructed	unit for a final	submission.	edits to their constructed	response throughout the	edits to their constructed	
	response throughout the	summative submission.		response throughout the	unit for a final	response throughout the	
	unit for a final			unit for a final summative	summative submission.	unit for a final summative	
	summative submission.			submission.		submission.	

Global Context	Scientific and Technical Innovation	Orientation in Time and Space	Scientific and Technical Innovation	Scientific and Technical Innovation	Globalization and Sustainability	Scientific and Technical Innovation	Globalization and Sustainability
	Students will explore the	Students will explore	Students will explore the	Students will explore the	Students will explore the	Students will explore the	Students will explore the
	natural world and its	personal histories;	natural world and its laws;	natural world and its laws;	interconnectedness of	natural world and its	interconnectedness of
	laws; the interaction	homes and journeys;	the interaction between	the interaction between	human-made systems	laws; the interaction	human-made systems
	between people and the	turning points in	people and the natural	people and the natural	and communities; the	between people and the	and communities; the
	natural world; how	humankind; discoveries;	world; how humans use	world; how humans use	relationship between	natural world; how	relationship between
	humans use their	explorations and	their understanding of	their understanding of	local and global	humans use their	local and global
	understanding of	migrations of	scientific principles; the	scientific principles; the	processes; how local	understanding of	processes; how local
	scientific principles; the	humankind; the	impact of scientific and	impact of scientific and	experiences mediate the	scientific principles; the	experiences mediate the
	impact of scientific and	relationships between,	technological advances on	technological advances on	global; the opportunities	impact of scientific and	global; the opportunities
	technological advances	and the	communities and	communities and	and tensions provided by	technological advances	and tensions provided by
	on communities and	interconnectedness of,	environments; the impact	environments; the impact	world	on communities and	world
	environments; the	individuals and	of environments on	of environments on human	interconnectedness; the	environments; the impact	interconnectedness; the
	impact of environments	civilizations, from	human activity; how	activity; how humans	impact of	of environments on	impact of
	on human activity; how	personal, local and	humans adapt	adapt environments to	decision-making on	human activity; how	decision-making on
	humans adapt	global perspectives.	environments to their	their needs.	humankind and the	humans adapt	humankind and the
	environments to their	0.000. perspectives.	needs.		environment.	environments to their	environment.
	needs.					needs.	
UN	Goal 7 - Ensure access to	Goal 7 - Ensure access to	Goal 15 - Protect, restore	Goal 15 - Protect, restore	Goal 6 - Ensure	Goal 13 - Take urgent	Goal 11 - Make cities and
Sustainable	affordable, reliable,	affordable, reliable,	and promote sustainable	and promote sustainable	availability and	action to combat climate	human settlements
Development	sustainable and modern	sustainable and modern	use of terrestrial	use of terrestrial	sustainable management	change.	inclusive, safe, resilient
Goals	energy for all.	energy for all.	ecosystems, sustainably	ecosystems, sustainably	of water and sanitation	Goal 14 - Conserve and	and sustainable.
Could	Goal 12 - Ensure	Goal 12 - Ensure	manage forests, combat	manage forests, combat	for all.	sustainably use the	Goal 17 - Strengthen the
	sustainable consumption	sustainable consumption	desertification, and halt	desertification, and halt and	Goal 14 - Conserve and	oceans, seas and marine	means of implementation
	and production patterns.	and production patterns.	and reverse land	reverse land degradation	sustainably use the	resources for sustainable	and revitalize the global
	and production patterns.		degradation and halt	and halt biodiversity loss.	oceans.	development.	partnership for
			biodiversity loss.			development.	sustainable development.
Key	Systems and system	Change (MYP/CCC)	Change (MYP/CCC)	Change (MYP/CCC)	Systems and system	Systems and system	Relationships (MYP)
Concepts	models (MYP/CCC)	Change is a conversion,	Change is a conversion,	Change is a conversion,	models (MYP/CCC)	models (MYP/CCC)	Relationships are the
	Systems are sets of	transformation or	transformation or	transformation or	Systems are sets of	Systems are sets of	connections and
	interacting or	movement from one	movement from one	movement from one form,	interacting or	interacting or	associations between
	interdependent	form, state, or value to	form, state, or value to	state, or value to another.	interdependent	interdependent	properties, objects,
	components. Systems	another. Inquiry into the	another. Inquiry into the	Inquiry into the concept of	components. Systems	components. Systems	people and ideas -
	provide structure and	concept of change	concept of change	change involves	provide structure and	provide structure and	including the human
	order in human, natural	involves understanding	involves understanding	understanding and	order in human, natural	order in human, natural	community's
	and built environments.	and evaluating causes,	and evaluating causes,	evaluating causes,	and built environments.	and built environments.	connections with the
	Systems can be static or	processes and	processes and	processes and	Systems can be static or	Systems can be static or	world in which we live.
	dynamic, simple or	consequences.	consequences.	consequences.	dynamic, simple or	dynamic, simple or	Any change in a
	complex.				complex.	complex.	relationship brings

Published: 8, 2024 Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.

