



Oklahoma Academic Standards
ENGLISH
LANGUAGE ARTS



OKLAHOMA
Education



8 Overarching Standards

The following eight standards encompass the content and competencies of English language arts:

1. **Listening and Speaking**
2. **Reading and Writing Foundations/Process**
3. **Critical Reading and Writing**
4. **Vocabulary**
5. **Language**
6. **Research**
7. **Multimodal Literacies**
8. **Independent Reading and Writing**

The eight overarching standards reinforce language arts' recursive nature, a non-linear process that involves the continuous and thoughtful refinement of concepts and skills. Each standard statement is accompanied by two strand statements—listening and speaking for Standard 1 and reading and writing for Standards 2-8. Each pair of strands contains grade-level objectives.

Standard 2 Reading and Writing Foundations includes the five strands of Phonological Awareness, Print Concepts, Phonics and Word Study, Spelling/Encoding, and Fluency. The linear order of the strands suggests a learning progression that begins with basic foundational skills and culminates in fluent readers and writers.

Concepts and skills are expressed in terms of both reading and writing to support integrated, rather than isolated, reading/writing instruction. Research supports this integrated model of English



language arts, where students read to understand the meaning and composition of a text and write with readers' expectations and assumptions in mind.

The order of the standards is meant to suggest that students learn to read and write by listening and speaking (Standard 1) on their way to the ultimate goal of becoming independent, critical readers and writers (Standards 3 and 8). At the same time, speaking and listening skills will continue to be developed as students progress through the grade levels, and concepts of independent reading and writing will be introduced even in the earliest grades.

Independent reading and writing is a natural outgrowth of strong standards implementation through a rigorous curriculum. Standard 8 acknowledges students' need to grow increasingly independent for college and career readiness. Being able to work independently and seek out opportunities to read and write is a significant part of life-long learning. These skills easily transfer to test-taking, civic engagement, and citizenship.

Academic standards establish objective performance criteria. They are used as guides to develop curriculum and instruction that is engaging, challenging, and sequenced for students. Acquiring English language arts knowledge and skills is a recursive learning endeavor. Students need to revisit concepts as they develop language arts acumen at increasingly higher levels of complexity.



The eight overarching standard statements are accompanied by two strand statements—listening and speaking for Standard 1 and reading and writing for Standards 2-8. Standard 2 Reading and Writing Foundations includes five unique strands and statements related to foundational literacy skills. Every strand contains grade-level objectives.

Standard 1: Listening and Speaking | Students will listen and speak effectively in a variety of situations.

- **Listening:** Students will develop and apply effective communication skills through active listening.
- **Speaking:** Students will develop and apply effective communication skills to share ideas through speaking.

Standard 2: Reading and Writing Foundations | Students will develop foundational skills for reading and writing proficiency by working with sounds, letters, and text.

- **Phonological Awareness:** Students will recognize, count, and manipulate the parts of spoken words, including syllables, onset/rimes, and phonemes without using text.
- **Print Concepts:** Students will demonstrate their understanding of the organization and basic features of print.
- **Phonics and Word Study:** Students will decode words by applying phonics and word analysis skills in context and isolation.
- **Spelling/Encoding:** Students will encode and write words in context and isolation by applying phonics, spelling patterns, and structural analysis skills.
- **Fluency:** Students will read grade-level text smoothly and accurately, with appropriate expression.

Standard 2: Reading and Writing Process | Students will use a variety of recursive reading and writing processes.

- **Reading:** Students will read and comprehend inclusive, diverse, and increasingly complex literary and informational texts.
- **Writing:** Students will engage in a recursive process that may include prewriting, drafting, revising, editing, and publishing.

Standard 3: Critical Reading and Writing | Students will apply critical thinking skills to reading and writing.

- **Reading:** Students will analyze, interpret, and evaluate increasingly complex literary and informational texts that include a wide range of historical, cultural, ethnic, and global perspectives from a variety of genres.
- **Writing:** Students will thoughtfully and intentionally write, addressing a range of modes, purposes, and audiences.

Standard 4: Vocabulary | Students will expand and apply their spoken and reading vocabularies to speak, read, and write effectively.

- **Reading:** Students will expand their grade-level vocabularies through reading, word study, and class discussion.
- **Writing:** Students will apply knowledge of vocabulary to speak and write effectively.



Standard 5: Language | Students will expand and apply knowledge of grammar, usage, mechanics, and style to comprehend texts and communicate effectively.

- **Reading:** Students will expand and apply knowledge of grammar, usage, mechanics, and style to comprehend, analyze, and/or evaluate a variety of texts.
- **Writing:** Students will expand and apply knowledge of grammar, usage, mechanics, and style to speak and write effectively, demonstrating standard usage when appropriate.

Standard 6: Research | Students will engage in inquiry to acquire, refine, and communicate accurate information.

- **Reading:** Students will gather, comprehend, evaluate, and synthesize researched information to acquire and refine knowledge.
- **Writing:** Students will synthesize information ethically through speaking and writing.

Standard 7: Multimodal Literacies | Students will comprehend and communicate knowledge through alphabetic, aural, visual, spatial, and/or gestural content.

- **Reading:** Students will comprehend and evaluate multimodal content.
- **Writing:** Students will create multimodal content to communicate effectively.

Standard 8: Independent Reading and Writing | Students will read and write independently for a variety of purposes and periods of time.

- **Reading:** Students will read self-selected texts independently, choosing genres to suit and expand their personal preferences and purposes.
- **Writing:** Students will write independently, intentionally selecting modes, purposes, and audiences.

Disciplinary Literacy in Oklahoma Academic Standards

As literacy expert Dr. Timothy Shanahan explains, “Disciplinary literacy is based upon the idea that literacy and text are specialized, and even unique, across the disciplines. Historians engage in very different approaches to reading than mathematicians do, for instance. Similarly, even those who know little about math or literature can easily distinguish a science text from a literary one.” Teachers of English language arts can partner with math, social studies, science, fine arts, computer science, and world languages teachers who are also teaching their students to read, write, listen, and speak within their particular subjects through subject-specific processes and standards. In self-contained elementary classrooms, teachers can incorporate various disciplinary literacies in their lessons.



