Sixth Grade Science
Assessment Pacing Guide

First Nine Weeks				
Competency	Mississippi Science Framework Objectives	CCSS	Date Taught	Assessment
1c*	Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement). • 1) tools (e.g., English rulers[to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers, telescopes, compasses, spring scales) • 2) types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) • 3) resources (e.g., Internet, electronic encyclopedias, journals, community resources, etc.)	**RST.6.8.3**		
1d*	Analyze data collected from a scientific investigation to construct explanations and draw conclusions.	**RST.6.8.7**		
1e*	Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models.	**RST.6.8.7**		
4a	Compare and contrast the relative positions and components of the Earth's crust (e.g., mantle, liquid and solid core, continental crust, oceanic crust).	**RST.6.8.1** **RST.6.8.5**		
4b	Draw conclusions about historical processes that contribute to the shaping of planet Earth. movements of the continents through time	**RST.6.8.1** **RST.6.8.8**		

	continental plates, subduction zones, trenches, etc.			
4c	Analyze climate data to draw conclusions and make predictions.	**RST.6.8.5**		
4e	Explain the daily and annual changes in the Earth's rotation and revolution. how the positions of the moon and the sun affect tides the phases of the moon (e.g., new, crescent, half, gibbous, full, waxing, waning).	**RST.6.8.1** **RST.6.8.5**		
4f	Differentiate between objects in the universe (e.g., stars, moons, solar systems, asteroids, galaxies).	**RST.6.8.4**		

Sixth Grade Science
Assessment Pacing Guide
for the 2010 Science Frameworks
Second Nine Weeks

Competency	Mississippi Science Framework Objectives	CCSS	Date Taught	Assessment
1c*	Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement). •1 tools (e.g., English rulers[to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers, telescopes, compasses, spring scales) •2 types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) •3 resources (e.g., Internet, electronic encyclopedias, journals, community resources, etc.)	RST.6.8.3		
1d*	Analyze data collected from a scientific investigation to construct explanations and draw conclusions.	RST.6.8.7		
1e*	Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models.	RST.6.8.7		
3b	Compare and contrast structure and function in living things to include cells and whole organisms. •1 hierarchy of cells, tissues, organs, and organ systems to their functions in an organism	RST.6.8.7		

	•2 function of plant and animal cell parts (vacuoles, nucleus, cytoplasm, cell membrane, cell wall, chloroplast) •3 vascular and nonvascular plants, flowering and non-flowering plants, deciduous and coniferous trees			
3c	Distinguish between the organization and development of humans to include the effects of disease. •1 how systems work together (e.g., respiratory, circulatory) •2 fertilization, early cell division, implantation, embryonic and fetal development, infancy, childhood, adolescence, adulthood, and old age •3 common diseases caused by microorganisms (e.g., bacteria, viruses, malarial parasites)	**RST.6.8.8** **RST.6.8.1**		
3d	Describe and summarize how an egg and sperm unite in the reproduction of angiosperms and gymnosperms. •1 the path of the sperm cells to the egg cell in the ovary of a flower •2 the structures and functions of parts of a seed in the formation of a plant and of fruits •3 how the combinations of sex cells results in a new combination of genetic information different from either parent	**RST.6.8.5**		

Third Nine Weeks

Competency	Mississippi Science Framework Objectives	CCSS	Date Taught	Assessment
2a	Recognize that atoms of a given element are all alike but atoms of other elements have different atomic structures.	**RST.6.8.4 RST.6.8.7**		
2b	Distinguish physical properties of matter (e.g., melting points, boiling points, solubility) as it relates to changes in states. between solids, liquids, and gases through models that relate matter to particles in motion solubility in water of various solids to activities (e.g., heating, stirring, shaking, crushing) on the rate of solution use of solubility differences to identify components of a mixture (e.g., chromatography)	**RST.6.8.9**		
2c	Investigate and describe the effects of forces acting on objects. gravity, friction, magnetism, drag, lift, & thrust forces affecting the motion of objects	**RST.6.8.3 RST.6.8.8**		
2d	Investigate the mechanical and chemical forms of energy and demonstrate the transformations from one form to another. energy transformations represented in the use of common household objects mechanical energy transformed to another form of energy (e.g., vibrations, heat through friction) chemical energy transformed to another form of energy (e.g., light wands, lightning bugs, batteries, bulbs)	**RST.6.8.5**		

2e	Apply the laws of reflection and refraction to explain everyday phenomena. properties of reflection, refraction, transmission, & absorption of light images formed by plane, convex, and concave lenses and mirrors, and reflecting and refracting telescopes objects that are opaque, transparent, and translucent	**RST.6.8.1**		
2f	Develop a logical argument to explain how the forces which affect the motion of objects has real-world applications including (but not limited to) examples of Mississippi's contributions as follows: Automotive industry (Nissan's new production plant is located in Canton, MS; Toyoto's new facility is in Blue Springs, MS. Aerospace industry (The Raspet Flight Research Laboratory, housed at Mississippi State University, is one of the premier university flight research facilities in the country.) Shipbuilding industry (Ingall's Shipbuilding of Pascagoula, MS is a leading supplier of marine vessels to the United States Navy.)	**RST.6.8.1** **RST.6.8.5**		
2g	Predict and explain factors that affect the flow of heat in solids, liquids, and gases. Insulating factors in real-life applications (e.g., building, construction, clothing, animal coverings) conduction, convection, or radiation factors used to enhance the flow of heat temperature differences on the movement of water	**RST.6.8.9**		
1a*	Design and conduct an investigation that includes predicting outcomes, using	**RST.6.8.3** **RST.6.8.9** **RST.6.8.6**		

	experimental controls, and making inferences.			
1b*	Distinguish between qualitative and quantitative observations and make inferences based on observations.	**RST.6.8.8**		
1f*	Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem.	**RST.6.8.1**		

Fourth Nine Weeks

Competency	Mississippi Science Framework Objectives	CCSS	Date Taught	Assessment
3a	Describe and predict interactions (among and within populations) and the effects of these interactions on population growth to include the effects on available resources. • 1) how cooperation, competition, and predation affect population growth • 2) effects of overpopulation within an ecosystem on the amount of resources available • 3) how natural selection acts on a population of organisms in a particular environment via enhanced reproductive success	**RST.6.8.5**		
3e	Construct a diagram of the path of solar energy through food webs that include humans and explain how the organisms relate to each other. •1 autotrophs and heterotrophs, producers, consumers and decomposers •2 predator/prey relationships. competition, symbiosis, parasitism, commensalism, mutualism	**RST.6.8.2**		
4d	Summarize the causes and effects of pollution on people and the environment (e.g., air pollution, ground pollution, chemical pollution) and justify how and why pollution should be minimized.	**RST.6.8.4**		
4g	Research and cite evidence of current resources in Earth's systems. •1 resources such as fuels, metals, fresh water, wetlands, and farmlands •2 methods being used to extend the use of	**RST.6.8.4** **RST.6.8.8**		

	Earth's resources through recycling, reuse, and renewal •3 factors that contribute to and result from runoff {e.g., water cycle, groundwater, drainage basin (watershed)}			
1g*	Infer explanations for why scientists might draw different conclusions from a given set of data.	**RST.6.8.8**		
1h*	Recognize and analyze alternative explanations and predictions.	**RST.6.8.8**		