



# Science/S.S. – Fourth Grade 2024-25

## First Quarter

SCIENCE	SOCIAL STUDIES
<p><b>Week 1, Aug 5-9</b></p> <p><b>Students collect data for 4.ESS1.2 (shadows/patterns/day &amp; night), which is taught in January: Draw shadows &amp; chart data in science journals.</b></p> <p><b>It is important that students collect shadow data in the same spot at different times throughout the 1st, 2nd, and 3rd quarters as noted in this pacing guide.</b></p>	<p><b>The War for Independence</b></p> <ul style="list-style-type: none"> <li>4.01 Identify and analyze the impact of conflicts between colonists and American Indian nations brought on by the intrusions of colonization.</li> <li>4.02 Describe the contributions of Benjamin Franklin during this era, including the development of the Albany Plan of Union and the “Join or Die” political cartoon.</li> <li>4.03 Analyze the causes and consequences of the French and Indian War, and recognize Fort Loudoun's role in it.</li> <li>4.04 Evaluate how political, religious, and economic ideas and interests brought about the American Revolution.</li> </ul>
<p><b>Week 2, Aug 12-16</b></p> <p><b>Ongoing plant experiment:</b></p> <p><b>4.ETS1.1</b> Categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p style="text-align: center;"><b>Make observations of plants and revisit standard 4.LS2.1 again to understand the process of photosynthesis.</b></p>	<ul style="list-style-type: none"> <li>4.05 Explain the different forms of protests colonists used to promote change in British policies, including: the Boston Tea Party, tarring and feathering, letter writing, and boycotts.</li> <li>4.06 Determine the historical and present-day significance of the Declaration of Independence, including the roles of Thomas Jefferson and John Hancock.</li> <li>4.07 Contrast how the principles set forth in the Declaration of Independence clashed with treatment of different groups including: women, slaves, and American Indians.</li> </ul>
<p><b>Week 3, Aug 19-23</b></p> <p><b>Photosynthesis</b></p> <p><b>4.LS2.1</b> Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen); and that this process is called photosynthesis.</p> <p style="text-align: center;"><b>Students observe plants again.</b></p>	

<p><b>Week 4, Aug 26-30</b>  <b>Food Chains/Webs</b>  <b>4.LS2.2</b> Develop models of terrestrial and aquatic food chains to describe the movement of energy among producers, herbivores, carnivores, omnivores, and decomposers.</p> <p><i>Students observe plants again.</i></p>	
<p><b>Week 5, Aug 3-6 (4-day week)</b>  <b>4.LS2.3</b> Using information about the roles of organisms (producers, consumers, decomposers), evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p><i>Students observe plants again.</i></p>	
<p><b>Week 6, Sept 9-13</b>  <b>Damaging the Balance of an Ecosystem</b>  <b>4.LS2.4</b> Develop and use models to determine the effects of introducing a species to, or removing a species from an ecosystem and how either one can damage the balance of an ecosystem.</p> <p><i>Students observe plants again.</i></p>	
<p><b>Week 7, Sept 16-20</b>  <b>Adapting to Environmental Changes</b>  <b>4.LS2.5</b> Analyze and interpret data about changes (land characteristics, water distribution, temperature, food, and other organisms) in the environment and describe what mechanisms organisms can use to affect their ability to survive and reproduce.</p> <p><i>Students observe plants again.</i></p>	
<p><b>Week 8, Sept 23-27</b>  <b>Fossils</b>  <b>4.LS4.1</b> Obtain information about what a fossil is and ways a fossil can provide information about the past.</p> <p><i>Students make final plant observations.</i></p>	

**Week 9, Sept 30-Oct 4**

**District Science Checkpoint Assessment 1**  
**(4.LS2.1-5, 4.LS4.1)**

**Collect data for 4.ESS1.2**  
**(shadows/patterns/day & night): Draw**  
**shadows and chart data.**

- **4.08** Determine the importance of the important groups to the American Revolution.
- **4.09** Examine major events and battles of the American Revolution.
- **4.10** Evaluate the contributions made by women during the American Revolution.
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# Science/S.S. – Fourth Grade 2024-25