Navigating the Standards



Standard 2: Reading and Writing Process

Students will use a variety of recursive reading and writing processes.



Overarching Standard and Standard Statement

Reading

Students will read and comprehend inclusive, diverse, and increasingly complex literary and informational texts.



Strands and Strand Statements

Writing

Students will use a recursive process that may include prewriting, drafting, revising, editing, and publishing.

6.2.R.1 Students will summarize alphabetic and/or multimodal texts, including main idea, to demonstrate comprehension.

6.2.R.2 Students will analyze details in fiction, poetry, and nonfiction to distinguish genres.

6.2.R.3 Students will paraphrase a paragraph in their own words to demonstrate comprehension.



Objective Code
Grade.Standard.Strand.Objective

6.2.W.1 Students will routinely and recursively prewrite (e.g., develop ideas and plan).

6.2.W.2 Students will routinely and recursively organize and develop ideas to compose a first draft.

6.2.W.3 Students will routinely and recursively revise drafts for intended purpose and organization (e.g., logical order and flow).

6.2.W.4 Students will routinely and recursively edit for correct grammar, usage, and mechanics, using various resources.

6.2.W.5 Students will routinely and recursively publish final drafts for an authentic audience (e.g., publishing digitally, performing, entering contests).



Objectives



Pre-K

Students in Pre-Kindergarten (Pre-K) learn how to physically handle books, recognize beginning and ending sounds in individual words, and write the majority of letters in their first name. Pre-K students orally describe personal interests and follow simple oral directions. They begin to describe the roles of authors and illustrators of books as well as describe characters and setting. Students in Pre-K also begin drawing and labeling pictures to tell a story or share information. They begin to build their vocabularies and apply their knowledge of new words as they communicate through speaking, drawing, and writing. Pre-K students hear different sentence structures through both verbal conversations and read-alouds, and explore other media and formats as means of communication. Students participate in read-alouds, developing stamina for listening.

Standard 1: Listening and Speaking

Students will listen and speak effectively in a variety of situations.

Listening Students will develop and apply effective communication skills through active listening.	Speaking Students will develop and apply effective communication skills to share ideas through speaking.
PK.1.L.1 Students will actively listen using agreed-upon rules with prompting.	PK.1.S.1 Students will work respectfully with peers with prompting.
PK.1.L.2 Students will follow simple one-step oral directions.	PK.1.S.2 Students will engage in collaborative discussions about various topics and texts, including their own writing, with peers and adults in small and large groups with prompting.
	PK.1.S.3 Students will ask and answer questions with prompting.
	PK.1.S.4 Students will orally describe personal interests or tell stories to peers and adults with prompting.



Standard 2: Reading and Writing Foundations

Students will develop foundational skills for reading and writing proficiency by working with sounds, letters, and text.

Phonological Awareness

Students will recognize, count, and manipulate the parts of spoken words, including syllables, onset/rimes, and phonemes without using text.

- PK.2.PA.1** Students will count spoken words in a three- to four-word sentence with one-syllable words.
- PK.2.PA.2** Students will recognize spoken words that rhyme (e.g., *wall & fall*).
- PK.2.PA.3** Students will recognize syllables in spoken words (e.g., *pony* = po + ny).
- PK.2.PA.4** Students will isolate the common initial sound when given a set of alliterative spoken words (e.g., *the puppy pounces*).

Print Concepts

Students will demonstrate their understanding of the organization and basic features of print.

- PK.2.PC.1** Students will begin to understand that print carries a message by recognizing labels, signs, and other print in the environment.
- PK.2.PC.2** Students will demonstrate correct book orientation and identify the front and back covers of a book.
- PK.2.PC.3** Students will begin to understand that print moves from top to bottom, left to right, and front to back.
- PK.2.PC.4** Students will begin to recognize that written words are made up of letters and are separated by spaces.
- PK.2.PC.5** Students will begin to recognize ending punctuation marks in print during shared reading or other text experiences.
- PK.2.PC.6** Students will begin to write some uppercase and lowercase letters including the majority of the letters in their first name with prompting.



Standard 2 Continued

Phonics and Word Study

Students will decode words by applying phonics and word analysis skills in context and isolation.

- PK.2.PWS.1** Students will name the letters in their first name.
- PK.2.PWS.2** Students will name a majority of uppercase and lowercase letters.
- PK.2.PWS.3** Students will produce some sounds represented by letters.

Fluency

Students will read grade-level text smoothly and accurately, with appropriate expression.

- PK.2.F.1** Students will read their first name in print.
- PK.2.F.2** Students will chorally recite familiar texts (e.g., rhymes, songs, poetry, etc.).

Standard 2: Reading and Writing Process

Students will use a variety of recursive reading and writing processes.

Reading

Students will read and comprehend inclusive, diverse, and increasingly complex literary and informational texts.

- PK.2.R** Students will begin to retell or reenact major events or details from a read-aloud.

Writing

Students will engage in a recursive process that may include prewriting, drafting, revising, editing, and publishing.

- PK.2.W** Students will begin to express themselves through drawing and emergent writing.



Standard 3: Critical Reading and Writing

Students will apply critical thinking skills to reading and writing.

Reading Students will analyze, interpret, and evaluate increasingly complex literary and informational texts that include a wide range of historical, cultural, ethnic, and global perspectives from a variety of genres.	Writing Students will thoughtfully and intentionally write, addressing a range of modes, purposes, and audiences.
PK.3.R.1 Students will describe the roles of an author and illustrator with prompting.	PK.3.W Students will use drawing and labeling to tell a story or share information with prompting.
PK.3.R.2 Students will answer basic questions (e.g., who, what, where, and when) about texts, photographs, or illustrations during shared reading or other text experiences with prompting.	
PK.3.R.3 Students will identify characters in a story with prompting.	

Standard 4: Vocabulary

Students will expand and apply their spoken and reading vocabularies to speak, read, and write effectively.

