

3rd Grade Science Curriculum Guide

1st Nine Weeks

<p>Strand: Nature of Science</p> <p>Concept: Processes of Science</p> <p>Resource: Scott Foresman AR Science</p> <p><i>Ongoing throughout each nine weeks within inquiry activities</i></p>	<p>NS.1.3.1 Communicate observations orally, in writing, and in graphic organizers:</p> <ul style="list-style-type: none"> • T-charts • pictographs • Venn diagrams • bar graphs • frequency tables <p>NS.1.3.2 Develop questions that guide scientific inquiry</p> <p>NS.1.3.3 Conduct <i>scientific investigations</i> individually and in teams:</p> <ul style="list-style-type: none"> • <i>lab activities</i> • <i>field studies</i> <p>NS.1.3.4 Communicate the results of <i>scientific investigations</i> (e.g., age-appropriate graphs, charts, and writings)</p> <p>NS.1.3.5 Estimate and measure length, <i>mass</i>, <i>temperature</i>, and elapsed time using International System of Units (SI)</p> <p>NS.1.3.6 Collect and analyze measurable <i>empirical evidence</i> as a team and/or as individuals</p> <p>NS.1.3.7 Make and explain predictions based on prior knowledge</p> <p>NS.1.3.8 Use simple equipment, age appropriate tools, technology, and mathematics in <i>scientific investigations</i> (e.g., balances, hand lenses, microscopes, rulers, <i>thermometers</i>, calculators, computers)</p> <p>NS.1.3.9 Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p> <p style="background-color: yellow;">MCO: Work in large group and small groups to collect data using tools. Discuss measuring tools that people have used in times past.</p>
<p>Strand: Life Science</p> <p>Concept: Structure and Function of Vertebrates and Invertebrates</p> <p>Resource: Scott Foresman AR Science – Chapter 2, Lesson 1; Lab, pg. 36</p> <p>5 days</p>	<p>LS.2.3.1 Classify animals as vertebrates and <i>invertebrates</i> according to their structure</p> <p style="background-color: yellow;">MCO: Create a story about a creature without a backbone.</p>

<p>Strand: Life Science</p> <p>Concept: Cycles</p> <p>Resource: Scott Foresman AR Science – Chapter 2, Lesson 2</p> <p>10 days</p>	<p>LS.3.3.3</p> <p>Differentiate among <i>complete metamorphosis</i>, <i>incomplete metamorphosis</i>, and <i>embryonic development</i></p>
<p>Strand: Life Science</p> <p>Concept: Structure and Function of Body Systems</p> <p>Resource: Scott Foresman AR Science – AR-1,2</p> <p>10 days</p>	<p>LS.2.3.2</p> <p>Identify major parts and functions of the following systems:</p> <ul style="list-style-type: none"> • respiratory • muscular <p>MCO: Write a letter to a child in AR Children’s hospital who has an illness related to one of these systems.</p>

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2nd Nine Weeks

<p>Strand: Nature of Science</p> <p>Concept: Processes of Science</p> <p>Resource: Scott Foresman AR Science</p> <p><i>Ongoing throughout each nine weeks within inquiry activities</i></p>	<p>NS.1.3.1 Communicate observations orally, in writing, and in graphic organizers:</p> <ul style="list-style-type: none"> • T-charts • pictographs • Venn diagrams • bar graphs • frequency tables <p>NS.1.3.2 Develop questions that guide scientific inquiry</p> <p>NS.1.3.3 Conduct <i>scientific investigations</i> individually and in teams:</p> <ul style="list-style-type: none"> • <i>lab activities</i> • <i>field studies</i> <p>NS.1.3.4 Communicate the results of <i>scientific investigations</i> (e.g., age-appropriate graphs, charts, and writings)</p> <p>NS.1.3.5 Estimate and measure length, <i>mass</i>, <i>temperature</i>, and elapsed time using International System of Units (SI)</p> <p>NS.1.3.6 Collect and analyze measurable <i>empirical evidence</i> as a team and/or as individuals</p> <p>NS.1.3.7 Make and explain predictions based on prior knowledge</p> <p>NS.1.3.8 Use simple equipment, age appropriate tools, technology, and mathematics in <i>scientific investigations</i> (e.g., balances, hand lenses, microscopes, rulers, <i>thermometers</i>, calculators, computers)</p> <p>NS.1.3.9 Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p> <p style="background-color: yellow;">MCO: Work in large group and small groups to collect data using tools. Discuss measuring tools that people have used in times past.</p>
<p>Strand: Physical Science</p> <p>Concept: Properties and Patterns in Matter/ Change in Matter</p> <p>Resource: Scott Foresman AR Science– Chapter 10, Lesson 1, 2; Chapter 11, Lesson 1, 2; Lab, pg.276; Lab pg.290</p> <p>10 days</p>	<p>PS.5.3.1 Compare and contrast objects based on two or more properties</p> <p>PS.5.3.2 Demonstrate physical changes in <i>matter</i></p> <p>PS.5.3.3 Determine the <i>mass</i> of solids</p> <p style="background-color: yellow;">MCO: Measure the mass of different solids</p>

