

Oklahoma Academic Standards

ENGLISH LANGUAGE ARTS



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

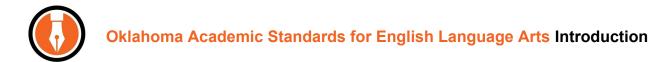


language arts, where students read to understand the meaning and composition of a text and write with readers' expectations and assumptions in mind.

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.

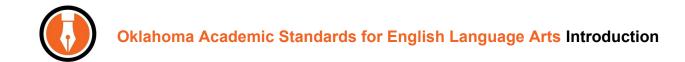
- **Reading**: Students will read and comprehend inclusive, diverse, and increasingly complex literary and informational texts.
- Writing: Students will engage in a recursive process that may include prewriting, drafting, revising, editing, and publishing.

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.



Oklahoma Academic Standards for English Language Arts Introduction

Navigating the Standards



Oklahoma Academic Standards for English Language Arts Grade 6

Grade

Standard 2: Reading and Writing Process Overarching Standard Students will use a variety of recursive reading and writing processes. and Standard Statement Reading Writing Students will read and comprehend inclusive, d Strands and Strand Statements recursive process that may include and increasingly complex literary and information. provincing, drafting, revising, editing, and publishing. Students will summarize alphabetic and/or multimodal texts. 6.2.R.1 6.2.W.1 Students will routinely and recursively prewrite (e.g., develop including main idea, to demonstrate comprehension. ideas and plan). Students will routinely and recursively organize and develop 6.2.R.2 6.2.W.2 d nonfiction **Objective Code** ideas to compose a first draft. Grade.Standard. Strand.Objective 6.2.R.3 oragents will paraphrase a paragraph in their own words to Students will rousely and recursively revise drafts for 6.2.W.3 demonstrate comprehension. intended purr anization (e.g., **Objectives** logicalorder a Students will routinely and recursively edit for correct 6.2.W.4 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).

Kindergarten

Students in kindergarten learn concepts of print, recognize individual sounds in words, write their first and last name, and recognize all letters in the alphabet. Students share personal interests, listen to others, and engage in collaborative conversations. Kindergarten students begin to identify authors and illustrators of books and describe characters and setting. They ask and answer basic yet relevant questions about texts, retelling facts and details. Students begin drawing, labeling pictures, or writing to tell a story or share information. They expand their grade-level vocabularies and apply their knowledge of those words as they communicate through speaking, drawing, and writing. Kindergarteners begin to write simple sentences that begin with a capital letter and conclude with an end mark. They also use props, illustrations, or movements to express themselves. 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.
K.1.L.1 K.1.L.2	Students will actively listen using agreed-upon discussion rules with prompting. Students will follow simple one- and two-step oral directions.	K.1.S.1 K.1.S.2	Students will work respectfully with peers with prompting. 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.
		K.1.S.3 K.1.S.4	Students will ask and answer relevant questions with prompting. Students will orally describe personal interests or tell stories to peers and adults using agreed-upon rules (e.g., taking turns, staying on topic).

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.

- **K.2.PA.1** Students will count one-syllable and multisyllabic spoken words in a sentence (e.g., I see an elephant.).
- **K.2.PA.2** Students will distinguish rhyming and non-rhyming pairs and produce a rhyme when given a word.
- **K.2.PA.3** Students will isolate and pronounce initial and final sounds in spoken words.
- **K.2.PA.4** Students will count, segment, and blend syllables in spoken words.
- **K.2.PA.5** Students will blend and segment onset and rime in one-syllable spoken words (e.g., blending: /j/ + og = jog; segmenting: cat = /c/+ at).
- **K.2.PA.6** Students will blend phonemes to form one-syllable spoken words with 2-4 phonemes (e.g., /f/ /l/ /a/ /t/= flat).
- **K.2.PA.7** Students will segment phonemes in one-syllable spoken words with 2-4 phonemes (e.g., $flat = \frac{f}{l} \frac{l}{l} \frac{a}{l}$).