## Second Quarter

SCIENCE	SOCIAL STUDIES
<p><b>Week 1, Oct 14-18</b> <b>Error Analysis/Retesting in Groups</b></p>	<p><b>Creating a New Government</b></p> <ul style="list-style-type: none"><li>4.11 Identify the weaknesses of the Articles of Confederation, including: no power to tax, weak central government, and the impact of Shays' Rebellion.</li><li>4.12 Identify the roles of James Madison and George Washington during the Constitutional Convention, and analyze the major issues debated, including: Distribution of power between the states and federal government, Great Compromise, Slavery, and the Three-Fifths Compromise</li><li>4.13 Describe the conflict between the Federalists and Anti-Federalists over ratification of the Constitution, including the need for a Bill of Rights.</li></ul>
<p><b>Week 2, Oct 21-25</b></p>	<ul style="list-style-type: none"><li>4.14 Describe the principles embedded in the Constitution, including: Purposes of government (listed in the Preamble), Separation of powers, Branches of government, Checks and balances, Recognition and protection of individual rights (in the 1st Amendment) Building a New Nation</li><li>4.15 Examine the legacy and significance of the presidency of George Washington, including: the creation of cabinet member positions, two-party split, and the push for a strong central government.</li><li>4.16 Map the exploration of the Louisiana Territory, and describe the events, struggles, and successes of the purchase, including the significance of: Meriwether Lewis, William Clark, and Sacagawea.</li></ul>

<p><b>Week 3, Oct 28-Nov 1</b>  <b>Weathering, Erosion, and Deposition</b>  <b>4.ESS1.1</b> Generate and support a claim with evidence that over long periods of time, erosion (weathering and transportation) and deposition have changed landscapes and created new landforms.</p>	
<p><b>Week 4, Nov 4-8 (4-day week)</b>  <b>4.ESS2.1</b> Collect and analyze from observations to provide evidence that rocks, soils, and sediments are broken into smaller pieces through mechanical weathering (frost wedging, abrasion, tree root wedging) and are transported by water, ice, wind, gravity, and vegetation.</p>	
<p><b>Week 5, Nov 11-15</b>  <b>Location Patterns of Earth's Landform</b>  <b>4.ESS2.2</b> Interpret maps to determine that the location of mountain ranges, deep ocean trenches, volcanoes, and earthquakes occur in patterns.</p>	
<p><b>Week 6, Nov 18-22</b>  <b>The Environmental Effects of Organisms</b>  <b>4.ESS2.3</b> Provide examples to support the claim that organisms affect the physical characteristics of their regions.  <b>Note: 4.ESS2.3 was introduced in the first quarter, so students should have background knowledge.</b></p> <p><b>Earth's Four Layers</b>  <b>4.ESS2.4</b> Analyze and interpret data on the four layers of the Earth, including thickness, composition, and physical states of these layers.</p>	
<p><b>Week 7, Nov 25-26 (2-day week)</b>  <b>4.ESS2.4 Continued</b></p> <p><b>Collect data for 4.ESS1.2 (shadows/patterns/day &amp; night): Draw shadows and chart data.</b></p>	

<p><b>Week 8, Dec 2-6</b>  <b>Renewable &amp; Nonrenewable Resources</b>  <b>4.ESS3.1</b> Obtain and combine information to describe that energy and fuels are derived from natural resources and that some energy and fuel sources are renewable (sunlight, wind, water) and some are not (fossil fuels, minerals).</p>	
<p><b>Week 9, Dec 9-13</b>  <b>Environmental Effects of Human Activity</b>  <b>4.ESS3.2</b> Create an argument, using evidence from research, that human activity (farming, mining, building) can affect the land and ocean in positive and/or negative ways.</p>	
<p><b>Week 10, Dec 16-20 (4.5-day week)</b></p> <p><b>District Science Checkpoint Assessment 2 (4.ESS1.1, 4.ESS2.1-4, 4.ESS3.1-2)</b></p> <p><b>Error Analysis/Retesting in Groups</b></p>	



