

# Science, Grade 2

**Time on Task:** 1-2 hours per week

## Course Philosophy

Science reflects the magnificent order and complexity of God’s creation. It presents God as the great Designer, Sustainer, and Lawgiver. Students will continually be called on to see the divine wisdom of creation and its implications for other subjects. The student’s mind will be challenged to understand the universe and refute the man-made idea of evolution. Science is presented to show how man is created in God’s image in order to fulfill the Genesis command to subdue the earth and exercise the privilege to rule over it (Genesis 1:28a)

## Course Description

In Grade 2, the study of science includes planning and conducting simple classroom and field investigations to help students develop the skills of making measurements using standard and non-standard units, using common tools such as rulers and clocks to collect information, classifying and sequencing objects and events, and identifying patterns. Students also use computers information technology tools to support their investigations.

<b>Goals and Objectives</b>	<b>Scope and Sequence</b>	<b>Spiritual Goals</b>
<p><b>Texas Essential Knowledge and Skills (TEKS)</b></p> <p><b>§112.4. Science, Grade 2.</b></p> <p><b>(a) Introduction.</b></p> <p>(1) In Grade 2, the study of science includes planning and conducting simple classroom and field investigations to help students develop the skills of making measurements using standard and non-standard units, using common tools such as rulers and clocks to collect information, classifying and sequencing objects and events, and identifying patterns. Students also use computers information technology tools to support their investigations.</p> <p>(2) As students learn science skills, they identify components and processes of the natural world including the water cycle and the use of resources. They observe melting and evaporation, weathering, and the pushing and pulling of objects as examples of change. In addition, students distinguish between characteristics of living organisms and nonliving objects, compare lifelong needs of plants and animals, understand how living organisms depend on their environments, and identify functions of parts of plants and animals.</p>	<p><b><u>Purposeful Design Science</u></b></p> <p><b><u>Level 2</u></b></p> <p>Life Science</p> <ul style="list-style-type: none"><li>• Plants</li><li>• Vertebrates</li><li>• Invertebrates</li><li>• Habitats</li></ul> <p>Physical Science</p> <ul style="list-style-type: none"><li>• Energy</li><li>• Light</li><li>• Heat</li></ul> <p>Human Body</p> <ul style="list-style-type: none"><li>• Sound and Hearing</li><li>• Sight and Touch</li><li>• Taste and Smell</li></ul> <p>Earth Science</p> <ul style="list-style-type: none"><li>• Weather</li><li>• Ocean</li></ul>	<p><b>God’s intended purpose for science:</b></p> <ol style="list-style-type: none"><li>1. To learn that God looks at the intent of the heart rather than outward beauty. (I Samuel 16:7)</li><li>2. To learn that God’s glory is evident in all of nature. (Psalm 19:1)</li><li>3. To learn that God created the world. (Genesis 1:16)</li><li>4. To learn that all wisdom is found in God. (Proverbs 3:19)</li><li>5. To understand that our knowledge of the origin of life comes from God alone. God tells us that we can know of origins only by believing what He says. (Hebrews 11:3)</li><li>6. To know that no person was present or had any knowledge of His work at the beginning. (Job 38:4, 21)</li><li>7. To understand that all living things have their origin in God. (Genesis 1:11-13, 20-27, 31)</li></ol>



