SCIENCE CURRICULUM – GRADE 6 – 2018-2019

Georgia Standards of Excellence: Wayne County's Year Curriculum Map

This document is a pacing guide developed through collaboration with teachers from Arthur Williams and Martha Puckett Middle Schools.
This map is designed to support and integrate the major concepts addressed in the 8th Grade Science Curriculum of the Georgia Standards of Excellence.

First Semester

Introduction to Earth Science	Earth's Water	Climate & Weather		Environmental Impacts
		Part 1: Atmosphere	Part 2: Weather	
1 week	**6 weeks**	**3 weeks**	**5 weeks**	**3 weeks**
8/2 - 8/8	**8/9 – 9/21**	**9/24 – 10/12**	**10/15 – 11/16**	**11/26 – 12/14**
•Course Expectations •Review and Model Steps of Scientific Method •Common Roots and Affixes of Scientific Vocabulary •Model Expectations of Constructed Response Writing with Rubrics in science content	• 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)	•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	•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 ***Thanksgiving Break**	•Main Focus: Uses and conservation of natural resources and how they impact the Earth •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 *May have time to begin next unit: Chunk a mini-lesson on Earth's layers (compare and contrast). ***Christmas Break**
	Focus Standards: **E3.a,b,c,d E6.a,c (water specific)** **Expectations for Rigor:** Ask questions to determine, identify, and communicate Plan, carry out, and illustrate Construct an argument Communicate by using graphs and maps Analyze and interpret data Create graphic representations	**Focus Standards:** **E4.a,b,c,d,e E6.a,c (as relevant)** **Expectations for Rigor:** Analyze and interpret data Plan, carry out, and demonstrate Develop a model Construct an explanation of relationships		**Focus Standards:** **E6.a,b,c** **Expectations for Rigor:** Ask questions to determine Design and evaluate solutions Construct an argument evaluating

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					
Human Growth & Development	**Earth's Surface**		**Astronomy**	**Year Review & Science Acceleration**	
	Part 1: Plate Tectonics	**Part 2: Rocks & Minerals**			
1 week	**5 weeks**	**5 weeks**	**5 weeks**	**2 weeks**	
1/4 - 1/10	**1/11 – 2/15**	**2/1 – 3/29**	**4/8 – 5/10**	**5/13 – 5/23**	
•Follow curriculum as determined by the county's designated Human Development Curriculum Committee. *Classes will be single-gender.	•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	•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 ***Spring Break**	•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	•Earth's water •Climate and weather •Natural resources •Plate Tectonics •Rocks and Minerals •Astronomy •Review Earth Science Standards •Power Standards	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
	Focus Standards: **E5.a,f,g E6.a,b** **Expectations for Rigor:** Compare and contrast Construct an explanation Construct an argument using maps & data Ask questions to determine Design and evaluate solutions	**Focus Standards:** **E5.b,c,d,e,h E6.b** **Expectations for Rigor:** Plan and carry out Provide evidence Construct an explanation to classify Ask questions to identify Develop a model to demonstrate	**Focus Standards:** **E1.a,b,c,d,e E2.a,b,c** **Expectations for Rigor:** Ask questions to determine Develop a model to use, demonstrate, represent, and explain Compare and contrast Construct an explanation Analyze and interpret	**Power Standards:** **E2.c** **E3.b** **E5.d,e** **E5.g** **E6.b**	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.
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.					