

**Lowndes County Science Pacing Guide**

**MS Frameworks Pacing Guide Worksheet for Science**

**Grade Level: 7th  
Grading Period: 1st – 9 Wks**

<b>Chapter/Unit</b>	<b>Lesson Topic</b>	<b>Objective Number</b>	<b>Approximate Days Needed</b>	<b>Suggested Teaching Strategies</b>
	Scientific method <ul style="list-style-type: none"> <li>• Tools</li> <li>• Organize data</li> </ul>	1. Design and conduct a scientific investigation utilizing appropriate process skills and technology	7 days	Introduce/reinforce scientific method ongoing throughout the year...process skills
	Cells	3. b. Classify the organization and development of living things to include prokaryotic and eukaryotic organisms.	15 days	Review cell organelles and functions and be able to identify Student create a cell model Videos Viral cell reproduction
	Health care technology	3. c. Evaluate how health care technology has improved the quality of human life (e.g., computerized tomography [CT], artificial organs, magnetic resonance imaging [MRI], ultrasound.) DOK 3	5 days	Use internet to research health care technology and create brochure defining each Health fair Sonographer to come talk with students Community resources: Red Cross Student Nurses Parent health care providers
	Plant adaptations	3.a. assess how an organisms chances for survival are influenced by adaptations to its	6 days	Students research various biomes using internet, encyclopedia, and community resources

		<p>environment DOK 2</p> <ul style="list-style-type: none"> <li>• Fungi</li> <li>• Land biomes</li> </ul> <p>Plant adaptations for survival/repro</p>		
	Ecosystems/niches	<p>4.d. conclude why factors, such as lack of resources and climate can limit the growth of populations in specific niches in the ecosystem. DOK 2</p>	15 days	<p>Draw and label water, nitrogen, carbon, and oxygen cycles. Pose species problems occurring in population and hypothesize how abiotic factors contributed to decline</p>

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**Grade Level: 7  
Grading Period: 2nd– 9 Wks**

<b>Chapter/Unit</b>	<b>Lesson Topic</b>	<b>Objective Number</b>	<b>Approximate Days Needed</b>	<b>Suggested Teaching Strategies</b>
Life Science		<b>3. Distinguish the characteristics of living things and explain the interdependency between form and function using living systems of the human organism to illustrate this relationship</b>	4 days	
	DNA <ul style="list-style-type: none"> <li>• Sexual/asexual Reproduction</li> <li>• Mitosis/meiosis</li> </ul>	3. d. Compare and contrast reproduction in terms of the passing of genetic information (DNA) from parent to offspring.	4 days sexual/asexual 4 days mitosis/meiosis	Review structure of DNA Heredity Interview family for traits evident Dominant/recessive traits Punnett squares

		3. e. Compare and contrast how organisms obtain and utilize matter and energy	10 days	Chemical equations for photosynthesis and respiration
		4. g. Research and evaluate the use of renewable and nonrenewable resources and critique efforts in the US including MS to conserve natural resources and reduce global warming DOK 3	5 days	Create and implement recycling program
	weather	4. c. describe the causes and effects of heat transfer as it relates to the circulation of ocean currents, atmospheric movement, and global wind patterns DOK 2	12 days	Experiment with convection current to show heat transfer Study weather world maps relate to global position (Gulf Stream, equator)

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**Grade Level: 7th  
Grading Period: 3rd– 9 Wks**

<b>Chapter/Unit</b>	<b>Lesson Topic</b>	<b>Objective Number</b>	<b>Approximate Days Needed</b>	<b>Suggested Teaching Strategies</b>
Physical Science	Periodic Table of elements	<p><b>2. Develop an understanding of chemical and physical changes, interactions involving energy, and forces that affect motion of objects.</b></p> <p>2. a. Identifying patterns (e.g., atomic mass, increasing atomic numbers) and common characteristics (metals, nonmetals, gases) of elements found in the periodic table of elements. DOK 2</p>	10 days	<ul style="list-style-type: none"> <li>• Distribute copy of periodic table, guide students to look for patterns &amp; commonalities.</li> <li>• Practice identifying atomic mass, atomic number, energy levels, electrons.</li> <li>• Illustrate various elements using M&amp;Ms as electrons on valence (energy) levels.</li> </ul>
	Newton’s Laws Position, distance, displacement, speed, gravity, friction, drag, lift	2. f. Describe the effects of unbalanced forces on the speed or directions of an objects motion. DOK 2	5 days	<ul style="list-style-type: none"> <li>• use doll and ramp to demo inertia. Provide other materials for students to design small group demos and show classmates</li> <li>• Students conduct</li> </ul>

				experiment using balloons, straws, yarn and fishing line for Newton's 3 <sup>rd</sup> Law=Action/Reaction
	Chemical change	2. b. categorize types of chemical changes, including synthesis and decomposition reactions, and classify acids and bases using PH scale and indicators. DOK 2	4 days	Review chemical and physical changes Conduct experiments of chemical changes where students defend chemical change by evidence shown
	Simple machines	2. c. compare force required to do the same amount of work with and without simple machines	8 days	Students bring in materials to create simple machine to demonstrate how to use it for work
	Electricity	2.d. describe cause and effect relationships of electrical energy DOK 2	5 days	Create circuits
	Waves <ul style="list-style-type: none"> <li>• Water</li> <li>• Light</li> <li>• Sound</li> <li>• seismic</li> </ul>	2. e. Distinguish how various types of longitudinal and transverse waves transfer energy	5 days	Research various kinds of waves to demonstrate frequency, wavelength, speed, and amplitude of them

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**Grade Level: 7th  
Grading Period: 4th– 9 Wks**

<b>Chapter/Unit</b>	<b>Lesson Topic</b>	<b>Objective Number</b>	<b>Approximate Days Needed</b>	<b>Suggested Teaching Strategies</b>
	Earth and Space science	<b>4. Describe the properties and structure of the sun and the moon with respect to the Earth</b>  4.a. Justify the importance of Earth materials to humans	5 days	Research how materials are used in everyday lives of humans, availability of materials, location of materials
	Plate tectonics	4. b. explain the causes and effects of historical processes shaping the planet Earth	14 days	Pangaea maps Video Internet research
	NASA	4. e. Research and develop a logical argument to support the funding of NASA's Space Programs DOK 3	5 days	Debate Create posters describing spinoffs Video Internet field trip

	SPACE	4. f. Distinguish the structure and movements of objects in the solar system	10 days	Research Copernicus, Galileo, Kepler. Create flash cards depicting moon phases Research sun spots, solar wind, solar flares
		4. h. Predict weather events by analyzing clouds, weather maps, satellites and various data DOK 3	14 days	Create kinds of clouds using cotton Study weather maps, track weather, students video tape and produce weather report to broadcast through school Farmer's Almanac Speakers from MSU meteorology dept