<p>extend the senses;</p> <p>(E) construct reasonable explanations and draw conclusions using information and prior knowledge; and</p> <p>(F) communicate explanations about investigations.</p> <p><b>(3) Scientific processes.</b> The student knows that information and critical thinking are used in making decisions. <i>The student is expected to:</i></p> <p>(A) make decisions using information;</p> <p>(B) discuss and justify the merits of decisions; and</p> <p>(C) explain a problem in his/her own words and identify a task and solution related to the problem.</p> <p><b>(4) Scientific processes.</b> The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. <i>The student is expected to:</i></p> <p>(A) collect information using tools including rulers, meter sticks, measuring cups, clocks, hand lenses, computers, thermometers, and balances; and</p> <p>(B) measure and compare organisms and objects and parts of organisms and objects, using standard and non-standard units.</p> <p><b>(5) Science concepts.</b> The student knows that organisms, objects, and events have properties and patterns. <i>The student is expected to:</i></p> <p>(A) classify and sequence organisms, objects, and events based on properties and patterns; and</p> <p>(B) identify, predict, replicate, and create patterns including those seen in charts, graphs, and numbers.</p> <p><b>(6) Science concepts.</b> The student knows that systems have parts and are composed of organisms and objects. <i>The student is expected to:</i></p> <p>(A) manipulate, predict, and identify parts that, when separated from the whole, may result in the part or the whole not working, such as flashlights without batteries and plants without leaves;</p> <p>(B) manipulate, predict, and identify parts that, when put together, can do things they cannot do by themselves, such as a guitar and guitar strings;</p>	<p>Lesson 3.2</p> <p>All Lessons</p> <p>All Lessons</p> <p>All Lessons</p> <p>All Lessons</p> <p>Units 1, 7, 11, 6, Lesson 6.5 Math Lessons 39, 40, 42, 43, 103, 65</p> <p>Units 1, 2, 3, 4</p> <p>All Lessons</p> <p>Lessons 3.2, 5.4</p> <p>Units 1, 2, 3, 4, 5</p> <p>Units 1, 2, 3, 4, 5</p>	<p>Jesus, and God the Holy Spirit. (Hebrews 1:3)</p> <p><b>2. What is the nature of external reality, that is, the world around us?</b></p> <p>a. God is the source of everything and created the universe out of nothing. (Genesis 1:1)</p> <p>b. The universe was created by God to be orderly. (Isaiah 45:18, Psalm 147:4)</p> <p>c. God is constantly involved in the unfolding pattern of the ongoing operation of the universe. (Psalm 24:1-2, Psalm 32:13-15)</p> <p>d. The universe reflects His glory. (Psalm 8:1, Psalm 19:1)</p> <p><b>3. What is a human being?</b></p> <p>a. God created humans to know Him intimately and to have a loving relationship with Him. (Psalm 100:3)</p> <p>b. Human beings are created in the image of God with the capacity to choose. (Genesis 1:27, Proverbs 8:10)</p> <p>c. Adam and Eve chose disobedience and brought death to themselves and sin entered the world. (Romans 5:12)</p> <p>d. All human beings have a choice and all have chosen sin that brings separation from God. (Romans 3:23)</p> <p>e. Sin is rebellion against God's wishes and ways and this destroys our relationship with God. (Romans 8:7-8)</p>
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<p>(C) observe and record the functions of plant parts; and (D) observe and record the functions of animal parts.</p> <p><b>(7) Science concepts.</b> The student knows that many types of change occur. <i>The student is expected to:</i></p> <p>(A) observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement; (B) identify, predict, and test uses of heat to cause change such as melting and evaporation; (C) demonstrate a change in the motion of an object by giving the object a push or a pull; and (D) observe, measure, and record changes in weather, the night sky, and seasons.</p> <p><b>(8) Science concepts.</b> The student distinguishes between living organisms and nonliving objects. <i>The student is expected to:</i></p> <p>(A) identify characteristics of living organisms; and (B) identify characteristics of nonliving objects.</p> <p><b>(9) Science concepts.</b> The student knows that living organisms have basic needs. <i>The student is expected to:</i></p> <p>(A) identify the external characteristics of different kinds of plants and animals that allow their needs to be met; and (B) compare and give examples of the ways living organisms depend on each other and on their environments.</p> <p><b>(10) Science concepts.