

Grade 5 (Departmentalized) - Science ([5020060](#)) Scope and Sequence

Unit of Study	Time Frame	Content Block Benchmarks	Content Resources
Practice of Science	August 10 – August 18	SC.5.N.1.1 , SC.5.N.1.2 , SC.5.N.1.3 , SC.5.N.1.4 , SC.5.N.1.5 , SC.5.N.1.6 , SC.5.N.2.1 , SC.5.N.2.2	<ul style="list-style-type: none"> Essential Lab: Scientific Thinking* Plan to give the Science Pre-Test during this unit (Suggested date Friday, August 18th) Science Handbook pgs: 2-25, 158-185 Resource Options First Days of School Resource Options Observations, Inferences & Predictions (Moon Phase Calendars) Resource Options Types of Scientific Investigations
Living Things	August 21 – September 22	SC.5.L.14.1 , SC.5.L.14.2 , HE.5.C.1.5 , HE.5.C.1.6	<ul style="list-style-type: none"> Essential Lab: Essential Lab: Body Parts Working Together* Founders Month (Sept) 9/11 Hero's Day (9/10)** Constitution Day (9/18) Science Handbook pgs: 26-45; Science Journal pgs: 2-43 Resource Options Plant Structures & Roles SC.3.L.14.1 Resource Options Pollination & Fertilization SC.4.L.16.1 Resource Options Seed Dispersal & Germination 4.L.16.1 Resource Options Plant Responses to Stimuli 3.L.14.2 Resource Options Flowering & Nonflowering Plants and Life Cycles SC.3.L.15.2 & SC.4.L.16.4 Resource Options Human Organs & Functions 5.L.14.1 Resource Options Animal Classification SC.3.L.15.1 & SC.4.L.16.4 Resource Options Life Cycles - Complete & Incomplete Metamorphosis SC.4.L.16.4 Resource Options Compare & Contrast Physical Structures of Plants and Animals SC.5.L.14.2 Organization and Development of Living Organisms Unit Review Options
Interdependence	September 26 – October 19	SC.5.L.17.1 , SC.5.L.15.1	<ul style="list-style-type: none"> Everglades Lesson 1: Incredible Shrinking Habitat*** Everglades Lesson 2: Invasive Species*** Everglades Lesson 3: Fishy Business*** Science Handbook pgs: 46-61; Sci Journal pgs: 44-89 Resource Options Food Chains SC.3.L.17.2, SC.4.L.17.2, SC.4.L.17.3 Resource Options Characteristics & Behaviors of Plants & Animals SC.4.L.16.2, SC.4.L.16.3 Resource Options Environmental Impact-Change, Move, or Die SC.5.L.15.1, SC.4.L.17.4 Resource Options Adaptations SC.5.L.17.1, SC.4.L.17.1, SC.3.L.17.1 Interdependence Unit Review Options
Earth in Space and Time	October 23 – November 17	SC.5.E.5.1 , SC.5.E.5.2 , SC.5.E.5.3	<ul style="list-style-type: none"> Essential Activity: What planet is this? * Science Handbook pgs: 62-79; Sci Journal pgs: 90-119 Resource Options The Sun & Other Stars SC.3.E.5.1, SC.3.E.5.2, SC.3.E.5.3 Resource Options The Milky Way & Other Galaxies SC.5.E.5.1 Resource Options Earth's Rotation SC.4.E.5.1, SC.4.E.5.3, SC.4.E.5.4 Resource Options Earth's Revolution & Seasonal Constellations SC.4.E.5.1, SC.4.E.5.3 Resource Options Moon Phases SC.4.E.5.2.docx Resource Options Planets SC.5.E.5.2, SC.5.E.5.3 Resource Options Objects of the Solar System (Asteroids & Comets) SC.5.E.5.3

