GSE Sixth Grade Earth Science Curriculum Map 2019-2020

These Unit Framework ideas from the Georgia Standards of Excellence and related to anchoring phenomena have been approved and paced through the collaboration of Arthur Williams and Martha Puckett Middle School teachers.

FIRST SEMESTER

Instructional Segment:	Human Energy Needs	Water in Earth's Processes	Climate and Weather	
			Part 1: Weather	Part 2: Atmosphere
Estimated Time	**3 weeks** **Aug 12 – Aug 30**	**5 weeks** **Sept 3 – Oct 4**	**5 weeks** **Oct 7 – Nov 22**	**3 weeks** **Dec 2 – Dec 20**
Crosscutting Concepts	• Cause & Effect • Matter & Energy • Stability & Change • Systems	• Cause & Effect • Matter & Energy • Patterns • Stability & Change	• Cause & Effect • Matter & Energy • Patterns • Systems • Stability & Change	
Anchoring Phenomenon	Adjusting solar panels to improve efficiency Energy Resources - Living in a Solar House	A Study of Water on Earth Photo of snowcapped mountain and clouds Barrier Islands of Georgia	Georgia Weather/Climate Patterns Thunder and Lightning Visuals of a tornado	
Core Ideas	• Main Focus: Uses and conservation of natural resources and how they impact the Earth; renewable and non-renewable resources; global climate change • Differences between renewable and nonrenewable energy resources • Air, water, and soil pollution • Solutions to sustain the quality of air, water, and soil. • Causes for rising global temperatures • Study and analyze evidence of global warming. • Human impact • Opportunities for conservation	• Main Focus: Distribution and movement of Earth's water • Location and proportional distribution of Earth's water • Investigate the sun's energy that drives the water cycle -evaporation, condensation, precipitation, transpiration, infiltration, groundwater, and runoff • Investigate how evaporation cleans and replaces Earth's freshwater water supply before precipitation returns it to the land surface. • Emphasize the limited nature of freshwater and why it must be conserved. • Oceans -location and composition -subsurface topography -waves and currents (tides) -graphs and maps • Introduce sun's heat transfer to air, land, and water (cover more thoroughly in next unit)	**Part 1** • Main Focus: Investigate atmospheric conditions that drive Earth's climate and weather • Local and global wind patterns, air pressure, weather fronts, and air masses influence thunderstorms, tornadoes, hurricane formation and paths of travel • Sun's heat transfer to air, land, and water occurs at different rates -conduction, convection, radiation • Interaction between unequal heating and Earth's rotation—local and global wind systems • Introduce the concept of plate tectonics • Evaporation of moisture from oceans -analyze and interpret data -weather patterns and weather events (hurricanes) • Wind and water energy • Rise in global temperatures	**Part 2** • Main Focus: Investigate atmospheric conditions that drive Earth's climate and weather • Atmospheric conditions that drive the water cycle • Atmospheric Layers and greenhouse gases -troposphere, stratosphere, mesosphere, thermosphere, ozone
Science and Engineering Practices	• Planning and carrying out investigations • Constructing explanations • Analyzing and interpreting data	• Planning and carrying out investigations • Constructing explanations • Analyzing and interpreting data • Asking questions • Developing a model	• Planning and carrying out investigations • Constructing explanations • Analyzing and interpreting data • Developing a model • Asking Questions	
GSE code	**S6E6** a-c	**S6E3** a-c; **S6E4** a-e	**S6E3** b; **S6E4** c, d, e; **S6E5** d, e	

REVIEW and REMEDIATION Between Units: Before moving to the next unit, teachers will use data from the common unit assessment to address concepts that need reinforcement and provide individual support for students as indicated in the data analysis.

SECOND SEMESTER

Instructional Segment:	Earth's Changing Landscape		Astronomy Solar System and Beyond / Earth-Moon-Sun	Human Growth & Development	7th Grade Acceleration
	Part 1: Plate Tectonics	**Part 2: Rocks & Minerals**			
Estimated Time	**5 weeks** **Jan 6 – Feb 7**	**5 weeks** **Feb 10 – Mar 13**	**5 weeks** **Mar 17 – May 8**	**1 week** **May 11 – May 15**	**1 week** **May 18 – May 21**
Crosscutting Concepts	• Cause & Effect • Matter & Energy • Patterns		• Cause & Effect • Matter & Energy • Scale, Proportion & Quantity • System & System Models • Patterns	• Follow curriculum as determined by the county's designated Human Development Curriculum Committee. * Classes will be single-gender.	7th grade standards: • Basic cell structure of plant/animal cells -Organelle Function -Cellular Organization • Body Systems • 6 Kingdoms • Food Webs • Basic identification of Earth's major biomes: *terrestrial *aquatic Teacher personalizes a mini-unit that he/she feels compassionate about; highly-engaging with hands-on activities. Teacher may choose to accelerate students with a unit for Life Science.
Anchoring Phenomenon	Georgia's Landscape Ellison's Cave: GPB: Georgia Rocks! Weathering & Erosion photos		Celestial Objects from Different Perspectives A Total Eclipse in Georgia; Tides on the Georgia Coast What to wear? Seasonal data		
Core Ideas	**Part 1** • Main Focus: Effects produced by movement of lithospheric plates on geologic features of land and in the oceans: mountains, ridges, trenches, etc. • Compare and contrast the layers of the Earth • Characteristics of geologic structures – *mountains *ridges *trenches -- at crustal boundaries -- *divergent *convergent *transform – are a result of heat. • Earthquakes and volcanic eruptions • Geothermal energy (renewable energy) From geysers and hydrothermal vents • Fossils provide evidence for plate tectonic theory	**Part 2** • Main Focus: Formation of rocks and how they change through the rock cycle and form the Earth's surface • Minerals contribute to rock composition • Characteristics of minerals • Weathering and erosion change rocks • Environments of deposition--*deltas, barrier islands, beaches, marshes, and rivers • Mineral deposits and formation of soil • Layers of soil composition • Impact of human activity	• Main Focus: Current scientific views of the universe and how those views have evolved. • Scientific Theories -Earth's position in the solar system -Origins of the universe • Governing forces of motion in our solar system (gravity/inertia) • Position of our solar system within the Milky Way Galaxy and the universe • Compare and contrast planets and other bodies (asteroids, comets, meteoroids) within our solar system • Effects of the relative positions of the Earth, Moon, and Sun: -lunar phases -solar and lunar eclipses • Tilt of Earth affects distribution of light and seasons **6/7 GMAS** **April 30 – May 4**		
Science and Engineering Practices	• Planning and carrying out investigations • Constructing explanations/arguments • Analyzing and interpreting data • Asking questions • Developing a model		• Developing and using models • Asking questions and defining • Constructing explanations • problems • Analyzing and interpreting data		
GSE code	**S6E5** a-h		**S6E1** a-e**; S6E2** a-c; **S6E3** d; **S6E5** d		

REVIEW and REMEDIATION Between Units: Before moving to the next unit, teachers will use data from the common unit assessment to address concepts that need reinforcement and provide individual support for students as indicated in the data analysis.