<p>Strand: Physical Science</p> <p>Concept: Properties and Patterns in Matter</p> <p>Resource: Scott Foresman AR Science – Chapter 11, Lesson1; Lab, pg. 300</p> <p>5 days</p>	<p>PS.5.3.4 Compare and contrast solids and liquids</p> <p>MCO: Work in pairs to compare and contrast everyday solids and liquids</p>
<p>Strand: Physical Science</p> <p>Concept: Forces and Motion</p> <p>Resource: Scott Foresman AR Science – Chapter 14, Lesson 1, 2; Lab pg. 402; AR-8, AR-10</p> <p>5 days</p>	<p>PS.6.3.1 Identify characteristics of wave motion:</p> <ul style="list-style-type: none"> • <i>amplitude</i> • <i>frequency</i> <p>PS.6.3.2 Investigate the relationship between sound and wave motion</p> <p>PS.6.3.3 Determine the impact of the following <i>variables</i> on pitch:</p> <ul style="list-style-type: none"> • length • <i>mass</i> • tension • state of <i>matter</i> <p>MCO: Create a musical instrument to demonstrate to the class</p>
<p>Strand: Physical Science</p> <p>Concept: Patterns in Light</p> <p>Resource: Scott Foresman AR Science – Chapter 13, Lesson 1</p> <p>2 days</p>	<p>PS.7.3.1 Classify materials as those which can <i>reflect, refract,</i> or absorb light</p> <p>MCO: Draw a picture of an object (leaf, shell, etc.) using a mirror as your way of viewing the object</p>
<p>Strand: Physical Science</p> <p>Concept: Heat Energy Transfer</p> <p>Resource: Scott Foresman AR Science – Lab, pg. 378; Math in Science pg. 380</p> <p>3 days</p>	<p>PS.7.3.2 Calculate a change in <i>temperature</i> using the Celsius scale</p> <p>MCO: Work in groups to determine temperature differences from the first week of school/Compare to current temperatures</p>
<p>Strand: Physical Science</p> <p>Concept: Electrical Energy/ Earth's Resources</p> <p>Resource: Scott Foresman AR Science – AR-9</p> <p>5 days</p>	<p>PS.7.3.3 Identify methods of producing <i>electricity</i> relative to Arkansas:</p> <ul style="list-style-type: none"> • <i>hydroelectric</i> • coal • oil • natural gas • nuclear • solar • wind <p>MCO: Research one way AR produces electricity</p>

<p>Strand: Physical Science</p> <p>Concept: Properties of Magnets</p> <p>Resource: Scott Foresman AR Science – AR-7</p> <p>3 days</p>	<p>PS.7.3.4 Differentiate between magnets and non-magnets</p> <p>PS.7.3.5 Describe the effect of distance on attraction and repulsion</p> <p>PS.7.3.6 Construct a magnet by the “Touch/Stroke” method</p> <p>MCO: Study the history of using magnets</p>
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3rd Nine Weeks

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<p>Strand: Earth and Space Science</p> <p>Concept: Properties of the Earth</p> <p>Resource: Scott Foresman AR Science – Chapter 7, Lesson 1, 2</p> <p>5 days</p>	<p>ESS.8.3.4 Identify the <i>physical properties</i> of minerals:</p> <ul style="list-style-type: none"> • hardness • color • luster • streak <p>ESS.8.3.6 Describe the layers of Earth:</p> <ul style="list-style-type: none"> • crust • mantle • inner core • outer core <p style="background-color: yellow;">MCO: Examine ways that minerals have been used in human history</p>

<p>Strand: Earth and Space Science</p> <p>Concept: Properties of the Earth</p> <p>Resource: Scott Foresman AR Science – AR-4, AR-6</p> <p>5 days</p>	<p>ESS.8.3.5 Identify areas in Arkansas that are the main sources of the following minerals:</p> <ul style="list-style-type: none"> • bauxite • novaculite • quartz crystal • diamond • bromine <p>ESS.8.3.1 Distinguish among Earth’s materials:</p> <ul style="list-style-type: none"> • rocks • minerals • <i>fossils</i> • soils <p>ESS.8.3.2 Classify rocks by their properties, including but not limited to</p> <ul style="list-style-type: none"> • size • shape • color • texture • patterns <p>MCO: Work as a team to compare and contrast rocks, soils, and fossils</p>
<p>Strand: Earth and Space Science</p> <p>Concept: Properties of the Earth/ Natural Resources</p> <p>Resource: Scott Foresman AR Science</p> <p>5 days</p>	<p>ESS.8.3.3 Identify the three categories of rocks:</p> <ul style="list-style-type: none"> • <i>metamorphic</i> • <i>igneous</i> • <i>sedimentary</i> <p>ESS.8.3.7 Identify common uses of rocks and minerals</p> <p>MCO: Read Magic School Bus books on the rock cycle</p>

3rd Grade Science Curriculum Guide

4th Nine Weeks

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<p>Strand: Earth and Space Science</p> <p>Concept: Weather Patterns and Models</p> <p>Resource: Scott Foresman AR Science – Chapter 6, Lesson 2; Chapter 8, Lesson 3; Lab pg.172; Lab pg. 234; AR-3</p> <p>30 days</p>	<p>ESS.8.3.8 Chart <i>precipitation</i> levels over time</p> <p>ESS.8.3.9 Demonstrate safety procedures related to severe weather</p> <p>ESS.8.3.10 Construct and read a rain gauge</p> <p>ESS.9.3.1 Analyze the effect of wind and water on Earth’s surface</p> <p style="background-color: yellow;">MCO: Invite a guest (meteorologist, fireman, rescue worker, etc.) to discuss what it is like for someone who has experienced severe weather</p>

<p>Strand: Earth and Space Science</p> <p>Concept: Properties of the Universe</p> <p>Resource: Scott Foresman AR Science – Chapter 16, Lesson 1, 2; AR-11</p> <p>10 days</p>	<p>ESS.10.3.1 Demonstrate how the planets <i>orbit</i> the sun</p> <p>ESS.10.3.2 Demonstrate the <i>orbit</i> of Earth and its moon around the sun</p> <p>ESS.10.3.3 Relate Earth’s rotation to the day/night cycle</p> <p>MCO: Examine Native American stories of the earth, moon, and sun</p>
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