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Energy	November 27 – December 21	SC.5.P.10.1 , SC.5.P.10.2 , SC.5.P.10.3 , SC.5.P.10.4 , SC.5.P.11.1 , SC.5.P.11.2	<ul style="list-style-type: none"> • Essential Activity: Building a Circuit * • Science Handbook pgs: 1102-123; Science Journal pgs: 180-225 • Resource Options Forms of Energy Overview SC.5.P.10.1, SC.4.P.10.1, SC.3.P.10.1 • Resource Options Sound Energy SC.5.P.10.1 & SC.4.P.10.3 • Resource Options Light's Behavior SC.5.P.10.1, SC.3.P.10.3 & SC.3.P.10.4 • Resource Options Light & Heat, Heat Flow & Conductors SC.5.P.10.1, SC.5.P.10.2, SC.4.P.11.1, SC.4.P.11.2 & SC.3.P.11.1 • Resource Options Mechanical Energy & Frictional Heat SC.5.P.10.1, SC.5.P.10.2 & SC.3.P.11.2 • Resource Options Renewable & Nonrenewable, Solar, Water, Wind & Chemical SC.5.P.10.1, SC.5.P.10.2, SC.4.E.6.3, SC.4.E.6.6, SC.4.P.10.4, SC.3.E.6.1 • Resource Options Static Electricity SC.5.P.10.3 • Electrical Energy SC.5.P.10.1, SC.5.P.10.2, SC.5.P.10.4, SC.5.P.11.1, SC.5.P.11.2
Matter	January 8 – February 2	SC.5.P.8.1 , SC.5.P.8.2 , SC.5.P.8.3 , SC.5.P.8.4 , SC.5.P.9.1	<ul style="list-style-type: none"> • Essential Lab: Conservation of Mass* • Science Handbook pgs: 138-159; Science Journal pgs: 258-302 • Resource Options Temperature & States of Matter SC.5.P.8.1 • Resource Options Mass & States of Matter SC.5.P.8.1 • Resource Options Volume & States of Matter SC.5.P.8.1 • Resource Options Solids, Liquids & Gases SC.5.P.8.1 • Resource Options Physical Properties & Separating Solid Mixtures SC.5.P.8.1 & SC.5.P.8.3 • Resource Options Dissolving in Water SC.5.P.8.2 • Resource Options Physical & Chemical Changes SC.5.P.9.1, SC.4.P.9.1, SC.3.P.9.1
Earth Systems and Patterns	February 5 – March 8	SC.5.E.7.1 , SC.5.E.7.2 , SC.5.E.7.3 , SC.5.E.7.4 , SC.5.E.7.5 , SC.5.E.7.6 , SC.5.E.7.7	<ul style="list-style-type: none"> • Essential Lab: Cycling Matter* • Plan to give the Science Post-Test during this unit (Suggested date Monday, March 11th) • Science Handbook pgs: 138-159; Science Journal pgs: 258-302 • Resource Options Temperature & States of Matter SC.5.P.8.1 • Resource Options Mass & States of Matter SC.5.P.8.1 • Resource Options Volume & States of Matter SC.5.P.8.1 • Resource Options Solids, Liquids & Gases SC.5.P.8.1 • Resource Options Physical Properties & Separating Solid Mixtures SC.5.P.8.1 & SC.5.P.8.3 • Resource Options Dissolving in Water SC.5.P.8.2 • Resource Options Physical & Chemical Changes SC.5.P.9.1, SC.4.P.9.1, SC.3.P.9.1

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Forces and Changes in Motion	March 11 – April 12	SC.5.P.13.1 , SC.5.P.13.2 , SC.5.P.13.3 , SC.5.P.13.4	<ul style="list-style-type: none"> • Essential Lab: What is at Work?* • Science Handbook pgs: 124-137; Science Journal pgs: 226-257 • Resource Options Pushes & Pulls SC.5.P.13.1 • Resource Options Magnetic Force SC.5.P.13.1 & SC.4.P.8.4 • Resource Options Gravity SC.5.P.13.1 & SC.3.E.5.4 • Resource Options Oppositional Friction SC.5.P.13.1 • Resource Options Speed & Motion SC.4.P.12.2 & SC.4.P.12.1 • Resource Options Greater Force = Greater Change in Motion SC.5.P.13.2 & SC.4.P.12.1 • Resource Options More Mass = Less Effect of a Given Force on Motion SC.5.P.13.3 & SC.4.P.12.1 • Resource Options Balanced & Unbalanced Forces SC.5.P.13.4 & SC.4.P.12.1
Intentional Review	April 15 – May 3	Reteach standards based on unit assessment and post-test data	
Natural Disasters and Family Preparedness Plans and Health	May 10 – May 30	SC.5.E.7.7 , HE.5.P.8.1 , HE.5.P.7.1 , HE.5.P.7.2 , HE.5.B.3.1 , HE.5.B.5.1 , HE.5.B.4.2 , HE.5.B.4.3 , HE.5.B.4.4 , HE.5.B.5.3 , HE.5.C.1.5	<ul style="list-style-type: none"> • Disaster Preparedness Student Tutorial • Atoms Make Up Everything Student Tutorial • How Can We Help Each Other Make Healthy Choices? • How Can We Take a Stand Against Bullying? • Are You Being Clear with Your Friends?