Related Concepts	Movement (MYP) Models (MYP/CCC)	Movement (MYP) Models (MYP/CCC)	Transformation (MYP) Energy (MYP/CCC)	Transformation (MYP) Energy (MYP/CCC)	Environment (MYP) Balance (MYP)	Environment (MYP) Patterns (MYP/CCC)	Environment (MYP)
Design Cycle Transdisciplinary	Connecting Core Ideas •Origins of the Universe •Milky Way Galaxy •Engineering & Technology •Gravity •Inertia •Formation of the Solar System •Structure of the Solar System Human Energy Needs	Connecting Core Ideas •Lunar Cycle (Eclipses) •Day/Night •Seasons •Elliptical Orbit •Tilt of the Earth •Revolution/Rotation •Direct/Indirect Sunlight •Gravity •Tides Human Energy Needs	Connecting Core Ideas •Plate Tectonics •Land Features •Catastrophic Events Human Energy Needs	Connecting Core Ideas • Rock Strata • Rock Cycle • Thermal Energy Transfer • Mineral Formation • Weathering • Erosion • Deposition • Land Features Human Energy Needs	Connecting Core Ideas •Water Cycle •Thermal Energy Transfer •Sunlight •Temperature •Salinity Human Energy Needs	Connecting Core Ideas •Ocean and Atmosphere Patterns •Waves, Currents •Water Cycle •Air Masses •Unequal Heating and Rotation of the Earth •Weather •Natural Hazards Human Energy Needs	<ul> <li><u>Connecting Core Ideas</u></li> <li>Direct/Indirect Sunlight</li> <li>Weathering</li> <li>Erosion</li> <li>Deposition</li> <li>Water Cycle</li> <li>Thermal Energy Transfer</li> <li>Temperature</li> <li>Renewable and Non-Renewable Resources</li> <li>Global Climate Change</li> </ul>
MYP Assessments/ Performance Tasks	Common Assessments Title and Criterion: Solar System & Beyond Common Formative Assessments Solar System & Beyond Unit Assessment Paper I and Paper II (A,D) Scientific Investigation: Relative Distance from the Sun Scientific Investigation: Planets in our Solar System (B,C)	Common Assessments Title and Criterion: Earth-Moon-Sun Common Formative Assessments Earth-Moon-Sun Unit Assessment Paper I and Paper II (A,D)	Common Assessments Title and Criterion: Earth's Changing Landscape I Common Formative Assessments Earth's Changing Landscape Unit Assessment Paper I and Paper II (A,D)	Common Assessments Title and Criterion: Earth's Changing Landscape II Common Formative Assessments Earth's Changing Landscape II Unit Assessment Paper I and Paper II (A,D) Earth's Changing Landscape Scientific Investigation (B,C)	Common Assessments Title and Criterion: Water in Earth's Processes Common Formative Assessments Water in Earth's Processes Unit Assessment Paper I and Paper II (A,D) Water in Earth's Processes Scientific Investigation (B,C) Capstone Action Proposal MYP Design A.i., ii., iv. MYP Design B.i., iv.	Common Assessments Title and Criterion: Climate and Weather Common Formative Assessments Climate and Weather Unit Assessment Paper I and Paper II (A,D) Climate and Weather Scientific Investigation (B,C) Capstone Project Summary MYP Design C.iii. MYP Design D.ii., iii., iv.	Common Assessment Title and Criterion: Culminating Capstone Product/Presentation MYP Design B.iii. MYP Design C.iv. MYP Science A.ii. MYP Science D.ii., iii.

Differentiation For Tiered	Lab-Aids Experiences	Lab-Aids Experiences	Lab Aids Experiences	Lab Aids Experiences	Lab Aids Experiences	Lab Aids Experiences	Culminating Capstone Presentation
Learners	Capstone Connections	Capstone Connections	Capstone Connections	Capstone Connections	Capstone Action Proposal	Capstone Project Summary	
	Discovery Education	Discovery Education High	Discovery Education High	Discovery Education High			
	High School	School Environmental	School Environmental	School Environmental	Discovery Education High	Discovery Education High	
	Environmental Science	Science Techbook	Science Techbook	Science Techbook	School Environmental	School Environmental	
	Techbook				Science Techbook	Science Techbook	
		NGSS Case Study 7:	NGSS Case Study 7: Gifted	NGSS Case Study 7: Gifted			
	NGSS Case Study 7:	Gifted and Talented	and Talented Students	and Talented Students	NGSS Case Study 7:	NGSS Case Study 7:	
	Gifted and Talented	Students			Gifted and Talented	Gifted and Talented	
	Students		NGSS: All Standards, All	NGSS: All Standards, All	Students	Students	
		NGSS: All Standards, All	Students	Students			
	NGSS: All Standards, All	Students			NGSS: All Standards, All	NGSS: All Standards, All	
	Students		Extensions - Enrichment	Extensions - Enrichment	Students	Students	
		Extensions - Enrichment	Tasks/Projects	Tasks/Projects			
	Extensions - Enrichment	Tasks/Projects			Extensions - Enrichment	Extensions - Enrichment	
	Tasks/Projects				Tasks/Projects	Tasks/Projects	

Capstone Elements	Students will be introduced to the Capstone project and United Nation Global Goals. Students will select three of the Global Goals that interest them and begin researching abou those three Global Goals.	Mercedes-Benz Stadium Field Trip #1: We Can Work Together Capstone Connections Task: Field Trip Reflection	Capstone Connections Task: Discussion: Renewable vs Nonrenewable Energy Sources, Pollution Reduction, Minimizing Erosion	Capstone Action: Students should be implementing and designing their capstone proposals Mercedes-Benz Stadium Field Trip #2: Building Sustainability Capstone Connections Task: Field Trip Reflection	Capstone Action Continued	Capstone Project Analysis and Reflection	Culminating Capstone Presentation
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