7th Grade Science Pacing Guide 2017 - 2018

1st Nine Weeks

August 7, 2017 – October 6, 2017

Labor Day Holiday: September 4, 2017
Progress Reports Issued: September 7, 2017
1st 9 Weeks Assessments: October 3, 4, 5, & 6

Unit	Objective	Mississippi 7th Grade Science Framework Objectives	Tentative teaching Date(s)
Scientific Inquiry	**1b**	**1b.** Discriminate among observations, inferences, and predictions. (DOK 1)	**Week 1** August 7-11, 2017
Scientific Inquiry	**1c**	**1c.** Collect and display data using simple tools and resources to compare information (using standard, metric, and non-standard measurement). (DOK 2) • 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, pH indicators, stopwatches) • Types of data (e.g., linear measures, mass, volume, temperature, area, perimeter) • Resources (e.g., Internet, electronic encyclopedias, journals, community resources, etc.)	**Week 1** August 7-11, 2017
Scientific Inquiry	**1d**	**1d.** Organize data in tables and graphs and analyze data to construct explanations and draw conclusions. (DOK 3)	**Week 2** August 14-18, 2017
Scientific Inquiry	**1e**	**1e.** Communicate results of scientific procedures and explanations through a variety of written and graphic methods. (DOK 2)	**Week 2** August 14-18, 2017
Physical Science	**2a & 2b**	**2a**. Identify patterns (e.g., atomic mass, increasing atomic numbers) and common characteristics (metals, nonmetals, gasses) of elements found in the periodic table of elements. (DOK 2) **2b**. Categorize types of chemical changes, including synthesis and decomposition reactions, and classify acids and bases using the pH scale and indicators. (DOK 2)	**Week 3** August 21-25, 2017
Physical Science	**2a** & **2b**	**2a**. Identify patterns (e.g., atomic mass, increasing	**Week 4**

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		atomic numbers) and common characteristics (metals, nonmetals, gasses) of elements found in the periodic table of elements. (DOK 2) **2b**. Categorize types of chemical changes, including synthesis and decomposition reactions, and classify acids and bases using the pH scale and indicators. (DOK 2)	August 28- September 1, 2017
Physical Science	**2d, 2e**	**2d.** Describe cause and effect relationships of electrical energy. (DOK 2) • Energy transfers through an electric circuit (using common pictures and symbols) • Electric motor energy transfers (e.g., chemical to electrical to mechanical motion) and generators **2e**. Distinguish how various types of longitudinal and transverse waves (e.g., water, light, sound, seismic) transfer energy. (DOK 2) • Frequency • Wavelength • Speed • Amplitude	**Week 5** September 4-8, 2017
Physical Science	**2c, 2f**	**2c**. Compare the force (effort) required to do the same amount of work with and without simple machines (e.g., levers, pulleys, wheel and axle, inclined planes). (DOK 2) **2f**. Describe the effects of unbalanced forces on the speed or direction of an object's motion. (DOK 2) • Variables that describe position, distance, displacement, speed, and change in speed of an object • Gravity, friction, drag, lift, electric forces, and magnetic forces	**Week 6** September 11-15, 2017
Physical Science	**2c, 2f**	**2c**. Compare the force (effort) required to do the same amount of work with and without simple machines (e.g., levers, pulleys, wheel and axle, inclined planes). (DOK 2) **2f**. Describe the effects of unbalanced forces on the speed or direction of an object's motion. (DOK 2) • Variables that describe position, distance,	**Week 7** September 18 - 22, 2017

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		displacement, speed, and change in speed of an object • Gravity, friction, drag, lift, electric forces, and magnetic forces	
Review	1b-1c-1d-1e-2a-2b-2c- 2d – 2e- 2f	**Reviewing Multiple Skills** **1b-1c-1d-1e-2a-2b-2d – 2e- 2f – 2g**	**Week 8** September 25 - 29, 2017
		Comprehensive 1st 9 Weeks Assessment	**Week 9** **October 2-6, 2017**

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2nd Nine Weeks

October 10, 2017 – December 20, 2017

Report Card Issued: October 12
Fall Break: October 9, 10
District Professional Development: October 10
Progress Reports Issued: November 9
Thanksgiving Holiday Break: November 20 – 24
Christmas Holiday Break: December 21-January 3, 2018
2nd 9 Weeks Assessments: December 18, 19, 20