Reading Students will expand their grade-level vocabularies through reading, word study, and class discussion.	Writing Students will apply knowledge of vocabulary to speak and write effectively.
PK.4.R.1 Students will name and sort familiar objects into categories based on similarities and differences with prompting.	PK.4.W.1 Students will begin to use new vocabulary to produce and expand complete sentences in shared language activities.
PK.4.R.2 Students will begin to develop an awareness of context clues through read-alouds and other text experiences.	PK.4.W.2 Students will begin to use language according to purpose in shared writing experiences.
PK.4.R.3 Students will begin to acquire new vocabulary and relate new words to prior knowledge.	



Standard 5: Language

Students will expand and apply knowledge of grammar, usage, mechanics, and style to comprehend texts and communicate effectively.

Reading

Students will expand and apply knowledge of grammar, usage, mechanics, and style to comprehend, analyze, and/or evaluate a variety of texts.

- PK.5.R.1** Students will hear different sentence structures through conversations, read-alouds, and interactive reading.
- PK.5.R.2** Students will hear different parts of speech through conversations, read-alouds, and interactive reading:
- concrete objects as persons, places, or things (i.e., nouns)
 - words as actions (i.e., verbs)
 - color adjectives
 - spatial and time relationships such as *up*, *down*, *before*, and *after*

Standard 6: Research

Students will engage in inquiry to acquire, refine, and communicate accurate information.

Reading

Students will gather, comprehend, evaluate, and synthesize researched information to acquire and refine knowledge.

- PK.6.R** Students will begin to identify pictures, charts, grade-level texts, or people as sources of information on a topic of interest.

Writing

Students will synthesize information ethically through speaking and writing.

- PK.6.W** Students will generate topics of interest and decide if a friend, teacher, or expert can answer their questions with prompting.



Standard 7: Multimodal Literacies

Students will comprehend and communicate knowledge through alphabetic, aural, visual, spatial, and/or gestural content.

Reading Students will comprehend and evaluate multimodal content.	Writing Students will create multimodal content to communicate effectively.
PK.7.R Students will explore ideas and topics in a variety of media and formats with prompting.	PK.7.W Students will begin to combine movement with relevant props, images, or illustrations to support their writing and speaking.

Standard 8: Independent Reading and Writing

Students will read and write independently for a variety of purposes and periods of time.

Reading Students will read self-selected texts independently, choosing genres to suit and expand their personal preferences and purposes.	Writing Students will write independently, intentionally selecting modes, purposes, and audiences.
PK.8.R Students will listen and respond to read-alouds, participate in shared reading, and interact independently with texts.	PK.8.W Students will begin to express their ideas using a combination of drawing and emergent writing with prompting.



Oklahoma Academic Standards **MATHEMATICS**



**OKLAHOMA
Education**



Reading the Oklahoma Academic Standards for Mathematics

Standards Overview

The Oklahoma Academic Standards for Mathematics are developed around four main content strands: Numbers and Operations, Algebraic Reasoning and Algebra, Geometry and Measurement, and Data and Probability. These four strands organize the content standards throughout PK-7 and Pre-Algebra. The standards for Algebra I, Algebra II, Geometry, Precalculus, and Statistics & Probability are also fundamentally organized around these strands. The Oklahoma Mathematical Actions and Processes (MAPs) are the skills and abilities students should develop and be engaged in throughout their PK-12 mathematics education. Among these are the ability to problem solve, communicate, and reason about mathematics, which will help students be ready for the mathematics expectations of college and the skills desired by many employers. While the MAPs and content standards work together to create clear, concise, and rigorous mathematics standards and expectations for Oklahoma students with the aim of helping them be college and career ready, it is not intended that each Mathematical Action and Process will be utilized or developed with each content standard. For example, content standards that involve explaining a particular concept may be best accomplished by also engaging students in communicating mathematically, whereas standards that focus in the early grades on fluency with operations may align well with the Mathematical Action and Process focused on procedural fluency.

The Four Content Strands of the Oklahoma Academic Standards for Mathematics

Numbers and Operations Strand: A focus on numbers and operations is the cornerstone of a strong mathematics program. Developing students' fluency with numbers and operations throughout their PK-12 mathematics experience requires a balance and connection between conceptual understanding and computational proficiency and efficiency. This strand focuses on the importance of students' understanding of numbers, ways of representing numbers, relationships among numbers, relationships among number systems, and meanings of operations and how they relate to one another. An emphasis is placed on the development of estimation, so students can determine the reasonableness of solutions and answers. Further, it requires that students should be able to compute with proficiency and efficiency.



The Four Content Strands of the Oklahoma Academic Standards for Mathematics: continued

Algebraic Reasoning and Algebra Strand: All students should be able to reason algebraically and learn algebra. This strand provides focus for the PK-7 and Pre-Algebra standards around the notion that algebra is more than moving symbols around. It is about understanding patterns, relations, and functions, representing and analyzing mathematical situations and structures using algebraic symbols, using mathematical models to represent and understand quantitative relationships, and analyzing change in various contexts. These understandings are critical for success in college-level mathematics and fundamental for many real-world problems and situations students will face in their future careers. High school algebra, precalculus, and trigonometry standards use, apply, and extend these concepts.

Geometry and Measurement Strand: A focus on geometry should enable students to analyze characteristics of two- and three-dimensional objects, develop arguments based on geometric relationships, describe spatial relationships using coordinate geometry and other representational systems, apply transformations and symmetry to analyze mathematical situations, and utilize visualization, spatial reasoning, and geometric modeling to solve problems. A focus on measurement should enable students to understand measurable attributes of objects and the units, systems, and processes of measurement, and apply appropriate techniques, tools, and formulas to determine measurements. This strand provides focus around the notion that geometry and measurement help students understand and represent ideas and solve problems they will encounter in their daily lives. The high school geometry standards use, apply, and extend these concepts.