- Please note: 3rd and 4th grade standards may be reviewed as prior knowledge to 5th grade standards.

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Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices ([NRC Framework for K-12 Science Education, 2010](#))

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Additional standards/ practices that are to be taught in this course:

Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards

This course includes Florida's B.E.S.T. ELA Expectations (EE) and Mathematical Thinking and Reasoning Standards (MTRs) for students. Florida educators should intentionally embed these standards within the content and their instruction as applicable. For guidance on the implementation of the EEs and MTRs, please

visit https://www.cpalms.org/Standards/BEST_Standards.aspx and select the appropriate B.E.S.T. Standards package.

- [MA.K12.MTR.1.1](#): Mathematicians who participate in effortful learning both individually and with others:
 - Analyze the problem in a way that makes sense given the task.
 - Ask questions that will help with solving the task.
 - Build perseverance by modifying methods as needed while solving a challenging task.
 - Stay engaged and maintain a positive mindset when working to solve tasks.
 - Help and support each other when attempting a new method or approach.
- Clarifications
 - Teachers who encourage students to participate actively in effortful learning both individually and with others:
 - Cultivate a community of growth mindset learners.
 - Foster perseverance in students by choosing tasks that are challenging.
 - Develop students' ability to analyze and problem solve.
 - Recognize students' effort when solving challenging problems.
- [MA.K12.MTR.2.1](#): Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways:
 - Build understanding through modeling and using manipulatives.
 - Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
 - Progress from modeling problems with objects and drawings to using algorithms and equations.
 - Express connections between concepts and representations.
 - Choose a representation based on the given context or purpose.
- Clarifications
 - Teachers who encourage students to demonstrate understanding by representing problems in multiple ways:

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- Help students make connections between concepts and representations.
- Provide opportunities for students to use manipulatives when investigating concepts.
- Guide students from concrete to pictorial to abstract representations as understanding progresses.
- Show students that various representations can have different purposes and can be useful in different situations.
- [MA.K12.MTR.3.1](#): Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency:
 - Select efficient and appropriate methods for solving problems within the given context.
 - Maintain flexibility and accuracy while performing procedures and mental calculations.
 - Complete tasks accurately and with confidence.
 - Adapt procedures to apply them to a new context.
 - Use feedback to improve efficiency when performing calculations.
- Clarifications
 - Teachers who encourage students to complete tasks with mathematical fluency:
 - Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately.
 - Offer multiple opportunities for students to practice efficient and generalizable methods.
 - Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.
- [MA.K12.MTR.4.1](#): Engage in discussions that reflect on the mathematical thinking of self and others., Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:
 - Communicate mathematical ideas, vocabulary and methods effectively.
 - Analyze the mathematical thinking of others.
 - Compare the efficiency of a method to those expressed by others.
 - Recognize errors and suggest how to correctly solve the task.
 - Justify results by explaining methods and processes.
 - Construct possible arguments based on evidence.
- Clarifications
 - Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others:
 - Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning.
 - Create opportunities for students to discuss their thinking with peers.
 - Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods.
 - Develop students' ability to justify methods and compare their responses to the responses of their peers.
- [MA.K12.MTR.5.1](#): Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts:
 - Focus on relevant details within a problem.
 - Create plans and procedures to logically order events, steps or ideas to solve problems.
 - Decompose a complex problem into manageable parts.
 - Relate previously learned concepts to new concepts.
 - Look for similarities among problems.
 - Connect solutions of problems to more complicated large-scale situations.
- Clarifications