Unit	Objective	Mississippi 7th Grade Science Framework Objectives	Tentative teaching Date(s)
Scientific Inquiry	**1a**	**1a.** Design, conduct, and draw conclusions from an investigation that includes using experimental controls	**Week 10** October 11-13, 2017
Scientific Inquiry	**Review 1b-1e**	**1b**. Discriminate among observations, inferences, and predictions. (DOK 1) **1c**. Collect and display data using simple tools and resources to compare information (using standard, metric, and non-standard measurement). (DOK 2) • 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, pH indicators, stopwatches) • Types of data (e.g., linear measures, mass, volume, temperature, area, perimeter) • Resources (e.g., Internet, electronic encyclopedias, journals, community resources, etc.) **1d**. Organize data in tables and graphs and analyze data to construct explanations and draw conclusions. (DOK 3) **1e**. Communicate results of scientific procedures and explanations through a variety of written and	**Week 10** October 11-13, 2017

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		graphic methods. (DOK 2)	
Scientific Inquiry	**1f**	**1f.** Explain how science and technology are reciprocal. (DOK 1)	**Week 10** October 11-13, 2017
Life Science	**3b**	**3b-** Classify the organization and development of living things to include prokaryotic (e.g., bacteria) and eukaryotic organisms (e.g., protozoa, certain fungi, multicellular animals and plants). (DOK 2)	**Week 11** October 16-20, 2017
Life Science	**3c**	**3c.** Evaluate how health care technology has improved the quality of human life (e.g., computerized tomography [CT], artificial organs, magnetic resonance imaging [MRI], and ultrasound). (DOK 3)	**Week 12** October 23-27, 2017
Life Science	**3c**	**3c.** Evaluate how health care technology has improved the quality of human life (e.g., computerized tomography [CT], artificial organs, magnetic resonance imaging [MRI], and ultrasound). (DOK 3)	**Week 13** October 30- November 3, 2017
Life Science	**3d**	**3d**. Compare and contrast reproduction in terms of the passing of genetic information (DNA) from parent to offspring. (DOK 2) • Sexual and asexual reproduction • Reproduction that accounts for evolutional adaptability of species • Mitosis and meiosis • Historical contributions and significance of discoveries of Gregor Mendel and Thomas Hunt Morgan as related to genetics	**Week 14** November 6-10, 2017
Life Science	**3d**	**3d**. Compare and contrast reproduction in terms of the passing of genetic information (DNA) from parent to offspring. (DOK 2) • Sexual and asexual reproduction • Reproduction that accounts for evolutional adaptability of species • Mitosis and meiosis • Historical contributions and significance of discoveries of Gregor Mendel and Thomas Hunt Morgan as related to genetics	**Week 15** November 13-17, 2017

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Life Science	**3e**	**3e**. Compare and contrast how organisms obtain and utilize matter and energy. (DOK 1) • How organisms use resources, grow, reproduce, maintain stable internal conditions (homeostasis) and recycle waste • How plants break down sugar to release stored chemical energy through respiration	**Week 16** November 27- December 1, 2017
Life Science	**3a**	**3a.** Assess how an organism's chances for survival are influenced by adaptations to its environment. (DOK 2) • The importance of fungi as decomposers • Major characteristics of land biomes (e.g., tropical rainforests, temperate rainforests, deserts, tundra, coniferous forests/taiga, and deciduous forests) • Adaptations of various plants to survive and reproduce in different biomes	**Week 17** December 4-8, 2017
Review	**1a-1f, 2c, 3a, 3b, 3c, 3d, and 3e**	**Reviewing Multiple Skills:** **1a-1f, 2c, 3a, 3b, 3c, 3d, and 3e**	**Week 18** December 11 - 15, 2017
		Comprehensive 2nd 9 Weeks Assessment	**Week 19** **December 18-20 , 2017**

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3rd Nine Weeks

January 4, 2018 – March 9, 2018

Report Cards Issued: January 11
Dr. MLK Holiday: January 15
Progress Reports Issued: February 8
President's Day Holiday: February 19
3rd 9 Weeks Assessments: March 6, 7, 8, & 9

Unit	Objective	Mississippi 7th Grade Science Framework Objectives	Tentative teaching Date(s)
Scientific Inquiry	**1a-1e Review**	**1a.** Design, conduct, and draw conclusions from an investigation that includes using experimental controls **1b**. Discriminate among observations, inferences, and predictions. (DOK 1) **1c**. Collect and display data using simple tools and resources to compare information (using standard, metric, and non-standard measurement). (DOK 2) • 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, pH indicators, stopwatches) • Types of data (e.g., linear measures, mass, volume, temperature, area, perimeter) • Resources (e.g., Internet, electronic encyclopedias, journals, community resources, etc.) **1d**. Organize data in tables and graphs and analyze data to construct explanations and draw conclusions. (DOK 3) **1e**. Communicate results of scientific procedures and explanations through a variety of written and	**Week 20** January 8-12, 2018