Data and Probability Strand: An increased emphasis on understanding data should span all grade levels. Making sense of data and probability has become a part of our daily lives, supporting the importance of this strand throughout a student's PK-12 mathematics experience. A focus on data and probability should enable all students to formulate questions that can be addressed with data, and to collect, organize, and display relevant data to answer them. Students should select and use appropriate statistical methods to analyze data, develop and evaluate inferences and predictions that are based on data, and understand and apply basic concepts of probability. High school statistics and probability standards use, apply, and extend these concepts.

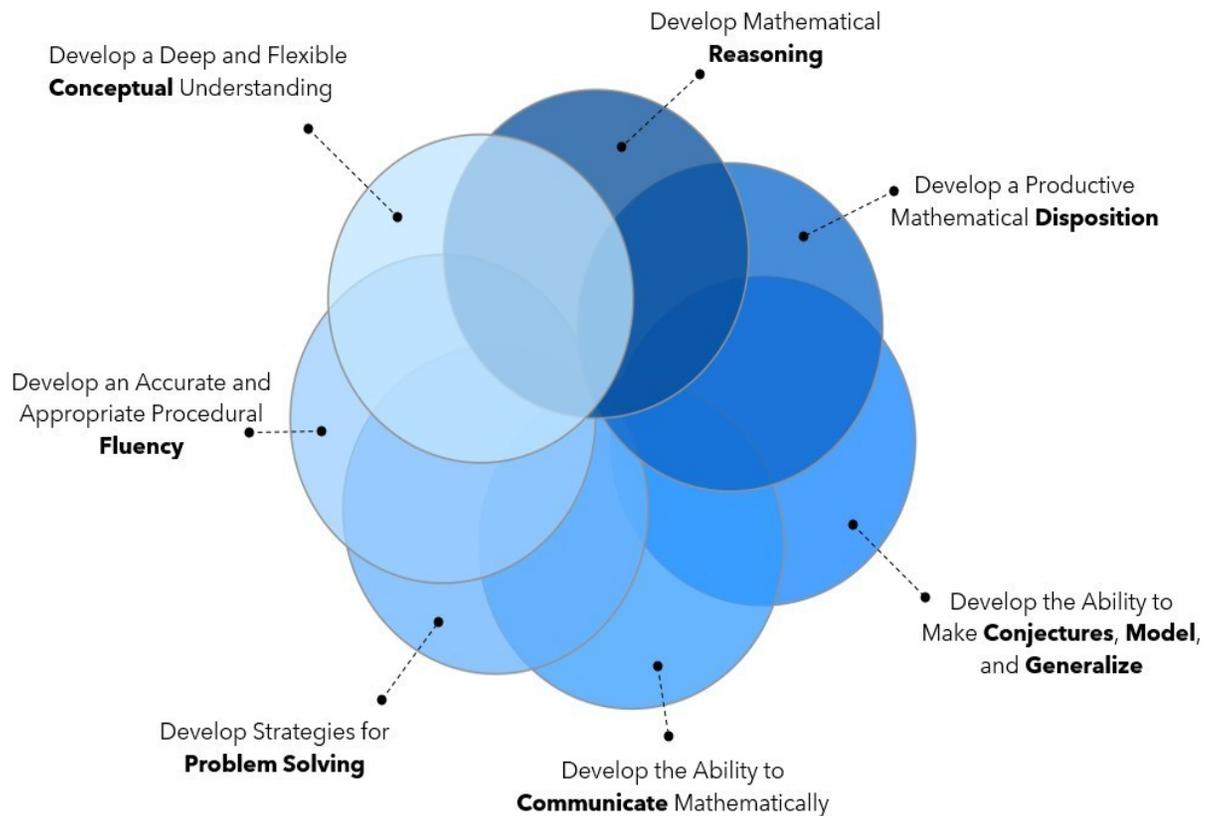


Standards vs. Objectives

The Oklahoma Academic Standards for Mathematics (OAS-M) consist of a set of standards and objectives (see page 9). The objectives serve as “stepping stones” for students to gain proficiency in the corresponding overarching standard. Each objective is the equivalent of at least one mathematical competency that students should know and be able to do if they can demonstrate proficiency in the standard. Objectives can and should be bundled to provide multiple opportunities and methods for students to learn and connect the standards and Mathematical Actions and Processes.

Mathematical Actions and Processes

The Mathematical Actions and Processes (MAPs) simultaneously reflect the holistic nature of mathematics as a discipline in which patterns and relationships among quantities, numbers, and space are studied and as a form of literacy such that all students are supported in accessing and understanding mathematics for life, for the workplace, for the scientific and technical community, and as a part of cultural heritage. The seven MAPS leverage both the NCTM Process Standards and the Five Mathematical Proficiencies to capture the mathematical experience of Oklahoma students as they pursue mathematical literacy. The gradient blocks at the top of each set of standards reminds educators to engage students in the Mathematical Actions and Processes together with content standards.





Mathematical Actions and Processes

Throughout their PK-12 education experience, mathematically literate students will:

Develop a Deep and Flexible Conceptual Understanding

Demonstrate a deep and flexible conceptual understanding of mathematical concepts, operations, and relations while making mathematical and real-world connections. Students will develop an understanding of how and when to apply and use the mathematics they know to solve problems.

Develop Accurate and Appropriate Procedural Fluency

Focus on the efficiency, flexibility, and accuracy in which students approach and solve problems. Students will learn and develop efficient procedures and algorithms for computations and repeated processes which includes developing fluency in operations with numbers and expressions. Students will have opportunities to justify both informal and commonly used strategies to support their choices of appropriate procedures. As they progress, students will strengthen their understanding and skill through application and practice.

Develop Strategies for Problem Solving

Analyze the parts of complex mathematical tasks and identify entry points to begin the search for a solution. Students will select from a variety of problem-solving strategies and use corresponding multiple representations (verbal, physical, symbolic, pictorial, graphical, tabular) when appropriate. They will pursue solutions to various tasks from real-world situations and applications that are often interdisciplinary in nature. They will find methods to verify their answers in context and will always question the reasonableness of solutions.

Develop Mathematical Reasoning

Explore and communicate a variety of reasoning strategies to think through problems. Students will apply their logic to critique the thinking and strategies of others to develop and evaluate mathematical arguments, including making arguments and counterarguments and making connections to other contexts.