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- Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts:
 - Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts.
 - Support students to develop generalizations based on the similarities found among problems.
 - Provide opportunities for students to create plans and procedures to solve problems.
 - Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
- **MA.K12.MTR.6.1:** Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions:
 - Estimate to discover possible solutions.
 - Use benchmark quantities to determine if a solution makes sense.
 - Check calculations when solving problems.
 - Verify possible solutions by explaining the methods used.
 - Evaluate results based on the given context.
 - Clarifications
 - Teachers who encourage students to assess the reasonableness of solutions:
 - Have students estimate or predict solutions prior to solving.
 - Prompt students to continually ask, "Does this solution make sense? How do you know?"
 - Reinforce that students check their work as they progress within and after a task.
 - Strengthen students' ability to verify solutions through justifications.
- **MA.K12.MTR.7.1:** Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts:
 - Connect mathematical concepts to everyday experiences.
 - Use models and methods to understand, represent and solve problems.
 - Perform investigations to gather data or determine if a method is appropriate.
 - Redesign models and methods to improve accuracy or efficiency.
 - Clarifications
 - Teachers who encourage students to apply mathematics to real-world contexts:
 - Provide opportunities for students to create models, both concrete and abstract, and perform investigations.
 - Challenge students to question the accuracy of their models and methods.
 - Support students as they validate conclusions by comparing them to the given situation.
 - Indicate how various concepts can be applied to other disciplines.
- **ELA.K12.EE.1.1:** Cite evidence to explain and justify reasoning.
 - Clarifications
 - K-1 Students include textual evidence in their oral communication with guidance and support from adults. The evidence can consist of details from the text without naming the text. During 1st grade, students learn how to incorporate the evidence in their writing.
 - 2-3 Students include relevant textual evidence in their written and oral communication. Students should name the text when they refer to it. In 3rd grade, students should use a combination of direct and indirect citations.
 - 4-5 Students continue with previous skills and reference comments made by speakers and peers. Students cite texts that they've directly quoted, paraphrased, or used for information. When writing, students will use the form of citation dictated by the instructor or the style guide referenced by the instructor.
 - 6-8 Students continue with previous skills and use a style guide to create a proper citation.

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- 9-12 Students continue with previous skills and should be aware of existing style guides and the ways in which they differ.
- [ELA.K12.EE.2.1](#): Read and comprehend grade-level complex texts proficiently.
 - Clarifications
 - See [Text Complexity](#) for grade-level complexity bands and a text complexity rubric.
- [ELA.K12.EE.3.1](#): Make inferences to support comprehension.
 - Clarifications
 - Students will make inferences before the words infer or inference are introduced. Kindergarten students will answer questions like “Why is the girl smiling?” or make predictions about what will happen based on the title page. Students will use the terms and apply them in 2nd grade and beyond.
- [ELA.K12.EE.4.1](#): Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations.
 - Clarifications
 - In kindergarten, students learn to listen to one another respectfully.
 - In grades 1-2, students build upon these skills by justifying what they are thinking. For example: “I think _____ because _____.” The collaborative conversations are becoming academic conversations.
 - In grades 3-12, students engage in academic conversations discussing claims and justifying their reasoning, refining and applying skills. Students build on ideas, propel the conversation, and support claims and counterclaims with evidence.
- [ELA.K12.EE.5.1](#): Use the accepted rules governing a specific format to create quality work.
 - Clarifications
 - Students will incorporate skills learned into work products to produce quality work. For students to incorporate these skills appropriately, they must receive instruction. A 3rd grade student creating a poster board display must have instruction in how to effectively present information to do quality work.
- [ELA.K12.EE.6.1](#): Use appropriate voice and tone when speaking or writing.
 - Clarifications
 - In kindergarten and 1st grade, students learn the difference between formal and informal language. For example, the way we talk to our friends differs from the way we speak to adults. In 2nd grade and beyond, students practice appropriate social and academic language to discuss texts.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following

link: <https://cpalmsmediaproduct.blob.core.windows.net/uploads/docs/standards/eld/sc.pdf>

- [ELD.K12.ELL.SC.1](#): English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
- [ELD.K12.ELL.SI.1](#): English language learners communicate for social and instructional purposes within the school setting.

CPALMS: There are more than 393 related instructional/educational resources available for this on CPALMS. Click on the following link to access them: <https://www.cpalms.org&title=2022%20-%20And%20Beyond&isShowCurrent=false/PreviewCourse/Preview/21042>

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