# Science/S.S. – Fourth Grade 2024-25

## Third Quarter

SCIENCE	SOCIAL STUDIES
<p><b>Week 1, Jan 7-10 (4-day week)</b></p>	<p><b>4.17</b> Identify major causes, events, and key people of the War of 1812, including: Trade restrictions, Impressment, Battle of New Orleans, Burning of Washington, D.C., Francis Scott Key, Andrew Jackson</p> <p><b>4.18</b> Analyze the impact of Andrew Jackson's presidency, including: the Indian Removal Act, Trail of Tears, and preservation of the union.</p>
<p><b>Week 2, Jan 13-17</b></p> <p><b>Note: Collect final shadow data and combine it with data collected from Q1 and Q2.</b></p>	<p><b>The Growth of the Republic</b></p> <p><b>4.19</b> Contrast regional differences in the early 19th century, including: the emerging urbanization in the North, the expansion of the plantation system in the South, and the developing West</p> <p><b>4.20</b> Analyze the impact of the American Industrial Revolution, including the significance of: Watermills (influence of geography), Robert Fulton (steamboats), Samuel Slater (factory system), Eli Whitney (cotton gin)</p> <p><b>4.21</b> Compare and contrast the characteristics of slave life in plantations, cities, and other farms.</p>
<p><b>Week 3, Jan 21-24 (4-day week)</b></p> <p><b>Earth's Orbit</b></p> <p><b>4.ESS1.2</b> Use a model to explain how the orbit of the Earth and sun cause observable patterns:</p> <ul style="list-style-type: none"><li>a. day and night;</li><li>b. changes in length and direction of shadows over a day.</li></ul> <p><b>4.ETS2.1</b> Use appropriate tools and measurements to build a model.</p>	

<p><b>Week 4, Jan 27-31</b>  <b>Speed/Potential &amp; Kinetic Energy</b>  <b>4.PS3.1</b> Use evidence to explain the cause and effect relationship between the speed of an object and the energy of an object.  <b>4.PS3.2</b> Observe and explain the relationship between potential energy and kinetic energy.  <b>4.ETS1.1</b> Categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.  <b>4.ETS2.2</b> Determine the effectiveness of multiple solutions to a design problem given the criteria and the constraints.</p>	
<p><b>Week 5, Feb 3-7</b>  <b>4.PS3.2 Continued</b>  <b>Stored Energy Conversion</b>  <b>4.PS3.3</b> Describe how stored energy can be converted into another form for practical use.</p>	
<p><b>Week 6, Feb 10-14</b>  <b>Simple Waves</b>  <b>4.PS4.1</b> Use a model of a simple wave to explain regular patterns of amplitude, wavelength, and direction.  <b>4.ETS2.1</b> Use appropriate tools and measurements to build a model.</p>	
<p><b>Week 7, Feb 18-21 (4-day week)</b>  <b>Light Waves/Technological Uses of Waves</b>  <b>4.PS4.2</b> Describe how the colors of available light sources and the bending of light waves determine what we see.</p>	
<p><b>Week 8, Feb 24-28</b>  <b>4.PS4.3</b> Investigate how lenses and digital devices like computers or cell phones use waves to enhance human senses.</p>	
<p><b>Week 9, Mar 3-7</b>  <b>4.ETS2.3</b> Explain how engineers have improved existing technologies to increase their benefits, to decrease known risks, and to meet societal demands (artificial limbs, seatbelts, cell phones).</p>	



Quarter 4, Week 1, Mar 10-14

District Science Checkpoint

Assessment 3 (4.ESS1.2, 4.PS3.1-3, 4.PS4.1-3)