</b> The student knows that the natural world includes rocks, soil, water, and gases of the atmosphere. <i>The student is expected to:</i></p> <p>(A) describe and illustrate the water cycle; and (B) identify uses of natural resources.</p>	<p>Unit 1 Units 2, 3</p> <p>Units 5, 6, 7, 8, 9, 10</p> <p>Unit 7</p> <p>Unit 5</p> <p>Unit 11</p> <p>Units 1, 2, 3 Unit 5</p> <p>Units 1, 2, 3, 4</p> <p>Units 1, 2, 3, 4</p> <p>Lessons 11.5, 5.7, 12.1 Units 11, 12</p> <p><b>Student Activities</b> Role Play Games/Puzzles Stories Songs</p>	<p>f. God provides a way back to Himself through the death of His son Jesus (the second person of the Trinity), on the cross. (John 3:16, Romans 6:23)</p> <p>g. Human beings must respond to God with repentance of our sins, receiving forgiveness, and accepting Jesus as our Savior. (Romans 10:9-10)</p> <p><b>4. What happens to a person at death?</b></p> <p>a. For each person death is either the gate to life with God and His people or the gate to eternal separation from God. (1 Corinthians 50:52)</p> <p>b. After death, your soul will continue to exist in an eternal way and there is a final judgment by God. (Revelation 20:12)</p> <p>c. Everyone chooses to honor and love Him by accepting Jesus as our Lord and Savior or makes a choice to reject Jesus and grasp for self-fulfillment and personal glory. (Romans 6:23)</p> <p>d. Those who received Jesus as Savior will spend eternity in Heaven with God. (Philippians 4:10-21)</p> <p>e. Those who rejected Jesus as Savior will spend eternity in Hell without God. (Hebrews 10:26-27)</p> <p><b>5. Why is it possible to know anything at all?</b></p> <p>a. Human beings can both know the world around them and God</p>
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	<p>Projects  Cooperative Learning  Journaling  Graphic Organizers  Small Groups  Drawing  Manipulatives  Writer’s Workshop  Portfolio  Experiments</p> <p><b>Teaching Strategies</b>  Direct Instruction  Open-ended Questions  Discussion  Demonstration  Brainstorming  Problem Solving  Read Aloud  Facilitating  Cooperative Learning  Prediction  Inquiry  Hands On  Concept Attainment  Concept Development</p> <p><b>Evaluation Procedures</b>  Observation  Class Participation  Quizzes/Tests  Projects  Reports  Survey (oral/written)  Portfolio  Journaling</p>	<p>Himself because God has built within them the capacity to do so and because He takes an active role in communicating with them. (John 16:13)</p> <p>b. God’s own intelligence is the basis of human intelligence. Knowledge is possible because there is something to be known (God and His creation) and someone to know (God and human beings made in His image). (Genesis 1:27)</p> <p>c. God reveals, Himself to us in two basic ways: by general revelation and by special revelation. (Exodus 3:2, Psalm 19:1-4)</p> <p>d. In general revelation, God speaks through the creation of the universe and through His word, the Bible. (2 Samuel 22:31, Psalm 19:1)</p> <ul style="list-style-type: none"> <li>➤ The Bible is internally consistent and unified in its principles and claims.</li> <li>➤ There is tremendous coherence across the many authors and centuries during which the various books were written and in which its stories unfold.</li> <li>➤ It is relevant to all the cultures of the world</li> </ul> <p>e. Special revelation is God revealing Himself through supernatural ways. Jesus Christ is the ultimate</p>
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	<p><b>Other Resources and Bibliography</b>  The Mailbox -  www.themailbox.com  DVD/Videos  Teacher Generated Units  Evan-Moore Center Books</p>	<p>special revelation. He showed us what God is like more fully than any other form of revelation can. Because Jesus was also completely human, he spoke more clearly to us than any other form of revelation can. (John 14:7)</p> <p>6. <b><i>How do we know what is right and wrong?</i></b></p> <p>a. Ethics or the knowledge of right and wrong is based on the character of God as good (holy and loving). (Psalm 33:4)</p> <p>b. There is an absolute standard by which all moral judgments are measured and God Himself – His character of goodness (holiness and love) – is the standard. (1 Samuel 2:3)</p> <p>c. As a result of sin, morally, we have become less able to discern good and evil and less able to know God as He truly is. (Proverbs 1:7)</p> <p>d. God has revealed His standard in the various laws and principles expressed in the Bible. (Psalm 111:10)</p> <ul style="list-style-type: none"> <li>➤ He has dictated absolute moral truth to us.</li> <li>➤ Every truth must conform to Biblical principles.</li> <li>➤ Every choice must reflect God’s moral truth.</li> <li>➤ We must promote, defend, and teach these truths to others.</li> </ul>
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