Develop a Productive Mathematical Disposition

Hold the belief that mathematics is sensible, useful, and worthwhile. Students will develop the habit of looking for and making use of patterns and mathematical structures. They will persevere and become resilient, effective problem solvers.

Develop the Ability to Make Conjectures, Model, and Generalize

Make predictions and conjectures and draw conclusions throughout the problem-solving process based on patterns and the repeated structures in mathematics. Students will create, identify, and extend patterns as a strategy for solving and making sense of problems.

Develop the Ability to Communicate Mathematically

Students will discuss, write, read, interpret, and translate ideas and concepts mathematically. As they progress, students' ability to communicate mathematically will include their increased use of mathematical language and terms and analysis of mathematical definitions.



Reading the Oklahoma Academic Standards for Mathematics

GRADE OR COURSE

5th Grade (5)

MATH ACTIONS AND PROCESSES

Develop a Deep and Flexible Conceptual Understanding	Develop Accurate and Appropriate Procedural Fluency	Develop Strategies for Problem Solving	Develop Mathematical Reasoning	Develop a Productive Mathematical Disposition	Develop the Ability to Make Conjectures, Model, and Generalize	Develop the Ability to Communicate
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STANDARDS

Number & Operations (N)

STRANDS

5.N.1 Read, write, represent, and compare fractions and decimals; recognize and write equivalent fractions; convert between fractions and decimals; use fractions and decimals in real-world and mathematical situations.	5.N.1.1 Represent decimal fractions (e.g., 1/10, 1/100) using 10 by 10 grids, base-ten blocks, meter stick) and showing the rational number relationship among fractions, decimals and whole numbers.
	5.N.1.2 Read, write, and represent decimals using place value to describe decimal numbers including fractional numbers as small as thousandths and whole numbers up to seven digits.
	5.N.1.3 Compare and order fractions and decimals, including mixed numbers and fractions less than one, and locate on a number line.
	5.N.1.4 Recognize and generate equivalent decimals, fractions, mixed numbers, and fractions in various mathematical models.
5.N.2 Divide multi-digit numbers and solve real-world and mathematical problems using arithmetic.	5.N.2.1 Divide multi-digit numbers using various mathematical models.
	5.N.2.2 Divide multi-digit numbers, by one- and two-digit divisors, based on knowledge of place value, including but not limited to standard algorithms.
	5.N.2.3 Recognize that remainders can be represented in a variety of ways, including a whole number, fraction, or decimal. Determine the most meaningful form of a remainder based on the context of the problem.
	5.N.2.4 Construct mathematical models to solve multi-digit whole numbers problems requiring addition, subtraction, multiplication, and division using various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.
5.N.3 Add and subtract fractions with like and unlike denominators, mixed numbers and decimals to solve real-world and mathematical problems.	5.N.3.1 Estimate sums and differences of fractions with like and unlike denominators, mixed numbers, and decimals to assess the reasonableness of the results.
	5.N.3.2 Illustrate addition and subtraction of fractions with like and unlike denominators, mixed numbers, and decimals using a variety of mathematical models (e.g., fraction strips, area models, number lines, fraction rods).
	5.N.3.3 Add and subtract fractions with like and unlike denominators, mixed numbers, and decimals, involving money, measurement, geometry, and data using various mathematical models including but not limited to standard algorithms.
	5.N.3.4 Applying mental math and knowledge of place value (no computations), find 0.1 more than a number and 0.1 less than a number; find 0.01 more than a number and 0.01 less than a number; find 0.001 more than a number and 0.001 less than a number -- through the thousandths place.

OBJECTIVES



Develop a Deep and Flexible Conceptual Understanding	Develop Accurate and Appropriate Procedural Fluency	Develop Strategies for Problem Solving	Develop Mathematical Reasoning	Develop a Productive Mathematical Disposition	Develop the Ability to Make Conjectures, Model, and Generalize	Develop the Ability to Communicate
Numbers & Operations (N)						
PK.N.1 Know number names and count in sequence.	PK.N.1.1 Count aloud forward in sequence by 1s to 20.					
	PK.N.1.2 Recognize and name written numerals 0-10.					
	PK.N.1.3 Recognize that 0 (zero) represents the count of no objects.					
PK.N.2 Count to tell the number of objects.	PK.N.2.1 Identify the number of objects, up to 10, in a row or column.					
	PK.N.2.2 Use one-to-one correspondence in counting objects and matching groups of objects up to 10.					
	PK.N.2.3 Understand the last numeral spoken when counting aloud tells how many total objects are in a set up to 10.					
	PK.N.2.4 Count up to 5 items in a scattered configuration, not in a row or column.					
PK.N.3 Compare sets using numbers.	PK.N.3.1 Compare two sets of 0-5 objects using comparative language such as “same,” “more,” or “fewer.”					
Algebraic Reasoning & Algebra (A)						
PK.A.1 Recognize, duplicate, and extend patterns.	PK.A.1.1 Sort and group up to 5 objects into a set based upon characteristics such as color, size, and shape. Explain verbally what the objects have in common.					
	PK.A.1.2 Recognize, duplicate, and extend repeating patterns involving manipulatives, sound, movement, and other contexts.					
Geometry & Measurement (GM)						
PK.GM.1 Identify common shapes.	PK.GM.1.1 Identify circles, squares, rectangles, and triangles by pointing to the shape when given the name.					
PK.GM.2 Describe and compare measurable attributes.	PK.GM.2.1 Identify measurable attributes of objects. Describe them using age-appropriate vocabulary (i.e., little, big, long, short, tall, heavy, light).					
	PK.GM.2.2 Directly compare two objects with a common measurable attribute using age-appropriate vocabulary (e.g., longer/shorter, heavier/lighter, taller/shorter).					
	PK.GM.2.3 Sort objects into sets by one or more attributes.					
Data & Probability (D)						
PK.D.1 Collect and organize categorical data.	PK.D.1.1 Collect and organize information about objects and events in the environment.					
	PK.D.1.2 Use categorical data to create real-object graphs, with guidance and support.					