Print Concepts

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

- **K.2.PC.1** Students will demonstrate their understanding that print carries a message by recognizing labels, signs, and other print in the environment.
- **K.2.PC.2** Students will demonstrate correct book orientation and identify the title, title page, and the front and back covers of a book.
- **K.2.PC.3** Students will recognize that print moves from top to bottom, left to right, and front to back.
- **K.2.PC.4** Students will recognize that written words are made up of letters and are separated by spaces.

Standard 2 Continued

- **K.2.PC.5** Students will recognize the distinguishing features of a sentence (e.g., capitalization of the first word, ending punctuation: period, exclamation point, question mark) with prompting.
- **K.2.PC.6** Students will correctly form letters to write their first and last name and most uppercase and lowercase letters correctly.

Phonics and Word Study

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

- **K.2.PWS.1** Students will name all uppercase and lowercase letters.
- **K.2.PWS.2** Students will sequence the letters of the alphabet.
- **K.2.PWS.3** Students will produce the sounds for short and long vowels and the most common sound for consonants (e.g., $a = /\check{a} / \& /\bar{a} / f = /f / , s = /s / , x = /ks /)$.
- **K.2.PWS.4** Students will blend letter sounds to decode simple Vowel/Consonant (VC) and Consonant/Vowel/Consonant (CVC) words (e.g., VC words = at, in, up; CVC words = pat, hen, lot).

Spelling/Encoding

Students will encode and write words in context and isolation by applying phonics, spelling patterns, and structural analysis skills.

- **K.2.SE.1** Students will represent major consonants logically in phonetic spelling (e.g., "lefnt" for *elephant* or "apl" for *apple*).
- **K.2.SE.2** Students will represent all of the sounds in a Consonant/Vowel/Consonant (CVC) word logically in phonetic spelling (e.g., "kat" for *cat* or "fer" for *fur*).

Standard 2 Continued

Fluency

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

- **K.2.F.1** Students will read their first and last name in print.
- **K.2.F.2** Students will recite familiar texts (e.g., rhymes, songs, poetry, etc.).
- **K.2.F.3** Students will begin to develop a sight word vocabulary by decoding and reading regularly- and irregularly-spelled words in isolation and context with increasing automaticity.

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.	
K.2.R.1	Students will identify the topic or main idea with a supporting detail of a text with prompting.	K.2.W.1	Students will express themselves through drawing and emergent writing.
K.2.R.2	Students will discriminate between fiction and nonfiction text with prompting.	K.2.W.2	Students will sequence the action or details of stories/texts with prompting.
K.2.R.3	Students will sequence the plot (i.e., beginning, middle, and end) of a story with prompting.	K.2.W.3 Students will use appropriate spacing between letters an words in emergent writing.	
K.2.R.4	Students will begin to retell facts and details from an informational text.	K.2.W.4 Students will add to their drawing and emergent writing.	
		K.2.W.5	Students will share their stories/texts with authentic audiences.

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.	
K.3.R.1	Students will describe the roles of an author and illustrator in various texts.	K.3.W	Students will use drawing, labeling, and writing to tell a story, share information, or express an opinion with prompting.
K.3.R.2	Students will ask and answer basic questions (e.g., who, what, where, and when) about texts, photographs, or illustrations during shared reading or other text experiences with prompting.		
K.3.R.3	Students will describe characters and setting 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.	
K.4.R.1	Students will name and sort familiar objects into categories based on similarities and differences with prompting.	K.4.W.1	Students will use new vocabulary to produce and expand complete sentences in shared language activities.
K.4.R.2	Students will begin to develop an awareness of context clues through read-alouds and other text experiences.	K.4.W.2	Students will use language according to purpose in shared writing experiences.
K.4.R.3	Students will begin to acquire new vocabulary and relate new words to prior knowledge.		



Oklahoma Academic Standards for English Language Arts Kindergarten

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.	
K.5.R.1 K.5.R.2	Students will recognize simple sentences with prompting. Students will recognize parts of speech in sentences with prompting: concrete objects as persons, places, or things (i.e., nouns) words as actions (i.e., verbs) color and size adjectives the pronoun I spatial and time relationships such as up, down, before, and after	K.5.W.1 K.5.W.2 K.5.W.3	Students will begin to compose simple sentences that begin with a capital letter and conclude with an end mark. Students will capitalize their first name and the pronoun <i>I</i> with prompting. Students will recognize and begin to use periods, question marks, and exclamation points.

