HENRY COUNTY SCHOOLS Better Together.



SCIENCE





Teaching & Learning Standards

Science 6th Grade



6th Grade Science

Quarter 1		Quarter 2		Quarter 3		Quarter 4	
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
5 weeks	4 weeks	4 weeks	5 weeks	4 weeks	5 weeks	6 weeks	3 weeks
Universe and Solar System	Sun, Earth and	Role of Water	Weather and Climate	Formation of	Rocks and	Weathering,	Conservation of
	Moon			Earth's Surface	Minerals	Erosion, and	Natural
						Soil	Resources
S6E1. Obtain, evaluate, and communicate information about current scientific views of the universe and how those views evolved. a. Ask questions to determine changes in models of Earth's	S6E2. Obtain, evaluate, and communicate information about the effects of the relative positions of the sun, Earth, and moon.	S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes. a. Ask questions to determine where water is	S6E4. Obtain, evaluate, and communicate information about how the sun, land, and water affect climate and weather. a. Analyze and interpret data to compare and contrast the composition of Earth's	S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed. a. Ask questions to	S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed.	S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed. d. Ask questions	S6E6. Obtain, evaluate, and communicate information about the uses and conservation of various natural resources and how they impact the Earth.
position in the solar system, and		located on Earth's surface	atmospheric layers (including the	compare and	b. Plan and	to identify types	
origins of the universe as evidence that scientific theories change with the addition of new information.	a. Develop and use a model to demonstrate the phases of the moon	(oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative	ozone layer) and greenhouse gases. b. Plan and carry out an	contrast the Earth's crust, mantle, inner and outer core, including	carry out an investigation of the characteristics	of weathering, agents of erosion and transportation,	a. Ask questions to determine the differences between renewable/sustainable
illorination.	by showing the	proportion of water at	investigation to demonstrate	temperature,	of minerals and	and environments	energy resources
b. Develop a model to represent	relative positions of	each location.	how energy from the sun	density, thickness,	how minerals	of deposition.	(examples: hydro,
the position of the solar system in	the sun, Earth, and		transfers heat to air, land and	and composition.	contribute to		solar, wind,
the Milky Way galaxy and in the	moon.	b. Plan and carry out an	water at different rates.		rock	e. Develop a	geothermal, tidal,
known universe.		investigation to illustrate		f. Construct an	composition.	model to	biomass) and
	b. Construct an	the role of the sun's	c. Develop a model	explanation of how		demonstrate how	nonrenewable energy
c. Analyze and interpret data to	explanation of the	energy in atmospheric	demonstrating the interaction	the movement of		natural processes	resources (examples:
compare and contrast the planets in our solar system in terms of:	cause of solar and lunar eclipses.	conditions that lead to the cycling of water.	between unequal heating and the rotation of the Earth that	lithospheric plates, called plate	c. Construct an explanation of	(weathering, erosion, and	nuclear: uranium, fossil fuels: oil, coal,
size relative to Earth, surface and	iunai echpses.	cycling of water.	causes local and global wind	tectonics, can	how to classify	deposition) and	and natural gas), and
atmospheric features, relative	c. Analyze and	c. Ask guestions to identify	systems.	cause major	rocks by their	human activity	how they are used in
distance from the sun, and ability	interpret data to	and communicate, using	,	geologic events	formation and	change rocks and	our everyday lives.
to support life.	relate the tilt of the	graphs and maps, the	d. Construct an explanation of	such as	how rocks	the surface of the	
	Earth to the	composition, location, and	the relationship between air	earthquakes and	change through	Earth.	b. Design and evaluate
d. Develop and use a model to	distribution of	subsurface topography of	pressure, weather fronts, and air	volcanic eruptions.	geologic		solutions for
explain the interaction of gravity	sunlight throughout	the world's oceans.	masses and meteorological		processes in	h. Plan and carry	sustaining the quality
and inertia that governs the	the year and its	d Aughura and internet	events such as tornados and	g. Construct an	the rock cycle.	out an	and supply of natural
motion of objects in the solar	effect on seasons.	d. Analyze and interpret	thunderstorms.	argument using		investigation to	resources such as
system.		data to create graphic representations of the	e. Analyze and interpret weather	maps and data collected to		provide evidence that soil is	water, soil, and air.
e. Ask questions to compare and		causes and effects of	data to explain the effects of	support a claim of		composed of	c. Construct an
contrast the characteristics,		waves, currents, and tides	moisture evaporating from the	how fossils show		layers of	argument evaluating
composition, and location of		in Earth's systems.	ocean on weather patterns and	evidence of the		weathered rocks	contributions to the
comets, asteroids, and			weather events such as	changing surface		and decomposed	rise in global
meteoroids.			hurricanes.	and climate of the		organic material.	temperatures over the
				Earth.			past century.