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## Fourth Quarter

SCIENCE	SOCIAL STUDIES
<p><b>Week 2, Mar 24-28</b>  <b>Error Analysis/Retesting in Groups</b></p> <p><b>Science Spiral Review/Reteach</b></p>	<p><b>The Growth of the Republic (Continued)</b></p> <p><b>4.22</b> Describe the experiences of settlers on the overland trails to the West, including the purpose of the journeys and influence of geography.</p> <p><b>4.23</b> Examine the impact of President James K. Polk's view of Manifest Destiny on westward expansion.</p>
<p><b>Week 3, Mar 31-Apr 3 (4-day week)</b>  <b>Science Spiral Review/Reteach</b></p>	<p><b>4.24</b> Explain the significance of the California Gold Rush in westward expansion.</p> <p><b>The U.S. Prior to the Civil War</b></p> <p><b>4.25</b> Analyze the sectional differences between the North and the Antebellum South, including: Economic, Political, Population, Social, Transportation</p>
<p><b>Week 4, Apr 7-11</b>  <b>Science Spiral Review/Reteach</b></p>	<p><b>4.25 Continued</b></p> <p><b>4.26</b> Identify abolitionist leaders and their approaches to ending slavery, including: Frederick Douglass, William Lloyd Garrison, Sojourner Truth, Harriet Tubman</p> <p><b>4.27</b> Explain how slavery became a national issue during the mid-19th century, including the significance of: Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford decision, John Brown's Raid (on Harper's Ferry)</p>
<p><b>Week 5, Apr 14-17 (4-day week)</b>  <b>Science Spiral Review/Reteach</b></p>	<p><b>4.28</b> Compare and contrast the various sectional stances on states' rights and slavery represented by the presidential candidates in the election of 1860, including Abraham Lincoln and Stephen A. Douglas.</p> <p><b>4.29</b> Evaluate the significance of the Battle of Fort Sumter and the impact it had on secession.</p>

<p><b>Week 6, Apr 21-25</b>  <b>Earth Day April 22</b></p> <p><b>STEM PBL/Invention Convention</b></p>	<p><b>The Civil War and Reconstruction</b></p> <ul style="list-style-type: none"> <li>4.30 Explain the efforts of both the Union and the Confederacy to secure the border states for their causes.</li> <li>4.31 Explain how the Union's Anaconda Plan used geographic features to isolate and defeat regions of the south and the Confederacy as a whole.</li> <li>4.32 Describe the roles of major leaders during the Civil War, including: Jefferson Davis, Ulysses S. Grant, Robert E. Lee, President Abraham Lincoln</li> </ul>
<p><b>Week 7, Apr 28-May 2</b></p> <p><b>STEM PBL/Invention Convention Continued</b></p>	<ul style="list-style-type: none"> <li>4.33 Evaluate the significant contributions made by women during the Civil War, including Clara Barton and Dorothea Dix.</li> <li>4.34 Examine the significance and outcomes of key battles &amp; events of the Civil War, including: 1st Battle of Bull Run, Battle of Shiloh, Battle of Gettysburg, Battle of Antietam</li> <li>4.35 Explain the purpose of the Emancipation Proclamation, and identify its impact on the country.</li> </ul>
<p><b>Week 8, May 5-9</b></p> <p><b>STEM PBL/Invention Convention Continued</b></p>	<ul style="list-style-type: none"> <li>4.36 Describe the significance of the Gettysburg Address.</li> <li>4.37 Describe the physical, social, political, and economic consequences of the Civil War on the southern US after the surrender at Appomattox Court House.</li> <li>4.38 Describe the impact President Abraham Lincoln's assassination had on the nation.</li> </ul>
<p><b>Week 9, May 12-16</b></p>	<ul style="list-style-type: none"> <li>4.39 Identify the 13th, 14th, and 15th Amendments as efforts to help former slaves begin a new life.</li> <li>4.40 Compare and contrast the Reconstruction plans of President Abraham Lincoln, President Andrew Johnson, and Congress.</li> <li>4.41 Examine the significance of the Compromise of 1877 on the U.S.</li> </ul>
<p><b>Week 10, May 19-23 (4.5-day week)</b></p> <p><b>STEM PBL/Invention Convention Continued</b></p>	