Oklahoma Academic Standards for English Language Arts Kindergarten

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.	
K.6.R.1	Students will identify relevant pictures, charts, grade-level texts, or people as sources of information on a topic of interest.	K.6.W.1	Students will generate topics of interest and decide if a friend, teacher, or expert can answer their questions with prompting.
K.6.R.2	Students will identify and use graphic and text features to understand texts: • photos • illustrations • titles	K.6.W.2 K.6.W.3	Students will find information from provided sources during group research with prompting. Students will share relevant information for various purposes 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.	
K.7.R Students will explore ide	as and topics in multimodal content.	K.7.W	Students will combine movement with relevant props, images, or illustrations to support their writing and speaking.

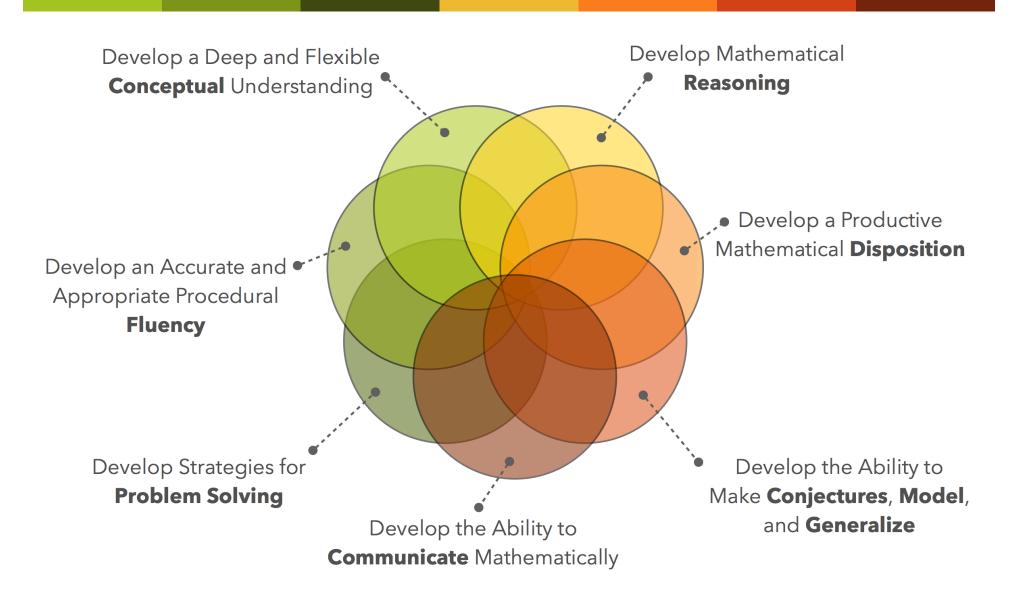
Standard 8: Independent Reading and Writing

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.		
ł	K.8.R	Students will listen and respond to read-alouds, participate in shared reading, and interact independently with texts.	K.8.W Students will express their ideas using a combination drawing and emergent writing with prompting.	

OKLAHOMA ACADEMIC MATHEMATICS STANDARDS

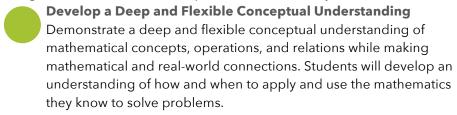
Mathematical Actions and Processes

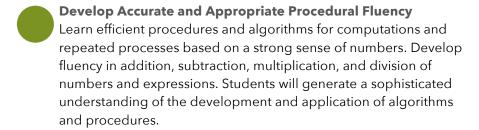


Mathematical Actions and Processes

The Mathematical Actions and Processes simultaneously reflect the holistic nature of mathematics as a discipline in which patterns and relationships among quantities, numbers, and space are studied (National Academies of Sciences, 2014) 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 (NCTM, 2000). The seven Mathematical Actions and Processes leverage both the NCTM Process Standards and the Five Mathematical Proficiencies (NRC, 2001) to capture the mathematical experience of Oklahoma students as they pursue mathematical literacy.