OKLAHOMA ACADEMIC STANDARDS

SCIENCE



OKLAHOMA STATE DEPARTMENT OF
EDUCATION
— CHAMPION EXCELLENCE —



Dimension 1: Science and Engineering Practices

The Science and Engineering Practices describe the major practices that scientists employ as they investigate and build models and theories about the world, and a key set of engineering practices that engineers use as they design and build systems. Performance Expectations that emphasize engineering are designated with an asterik *. The eight science and engineering practices are:

Asking Questions and Defining Problems
A practice of science is to ask and refine questions that lead to descriptions and explanations of how the natural and designed world(s) works. Engineering questions clarify problems to determine criteria for successful solutions.

Developing and Using Models
A practice of both science and engineering is to use and construct models as helpful tools for representing ideas and explanations. These tools include diagrams, drawings, physical replicas, mathematical representations, analogies, and computer simulations.

Planning and Carrying Out Investigations
Scientists and engineers plan and carry out investigations in the field or laboratory, working collaboratively as well as individually. Their investigations are systematic and require clarifying what counts as data and identifying variables or parameters.

Analyzing and Interpreting Data
Scientific investigations produce data that must be analyzed in order to derive meaning, and engineering investigations include analysis of data collected in the tests of designs.

Using Mathematics and Computational Thinking

In both science and engineering, mathematics and computation are fundamental tools for representing physical variables and their relationships. They are used for constructing simulations, solving

equations exactly or approximately, and recognizing, expressing, and applying quantitative relationships.

Constructing Explanations and Designing Solutions

End products of science are explanations, and end products of engineering are solutions. The construction of theories provides explanatory accounts of the world, and scientific knowledge is utilized in the development of solution to problems.

Engaging Scientific Argument from Evidence

Argumentation is the process by which evidence-based conclusions and solutions are reached. In science and engineering, reasoning and argument based on evidence are essential to identifying the best explanation for a natural phenomenon or the best solution to a design problem.

Obtaining, Evaluating, and Communicating Information

Scientists and engineers must be able to communicate clearly and persuasively the ideas and methods they generate. Critiquing and communicating ideas individually and in groups is a critical professional activity.



Dimension 2: Disciplinary Core Ideas

Disciplinary Core Ideas represent a set of science and engineering ideas for K-12 science education that have broad importance across multiple sciences or engineering disciplines; provide a key tool for understanding or investigating more complex ideas and solving problems; relate to the interests and life experiences of students; and are teachable and learnable over multiple grades at increasing levels of sophistication. (NRC, 2012, p. 31) Disciplinary Core Ideas are grouped into four domains:

Domain 1: Physical Science (PS)

Most systems or processes depend at some level on physical and chemical subprocesses, whether the system is a star, Earth's atmosphere, a river, a bicycle, or a living cell. To understand the physical and chemical basis of a system, students must understand the structure of matter, the forces between objects, the related energy transfers, and their consequences. In this way, the underlying principles of physical science, chemistry, and physics allow students to understand all natural and human-created phenomena.

Domain 2: Life Science (LS)

The life sciences focus on patterns, processes, and relationships of living organisms. The study of life ranges over scales from single molecules, organisms and ecosystems, to the entire biosphere. A core principle of the life sciences is that organisms are related through common ancestry and that processes of natural selection have led to the tremendous diversity of the biosphere. Through courses like Biology and Environmental Science, students explore all aspects of living things and the environments they live in.

Domain 3: Earth and Space Science (ESS)

Through Earth and Space Sciences (ESS), students investigate processes that operate on Earth and also address Earth's place in the solar system and the galaxy. ESS involve phenomena that range in scale from unimaginably large

to invisibly small and provide students opportunities to understand how the atmosphere, geosphere, and biosphere are connected.

Domain 4: Engineering, Technology, and Applications of Science (ETS)

The applications of science knowledge and practices to engineering have contributed to the technologies and the systems that serve people today. Insights gained from scientific discovery have altered the ways in which buildings, bridges, and cities are constructed; changed the operations of factories; led to new methods of generating and distributing energy; and created new modes of travel and communication. An overarching goal of ETS is for students to explore links among engineering, technology, science, and society throughout the physical, life, and Earth and space sciences.



Dimension 3: Crosscutting Concepts

The Crosscutting Concepts represent common threads or themes that span across science disciplines (biology, chemistry, physics, environmental science, Earth/space science) and have value to both scientists and engineers because they identify universal properties and processes found in all disciplines. These Crosscutting Concepts are:

Patterns

Observed patterns of forms and events guide organization and classification. Patterns prompt questions about the factors that influence cause and effect relationships. Patterns are useful as evidence to support explanations and arguments.

Cause and Effect

Events have causes, sometimes simple, sometimes multifaceted and complex. A major activity of science is investigating and explaining causal relationships and the mechanisms by which they are mediated. Such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts.

Scale, Proportion, Quantity

In considering phenomena, it is critical to recognize what is relevant at different measures of size, time, and energy and to recognize how changes in scale, proportion, or quantity affect a system's structure or performance.

Tracking fluxes of energy and matter into, out of, and within systems helps one understand the system's possibilities and limitations.

Structure and Function

An object's structure and shape determine many of its properties and functions. The structures, shapes, and substructures of living organisms determine how the organism functions to meet its needs within an environment.

Stability and Change

For natural and built systems alike, conditions of stability and rates of change provide the focus for understanding how the system operates and causes for changes in system.

Systems and System Models

Defining the system under study—specifying its boundaries and making explicit a model of that system—provides tools for understanding and testing ideas that are applicable throughout science and engineering.

Energy and Matter



Reading the Oklahoma Academic Standards for Science



KINDERGARTEN (K)



Disciplinary Core Idea Category

Motion and Stability of Forces (PS2)

K.PS2.1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. Performance Expectation



Clarification Statement: Example investigations include observing the movement of different objects being pulled by a string, observing different objects pushed on a surface and used to roll down a ramp, or observing how two objects (e.g., toy cars, balls) interact when they collide. Observations should be collected directly. **Clarification Statement & Assessment Boundary** share ideas for investigations and observations. **Assessment Boundary:** Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.