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		graphic methods. (DOK 2)	
Scientific Inquiry	**1f**	**1f.** Explain how science and technology are reciprocal. (DOK 1)	**Week 20** January 8-12, 2018
Scientific Inquiry	**1g**	**1g.** Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. (DOK 3)	**Week 20** January 8-12, 2018
Scientific Inquiry	**1h**	**1h**. Make relationships between evidence and explanations. (DOK 2)	**Week 20** January 8-12, 2018
Earth and Space Science	**4a, 4b**	**4a**. Justify the importance of Earth materials (e.g., rocks, minerals, atmospheric gases, water) to humans. (DOK 3) **4b**. Explain the causes and effects of historical processes shaping the planet Earth (e.g., movements of the continents, continental plates, subduction zones, trenches, etc.) (DOK 2)	**Week 21** January 15-19, 2018
Earth and Space Science	**4a, 4b**	**4a**. Justify the importance of Earth materials (e.g., rocks, minerals, atmospheric gases, water) to humans. (DOK 3) **4b**. Explain the causes and effects of historical processes shaping the planet • Earth (e.g., movements of the continents, continental plates, subduction zones, trenches, etc.) (DOK 2)mid-ocean ridges, within intra-plate regions, at island arcs, and along some continental edges • Modern distribution of continents to the movement of lithospheric plates since the formation of Pangaea	**Week 22** January 22-26, 2018
Earth and Space Science	**4d,4g**	**4d**. Conclude why factors, such as lack of resources and climate can limit the growth of populations in specific niches in the ecosystem. (DOK 2) • Abiotic factors that affect population, growth, and size (quantity of light, water, range of temperatures, soil compositions) • Cycles of water, carbon, oxygen, and	**Week 23** January 29-February 2, 2018

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		nitrogen in the environment • Role of single-celled organisms (e.g., phytoplankton) in the carbon and oxygen cycles • **4g**. Research and evaluate the use of renewable and nonrenewable resources and critique efforts in the United States including (but not limited) to Mississippi to conserve natural resources and reduce global warming. (DOK 3) • How materials are reused in a continuous cycle in ecosystems, (e.g., Mississippi Ethanol Gasification Project to develop and demonstrate technologies for the conversion of biomass to ethanol) • Benefits of solid waste management (reduce, reuse, recycle) • Conserving renewable and nonrenewable resources (e.g., The Recycling and Solid Waste Reduction Program in Jackson, MS)	
Earth and Space Science	**4e**	**4e.** Research and develop a logical argument to support the funding of NASA's Space Programs. (DOK 3) • Space exploration (e.g., telescopes, radio telescopes, X-ray telescopes, cameras, spectro-meters, etc.) • Spinoffs (e.g., laser, pacemaker, dehydrated food, flame retardant clothing, global positioning system [GPS], satellite imagery, global weather information, diagnostic imagery) • Mississippi's contributions to the space industry	**Week 24** February 5-9, 2018
Earth and Space Science	**4f**	**4f**. Distinguish the structure and movements of objects in the solar system. (DOK 2) Sun's atmosphere (corona, chromosphere, photosphere and core) • How phenomena on the sun's surface (e.g., sunspots, prominences, solar wind, solar flares) affect Earth (e.g., auroras, interference in radio and television communication)	**Week 25** February 12-16, 2018

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		• Eclipses relative to the position of the sun, moon, and Earth • Contributions of Copernicus, Galileo, and Kepler in describing the solar system	
Earth and Space Science	**4c, 4h**	**4c**. Describe the causes and effects of heat transfer as it relates to the circulation of ocean currents, atmospheric movement, and global wind patterns (e.g., trade winds, the jet stream). Provide examples of how these global patterns can affect local weather. (DOK 2) • Characteristics of the Gulf Stream and other large ocean currents • Effects on climate in Eastern North America and Western Europe • Effects of heat transfer to the movement of air masses, high and low pressure areas, and fronts in the atmosphere **4h**. Predict weather events by analyzing clouds, weather maps, satellites, and various data. (DOK 3)	**Week 26** February 19-23, 2018
Earth and Space Science	**1a-1h, 4a, 4b, 4c, 4d, 4e, 4f, 4g, and 4h**	**Review of Multiple Skills:** **1a-1h, 4a, 4b, 4c, 4d, 4e, 4f, 4g, and 4h**	**Week 27** February 26-March 2, 2018
		Comprehensive 3rd 9 Weeks Assessment	**March 6-9, 2018**