

Lowndes County Science Pacing Guide

MS Frameworks Pacing Guide Worksheet

Grade Level: 8

Grading Period: First – 9 Wks

Chapter/Unit	Lesson Topic	Objective Number	Approximate Days Needed	Suggested Teaching Strategies
8 th Properties of Matter 8th Chapter 17/Unit 6	Inside the Atom	. Analyze the properties of matter. (P) d. Distinguish among atoms, ions, and molecules	10 days	(DOK 2)Students will construct a color-coded model of an atom and its ions.
8 th Properties of Matter 8th Chapter 19/Unit 6	The Periodic Table	8. Investigate structure, properties, and changes of matter. (E, P) c. Differentiate between common elements that combine chemically to produce compounds. c. Compare common metals, nonmetals, and metalloids by name, symbol, and characteristics. d. Recognize elements that will combine to form compounds. b. Interpret information given on the periodic table to predict reactions between elements.	10 days	(DOK 2)Students will prepare a mixtures, and draw models of elements
8 th Properties of Matter 8th Chapter 19/Unit 6	Chemical Bonds	Investigate structure, properties, and changes of matter. (E, P) c. Differentiate between common elements that combine chemically to produce compounds. 7 th Grade 8. Investigate chemical and physical properties of matter. (P) d. Recognize elements that will combine to form compounds. 8 th Grade 8. Analyze the properties of matter. (P) c. Write simple formulas for compounds.	10 days	(DOK 2)Students will draw models of ionic and covalent bonds.
8 th Properties of Matter 8th Chapter 20/Unit 6	Chemical reactions	8. Analyze the properties of matter. (P) b. Interpret information given on the periodic table to predict reactions between elements. c. Write simple formulas for compounds.	10 days	(DOK 2)Distinguish between the types of chemical reactions.

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Grade Level: 8

Grading Period :Second – 9 Wks

Chapter/Unit	Lesson Topic	Objective Number	Approximate Days Needed	Suggested Teaching Strategies
8 th Earth Structures and Processes 6 th Ch. 8/Unit 3 7 th Ch.13/Unit 4	Cycles in Nature	5. Investigate atmospheric movements that affect the Earth's system. (E, P) b. Use weather maps for analyzing and predicting weather. c. Construct a weather map to forecast the weather over a region, giving temperature in degrees	10 days	(DOK 2)Draw the water cycle, identify the stages, and explain how mountain ranges or large bodies of water will change the distribution of water.
8 th Earth Structures and Processes 6 th Ch. 11/Unit 4 8 th Ch. 15/Unit 5	Weather	8 th Grade Celsius 5. Investigate atmospheric movements that affect the Earth's system. (E, P) b. Use weather maps for analyzing and predicting weather. c. Construct a weather map to forecast the weather over a region, giving temperature in degrees.	10 days	(DOK 3) Using weather map symbols, predict the weather from a given weather map.
Properties of Energy	Investigate the transfer of energy	Investigate the transfer of energy a. Measure the transfer of heat between two objects using the Celsius scale. b. Illustrate wave motion in different media. c. Research and discuss energy transformation. d. Convert one energy form to another. e. Analyze mechanical waves (sound waves, water waves, earthquake waves, etc.) and electromagnetic waves (light, infrared, x-rays, etc.).	10 days	DOK 4)The students will do the following activities: <ul style="list-style-type: none"> • Using a wide pan of water, ping-pong ball, and a small rock, students will demonstrate how a wave moves outward from a disturbance. • Students will model how making waves on a long (3 m) rope can vary amplitude, wavelength, and frequency. Tie one end of the rope to a fixed object; students move the free end to produce waves. <p>Students design an experiment to measure how different colors (black, white, silver) absorb and release infrared radiation</p>

8 th Earth Structures and Processes 6 th Ch. 13/Unit 5 7 th Ch. 14/Unit 5 8 th Ch. 12/Unit 3	Earth's Past	8 th Grade 6. Investigate the Earth's geological past. (E, L) a. Identify the components/stages of a geological timetable and discuss how the environment (including animals and landforms) has changed in each period. b. Describe methods and tools used in dating rocks and fossils. c. Discuss Mississippi's geological areas.	10 days	(DOK 2)Students will illustrate a geologic timeline from the oldest known period through present day.
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Grade Level: 8

Grading Period: 3rd – 9 Wks

Chapter/Unit	Lesson Topic	Objective Number	Approximate Days Needed	Suggested Teaching Strategies
8 th Properties of Energy 8th Chapter 21/Unit 7	Motion and Momentum	6th Grade 9. Evaluate the effect of force on the motion of an object. (E, L, P) a. Analyze, measure, and graph the motion of an object. 7th Grade 9. Investigate motions and forces. (P) a. Using SI units, measure and graph the motion of an object by its position, direction of motion, and speed. 8th none	10 days	Dok 1)Calculating: Speed, graphing motion, acceleration, & momentum (DOK 4)The students will solve the following motion problem: Train A and B left at the same time at a distance of 100 miles from each other. Train A passed Station one 1 hour from the start time which was at a distance of 20 miles from the start. Train B passed Station two 1 hour from the start time which was at a distance of 50 miles. Both trains are traveling on the same track how far will each train travel before they collide? Train A = 28.57 miles Train B = 71.42 miles
Properties of Energy	Force & Newton's Laws	6th Grade 9. Evaluate the effect of force on the motion of an object.. (E, L, P) b. Experiment and measure the effect of force on an object. 7th Grade 9. Evaluate the effect of force on the motion of an object. (E, L, P)	15 days	(DOK 1)Calculating: Force, and Newton's 2 nd Law (DOK 4)The students will be place in small groups to design and construct an experiment that will show how the increase in mass will increase the force. The