Science and Engineering Practice

Planning and Carrying Out Investigations:



• Science and Engineering Practice and

Disciplinary Core Ideas

- Pushes and pulls can have different strengths and directions.
- Pushing or pulling on an object can change the speed or direction of motion.
- A bigger push or pull makes things speed up or slow down more quickly.
- When objects touch or collide, they push on one another and can change motion.



Disciplinary Core Ideas

Crosscutting Concepts

Cause and Effect:

Simple tests can be designed to provide evidence to support or refute student ideas about causes.



Crosscutting Concept



PREKINDERGARTEN (PK)	
Science Exploration (S)	
PK.S.1 Engage in play to explore the physical and natural world.	Clarification Statement: Exploration-based play should include playing inside the classroom (e.g., building towers with blocks, interacting with a balloon, mixing water colors, placing different objects in water) and outside the classroom (e.g., swinging at different speeds, kicking a ball in different ways, rolling round objects down a hill, digging in the dirt). Emphasis is on basic play as a means of exploration.
PK.S.2 Make observations of the physical and natural world.	Clarification Statement: Observations should focus on what things look, feel, hear, or smell like, how they might operate or function, and similarities and differences among things inside classroom (e.g., pencils, markers, and highlighters make different marks on paper) and outside a classroom (e.g., leaves look different at different times of year, sticks in different areas of the school yard are different shapes and sizes, it is cooler in the morning than at lunch). Explanations for why things inside and outside the classroom look, feel, or smell the way they do are not expected.
PK.S.3 Notice and describe similarities and differences among plants, animals, and objects.	Clarification Statement: Similarities and differences might include grouping like plants, animals, or objects based on observations. Descriptions of groupings might be based on how plants, animals, or objects look, feel, or smell.
PK.S.4 Share noticings and wonderings about the physical and natural world.	Clarification Statement: Sharing could include drawing, writing, building models, or other creative expressions, such as drama or creative movement. Sharing could include retelling, verbal descriptions, or talking with others. Wonderings might include “why,” “how,” and “what if” statements. Respect for the noticings and wondering of others should be emphasized, but explanations for noticings and wonderings are not emphasized or expected.
PK.S.5 Ask questions based on curiosity about the physical and natural world.	Clarification Statement: Questions may arise through observations, play, interests, events in the classroom, text, media, or other experiences of the natural and physical world.
PK.S.6 Engage in investigations based on curiosity and wondering about the physical and natural world.	Clarification Statement: Opportunities for investigation or further investigation could arise from opportunities to engage in play inside and outside the classroom, curiosities and wonderings of the student from school or out of school experiences. Emphasis is on providing opportunities for investigations to arise from student curiosities, wonderings, or questions.

**OKLAHOMA
ACADEMIC
STANDARDS**

**SOCIAL
STUDIES**



OKLAHOMA STATE DEPARTMENT OF
EDUCATION
— CHAMPION EXCELLENCE —



Social Studies Content Strands Overview

Social Studies is a systematic and coordinated discipline designed to promote civic competence by drawing upon four content strands: history, geography, civics, and economics. These strands draw from all fields of study related to the social sciences to provide a framework used in the development of the content standards for social studies. They are to be threaded through an integrated program, from grades pre-K through 12, as appropriate at each level. While at some grades and for some courses, specific strands will be more dominant than others, all strands are represented and interrelated in the standards for each grade and course.

Strand 1: History

History focuses on the written record of human experience revealing how individuals and societies developed institutions, philosophies, ideals, and cultural values, and resolved their problems. A balanced study of history helps students understand the how and why of the challenges and successes of past societies. By studying the choices and decisions of the past, students can confront today's problems with a deeper awareness of their alternatives and likely consequences.

Strand 2: Geography

Geography has more to do with asking questions and solving problems than with rote memorization of isolated facts. It is the study of the earth's surface and the processes that shape it, the relationships between people and environments, and the connections between people and places. As a discipline, geography provides the skills to help students answer questions about where things are, how they got there, and how they interact with other things - in the past, now, and in the future.

Strand 3: Civics

Civics is defined to mean the study of the rights and duties of Oklahoma and United States citizens and of how their governments work. This strand helps students understand the essential principles and workings of their political system and that of others, as well as the relationship of American politics and government to world affairs. The goal of civics is to develop literate, informed, competent, and responsible citizens who are politically aware, active, and committed to the fundamental values and principles of American constitutional democracy.

Strand 4: Economics

Economics provides students with an understanding of how individuals, communities, states, and nations allocate both scarce and abundant resources. A clear understanding of economics enables students to comprehend the various competing economic philosophies, ideas, and forces that affect them every day, measure the effectiveness of each, and identify and evaluate the consequences of personal decisions and public policies. Students then will understand how a market economy effectively functions preparing them to be producers, consumers, and citizens.



Social Studies Practices Overview

The Social Studies Practices reflect the key skills and disciplinary tools to prepare students for college, career, and civic life. The practices are meant to be integrated with the instruction of content standards. The five practices are defined broadly below and are further delineated on pg. 6. The social studies practices are designed to support student mastery of the content through a progression of skills PK-12.

Engage in Democratic Processes

Understanding civic virtues and the role of civic institutions. Students will gain knowledge of the history, principles, and foundations of American democracy to participate in civic and democratic processes. Students will identify the institutions of American government to analyze their role as responsible citizens.

Analyze and Address Authentic Civic Issues

Understanding the importance of critical questioning to solve real world problems. Students will develop essential questions to frame independent inquiry related to the past and present. Students will identify and address public problems individually and collaboratively to improve communities and society.

Acquire, Apply, and Evaluate Evidence

Understanding and using strategies to analyze evidence in the social studies. Students will evaluate historical, geographic, and economic information. Students will draw conclusions from primary and secondary sources to formulate informed decisions.

Read Critically and Interpret Information Sources

Understanding the purpose of engaging with text. Students will evaluate factual information and points of view as presented in text. Students will read historical and contemporary texts to engage in collaborative discussion.