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





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

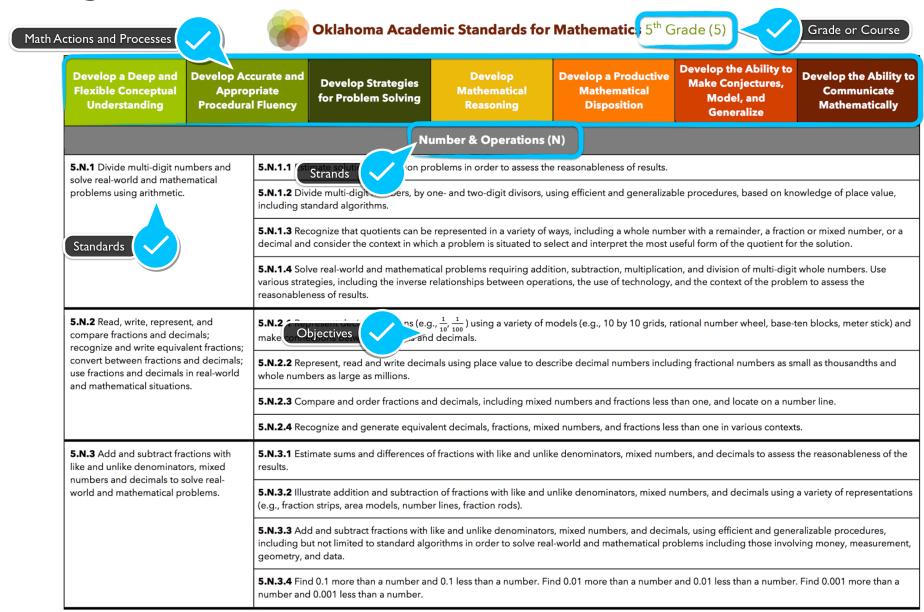
Explore and communicate a variety of reasoning strategies to think through problems. Students will apply their logic to critique the thinking and strategies of others to develop and evaluate mathematical arguments, including making arguments and counterarguments and making connections to other contexts.

- 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





Oklahoma Academic Standards for Mathematics Kindergarten (K)

Develop a Deep and Flexible Conceptual Understanding

Develop Accurate and Appropriate **Procedural Fluency**

Develop Strategies for Problem Solving

Develop a Productive Mathematical Disposition

Develop the Ability to Make Conjectures, Model, and Generalize

Develop the Ability to Communicate Mathematically

	Number & Operations (N)
K.N.1 Understand the relationship	K.N.1.1 Count aloud forward in sequence to 100 by 1's and 10's.
between quantities and whole numbers.	K.N.1.2 Recognize that a number can be used to represent how many objects are in a set up to 10.
	K.N.1.3 Use ordinal numbers to represent the position of an object in a sequence up to 10.
	K.N.1.4 Recognize without counting (subitize) the quantity of a small group of objects in organized and random arrangements up to 10. Clarification statement: Subitizing is defined as instantly recognizing the quantity of a set without having to count. "Subitizing" is not a vocabulary word and is not meant for student discussion at this age.
	K.N.1.5 Count forward, with and without objects, from any given number up to 10.
	K.N.1.6 Read, write, discuss, and represent whole numbers from 0 to at least 10. Representations may include numerals, pictures, real objects and picture graphs, spoken words, and manipulatives.
	K.N.1.7 Find a number that is 1 more or 1 less than a given number up to 10.
	K.N.1.8 Using the words more than, less than or equal to compare and order whole numbers, with and without objects, from 0 to 10.
K.N.2 Develop conceptual fluency with addition and subtraction (up to 10) using objects and pictures.	K.N.2.1 Compose and decompose numbers up to 10 with objects and pictures.
K.N.3 Understand the relationship between whole numbers and fractions through fair share.	K.N.3.1 Distribute equally a set of objects into at least two smaller equal sets.
K.N.4 Identify coins by name.	K.N.4.1 Identify pennies, nickels, dimes, and quarters by name.