Collaboration, Communication, Creativity, and Critical Thinking skills are embedded within the language of the Henry Teaching and Learning Standards

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HCS Graduate Learner Outcome	As a Henry Cou processes and	unty graduate, I will understand and analyze the origins of the solar system and its position in the universe through scientific practices.
GA Standard Code		
S6E1	Obtain, evalua	te, and communicate information about current scientific views of the universe and how those views evolved.
	S6E1a	Ask questions to determine changes in models of Earth's position in the solar system, and origins of the universe as evidence that scientific theories change with the addition of new information.
	S6E1b	Develop a model to represent the position of the solar system in the Milky Way galaxy and in the known universe.
	S6E1c	Analyze and interpret data to compare and contrast the planets in our solar system in terms of size relative to Earth, surface and atmospheric features, relative distance from the sun, and ability to support life.
	S6E1d	Develop and use a model to explain the interaction of gravity and inertia that governs the motion of objects in the solar system.
	S6E1e	Ask questions to compare and contrast the characteristics, composition, and location of comets, asteroids, and meteoroids.
S6E2	Obtain, evaluate	e, and communicate information about the effects of the relative positions of the sun, Earth, and moon.
	S6E2a	Develop and use a model to demonstrate the phases of the moon by showing the relative positions of the sun, Earth, and moon.
	S6E2b	Construct an explanation of the cause of solar and lunar eclipses.
	S6E2c	Analyze and interpret data to relate the tilt of the Earth to the distribution of sunlight throughout the year and its effect on seasons.

HCS Graduate Learner Outcome As a Henry County graduate, I will understand and analyze the role of water in Earth processes, the dynamics and composition of the atmosphere, and global processes influencing weather and climate.

GA Standard Code

S6E3

Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.

S6E3a Ask questions to determine where water is located on Earth's surface (oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative proportion of water at each location.

- S6E3b Plan and carry out an investigation to illustrate the role of the sun's energy in atmospheric conditions that lead to the cycling of water.
- S6E3c Ask questions to identify and communicate, using graphs and maps, the composition, location, and subsurface topography of the world's oceans.
- S6E3d Analyze and interpret data to create graphic representations of the causes and effects of waves, currents, and tides in Earth's systems.

S6E4 Obtain, evaluate, and communicate information about how the sun, land, and water affect climate and weather.

- S6E4a Analyze and interpret data to compare and contrast the composition of Earth's atmospheric layers (including the ozone layer) and greenhouse gases.
- S6E4b Plan and carry out an investigation to demonstrate how energy from the sun transfers heat to air, land, and water at different rates.
- S6E4c Develop a model demonstrating the interaction between unequal heating and the rotation of the Earth that causes local and global wind systems.
- S6E4d Construct an explanation of the relationship between air pressure, weather fronts, and air masses and meteorological events such as tornados and thunderstorms.
- S6E4e Analyze and interpret weather data to explain the effects of moisture evaporating from the ocean on weather patterns and weather events such as hurricanes.

HCS Graduate Learner Outcome As a Henry County graduate, I will apply science and engineering practices to understand and analyze lithospheric materials, tectonic processes, and the human and environmental impacts of natural and human-induced changes to Earth's surface.

GA Standard Code

6E5 Obtain, evaluate, and communicate information to show how Earth's surface is formed.

- S6E5a Ask questions to compare and contrast the Earth's crust, mantle, inner and outer core, including temperature, density, thickness, and composition.
- S6E5b Plan and carry out an investigation of the characteristics of minerals and how minerals contribute to rock composition.
- S6E5c Construct an explanation of how to classify rocks by their formation and how rocks change through geologic processes in the rock cycle.
- S6E5d Ask questions to identify types of weathering, agents of erosion and transportation, and environments of deposition.

- S6E5e Develop a model to demonstrate how natural processes (weathering, erosion, and deposition) and human activity change rocks and the surface of the Earth.
- S6E5f Construct an explanation of how the movement of lithospheric plates, called plate tectonics, can cause major geologic events such as earthquakes and volcanic eruptions.
- S6E5g Construct an argument using maps and data collected to support a claim of how fossils show evidence of the changing surface and climate of the Earth.
- S6E5h Plan and carry out an investigation to provide evidence that soil is composed of layers of weathered rocks and decomposed organic material.

S6E6 Obtain, evaluate, and communicate information about the uses and conservation of various natural resources and how they impact the Earth.

- Ask questions to determine the differences between renewable/sustainable energy resources (examples: hydro, solar, wind, geothermal, tidal, biomass) and nonrenewable energy resources (examples: nuclear: uranium, fossil fuels: oil, coal, and natural gas), and how they are used in our everyday lives.
- S6E6b Design and evaluate solutions for sustaining the quality and supply of natural resources such as water, soil, and air.
- S6E6c Construct an argument evaluating contributions to the rise in global temperatures over the past century.