		<p>b. Investigate Newton's Laws of Motion.</p> <p>8th Grade</p> <p>9. Explore the application of simple and complex machines. (P)</p> <p>a. Apply and demonstrate Newton's Three Laws of Motion using simple machines.</p> <p>b. Design and construct simple and complex machines.</p>		<p>students will make a prediction how the mass will affect the force in the activity. Students will have to record, graph, and report out in an oral presentation the results.</p>
<p>8th Reproduction & Heredity 6th Ch. 8 & 9/Unit 3 7th Ch. 8, 9, 10, & 11/Unit 3 8th Ch. 11/Unit 3</p>	<p>Reproduction & Heredity</p>	<p>6th Grade</p> <p>2. Compare and classify the reproduction and heredity of organisms. (L)</p> <p>a. Differentiate between sexual and asexual reproduction.</p> <p>b. Determine how traits are used to classify individual inherited patterns.</p> <p>7th Grade</p> <p>3. Determine how organisms co-exist in their environment. (L)</p> <p>a. Demonstrate that cells interact with their environment.</p> <p>b. Investigate homeostasis as it relates to plants and animals.</p> <p>8th Grade</p> <p>2. Analyze genetic continuity of organisms. (L)</p> <p>a. Define meiosis by relating the process to genetic continuity.</p> <p>b. Compare and contrast genotype and phenotype.</p> <p>c. Explain the advantages and disadvantages of both hybrid and purebred species of plants and animals.</p> <p>d. Examine genes as a section of a DNA molecule that carries the genetic code for inherited traits.</p>	<p>15 days</p>	<p>(DOK 4)The students will do the following:</p> <p>Students will construct the Punnett square and predict the percentages of hybrids, purebred traits, phenotypes, and genotypes.</p>

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Grading Period: 4th – 9 Wks

<p>8th Earth and Space Systems and Interactions 6th Ch. 17/Unit 5 7th Ch. 17/Unit 5 8th Ch. 4/Unit 1</p>	<p>Solar System</p>	<p>. Describe the appearance and nature of our galaxy and the universe. (E)</p> <p>b. Identify and describe deep-sky objects visible from Earth (diffuse nebulae, galactic and globular clusters, planetary nebulae, supernova remnants, "spiral nebulae").</p>	<p>10 days.</p>	<p>Make a scale model of the solar system and use it to discover how the orbital speed of each of the planets will be affected</p>
<p>8th Ecology & Biodiversity 6th Ch. 9/Unit 3 7th Ch. 12 & 13/ Unit 4 8th Ch. 13 & 14/ Unit 4</p>	<p>Ecology & Biodiversity</p>	<p>8th Grade</p> <p>3. Determine the economic factors that influence the regulation and behavior of organisms. (L,E)</p> <p>a. Appraise the economic factors associated with regulations and protection of the environment. b. Explain environmental degradation to include overpopulation, biodiversity, sea-level rise, and enhanced greenhouse effect.</p> <p>4. Examine the physical factors of populations as they relate to the formation of ecosystems. (L, E)</p> <p>a. Analyze the adaptation of representative organisms to aquatic or terrestrial environments. b. Evaluate the effects of urbanization on aquatic or terrestrial ecosystems. c. Analyze how predation and food webs help structure communities.</p>	<p>15 days</p>	<p>The students will conduct a research on endangered species in the USA. ON one side of poster board, draw the organism in its habitat. On the other side, list reasons why the organism is becoming extinct and suggest ways to help save it.</p>
<p>8th Unit 3 Ch. 11 7th Unit 2 Ch. 3-5 6th Unit 1 Ch. 1-3</p>	<p>Cell Structure and Function</p>	<p>8th Grade</p> <p>1. Analyze and relate structure and function in living systems. (L)</p> <p>a. Analyze body systems and their functions. b. Relate interactions among body systems. c. Identify the parts of and show the interaction between the reproductive and endocrine systems. d. Examine diseases that are the result of body system failures or infection by other organisms.</p>	<p>20 days</p>	<p>(DOK 4)The students will do the following:</p> <ol style="list-style-type: none"> 1. Prepare slides using pond water to view paramecium, rotifers, etc. Prepare slides using onion tip roots. View slides through microscope and draw what is observed. 2. Make a model of the plant and animal cell 3. Make a Venn diagram to compare and contrast the plant and animal cell

parts

The teacher will give the students a 10x10-meter area on the campus. Students will observe their area and record the living and non-living components within the area and how they interact.