Engage in Evidence-Based Writing

Understanding the multiple purposes of the writing process. Students will develop written products designed for a variety of social studies related investigations. Students will use and integrate evidence to present knowledge and support opinion.



Social Studies Practices PK-12

The Social Studies Practices describe the experience all students should have as they explore and reason about social studies content PK-12. Additional guidance for what the Social Studies Practices look like across grade levels is provided in **Appendix A: Social Studies Practices PK-12 Progression**.

1. **Engage in Democratic Processes** - Students will understand the principles of government, the benefits of democratic systems, and their responsibilities as citizens.
 - 1.A. Students will demonstrate an understanding of the virtues that citizens should use when interacting with each other and the virtues that guide official government institutions.
 - 1.B. Students will demonstrate an understanding of the important institutions of their society and the principles that these institutions are intended to reflect.
 - 1.C. Students will demonstrate understanding of the processes and rules by which groups of people make decisions, govern themselves, and address public problems.
2. **Analyze and Address Authentic Civic Issues** - Students will determine the kinds of sources that will be helpful in answering essential, compelling, and supporting questions addressing authentic civic issues.
 - 2.A. Students will demonstrate the capability for developing essential, compelling, and supporting questions that address authentic civic issues.
 - 2.B. Students will demonstrate the ability to investigate problems taking into consideration multiple points of view represented in arguments, structure of an explanation, and other sources.
3. **Acquire, Apply, and Evaluate Evidence** - Students will utilize interdisciplinary tools and master the basic concepts of the social studies in order to acquire and apply content understanding in all related fields of study.
 - 3.A. Students will develop skills and practices which demonstrate an understanding that historical inquiry is based on the analysis and evaluation of evidence and its credibility.
 - 3.B. Students will demonstrate an understanding of geographic concepts and develop mastery of geographic tools and ways of thinking in order to become geographically informed.
 - 3.C. Students will analyze the principles of economic systems and develop an understanding of the benefits of a market system in local, national, and global settings.
4. **Read Critically and Interpret Informational Sources** - Students will engage in critical, active reading of grade-level appropriate primary and secondary sources related to key social studies concepts, including frequent analysis and interpretation of informational sources.
 - 4.A. Students will comprehend, evaluate, and synthesize textual sources to acquire and refine knowledge in the social studies.
 - 4.B. Students will apply critical reading and thinking skills to interpret, evaluate, and respond to a variety of complex texts from historical, ethnic, and global perspectives.
5. **Engage in Evidence-Based Writing** - Students will apply effective communication skills by developing a variety of evidence-based written products designed for multiple purposes and tasks, in order to demonstrate their understandings of social studies concepts, ideas, and content.
 - 5.A. Students will summarize and paraphrase, integrate evidence, and cite sources to create written products, research projects, and presentations for multiple purposes related to social studies content.
 - 5.B. Students will engage in authentic inquiry to acquire, refine, and share knowledge through written presentations related to social studies.



Reading the Oklahoma Academic Standards for Social Studies

Practices 



Oklahoma Academic Standards for Social Studies 2nd Grade (2)



Grade or Course

Engage in Democratic Processes	Analyze and Address Authentic Civic Issues	Acquire, Apply, and Evaluate Evidence	Read Critically and Interpret Informational Sources	Engage in Evidence-Based Writing
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2nd Grade Content Standards

2.1 The student will explain the importance of the basic principles that provide the foundation of the American system of government.

Standards 

2.2 The student will describe the physical and human characteristics of their environment.

2.1.1 Describe the Constitution of the United States as the structure for our national government.

2.1.2 Summarize the five key individual rights and liberties protected by the First Amendment to the Constitution of the United States.

2.1.3 Explain how active citizens participate in the government by voting to elect officials that represent them.

2.1.4 Identify the basic roles of national leaders including the President of the United States, the members of the United States Congress, and the justices of the Supreme Court.

2.1.5 Explain how all people can play an important role in their community.



Objectives

2.2.1 Construct basic maps using cardinal directions and map symbols.

2.2.2 Describe absolute and relative location using latitude, longitude, and hemispheres on basic maps and globes.

2.2.3 Use political maps to locate the state of Oklahoma and the six bordering states.

2.2.4 Identify and locate basic landforms, bodies of water, continents, and oceans on a map.

2.2.5 Describe how communities modify the environment to meet their needs.

2.2.6 Describe customs, traditions, clothing, food, housing, and music as basic elements of various cultures represented within the local community.



Engage in Democratic Processes	Analyze and Address Authentic Civic Issues	Acquire, Apply, and Evaluate Evidence	Read Critically and Interpret Informational Sources	Engage in Evidence-Based Writing
Pre-Kindergarten Content Standards				
PK.1 The student will exhibit traits of good citizenship.	PK.1.1 Describe the importance of rules and personal responsibilities including working together to make decisions as a member of a family and classroom community.			
	PK.1.2 Explain the need to respect the uniqueness of individuals in our class and community.			
	PK.1.3 Describe the concept of being a citizen.			
	PK.1.4 Identify the United States Flag as a symbol of the country.			
PK.2 The student will demonstrate knowledge of basic physical and human geographic concepts.	PK.2.1 Explain that a map is a drawing of a place.			
	PK.2.2 Use basic directional terms in relation to the student’s relative location.			
	PK.2.3 Describe a classroom as a community.			
	PK.2.4 Identify family customs and traditions as basic elements of culture.			
PK.3 The student will understand that history relates to events and people of other times and places.	PK.3.1 Explain history as things that happened in the past.			
	PK.3.2 Describe how we honor people and events of the past.			
	PK.3.3 Use words and phrases, such as before and after, as they relate to chronology and time in order to explain how things change.			
	PK.3.4 Explain that lessons can be learned from the past.			
PK.4 The student will identify basic economic concepts.	PK.4.1 Identify basic needs all people share.			
	PK.4.2 Explain that people work to earn money to buy things they need and want.			
	PK.4.3 Explain how resources are used by people to meet their needs.			
	PK.4.4 Describe how various school personnel provide needed services.			