Oklahoma Academic Standards for Mathematics Kindergarten (K)

	Algebraic Reasoning & Algebra (A)					
K.A.1 Duplicate patterns in a variety of contexts.	K.A.1.1 Sort and group up to 10 objects into a set based upon characteristics such as color, size, and shape. Explain verbally what the objects have in common.					
	C.A.1.2 Recognize, duplicate, complete, and extend repeating, shrinking and growing patterns involving shape, color, size, objects, sounds, movement, and other contexts.					
	Geometry & Measurement (GM)					
K.GM.1 Recognize and sort basic two-	K.GM.1.1 Recognize squares, circles, triangles, and rectangles.					
dimensional shapes and use them to represent real-world objects.	K.GM.1.2 Sort two-dimensional objects using characteristics such as shape, size, color, and thickness.					
	K.GM.1.3 Identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably.					
	K.GM.1.4 Use smaller shapes to form a larger shape when there is an outline to follow.					
	K.GM.1.5 Compose free-form shapes with blocks.					
	K.GM.1.6 Use basic shapes and spatial reasoning to represent objects in the real world.					
K.GM.2 Compare and order objects	K.GM.2.1 Use words to compare objects according to length, size, weight, position, and location.					
according to location and measurable attributes.	K.GM.2.2 Order up to 6 objects using measurable attributes, such as length and weight.					
	K.GM.2.3 Sort objects into sets by more than one attribute.					
	K.GM.2.4 Compare the number of objects needed to fill two different containers.					
K.GM.3 Tell time as it relates to daily life.	K.GM.3.1 Develop an awareness of simple time concepts using words such as yesterday, today, tomorrow, morning, afternoon, and night within his/her daily life.					
	Data & Probability (D)					
K.D.1 Collect, organize, and interpret	K.D.1.1 Collect and sort information about objects and events in the environment.					
categorical data.	K.D.1.2 Use categorical data to create real-object and picture graphs.					
	K.D.1.3 Draw conclusions from real-object and picture graphs.					



Oklahoma Academic Standards Science Introduction

Science Strands Overview

The Draft Oklahoma Academic Standards for Science, K-12 are three-dimensional performance expectations representing the things students should know, understand, and be able to do to be proficient in science and engineering. Performance expectations are considered standards and include a science and engineering practice (everyday skills of scientists and engineers), disciplinary core ideas (science ideas used by scientists and engineers), and crosscutting concepts (ways of thinking like scientists and engineers). The PreK standards emphasize one dimension; the science and engineering practices. This provides early learners with ample time for exploratory play and background experiences that will inform learning experiences K-12.

Performance Expectation:

Each Performance Expectation is built upon recommendations in A Framework for K-12 Science Education and the three dimensions of science.

- 1. Science and Engineering Practices
- 2. Disciplinary Core Ideas
- 3. Crosscutting Concepts (NRC, 2012, p. 2)

The following additional components in the standard documents serve as support for instructors in providing clarity and further guidance for each Performance Expectation.

Clarification Statement:

Where needed, a Clarification Statement accompanies a Performance Expectation. The aim of a Clarification Statement is to provide further explanation or examples to better support educators in understanding the aim of the Performance Expectation.

Assessment Boundary:

Where applicable, an Assessment Boundary accompanies a Performance Expectation in order to provide additional support for educators in understanding the intent of the Performance Expectation and its relation to other Performance Expectations in the learning progression. Teachers should utilize the Assessment Boundaries as tools for developing curriculum and local assessments. For 5th grade, 8th grade, Biology, and Physical Science(s) the Assessement Boundaries will be utilized to inform the development of the state summative academic achievement assessments.

Oklahoma Academic Standards Science Introduction

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.



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

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

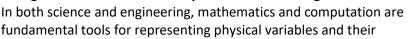
End products of science are explanations, and end products of engineering are solutions. The construction of theories provides explanatory accounts of the world, and scientific knowledge is utilized in the development of solution to problems.

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.



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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.



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 syste

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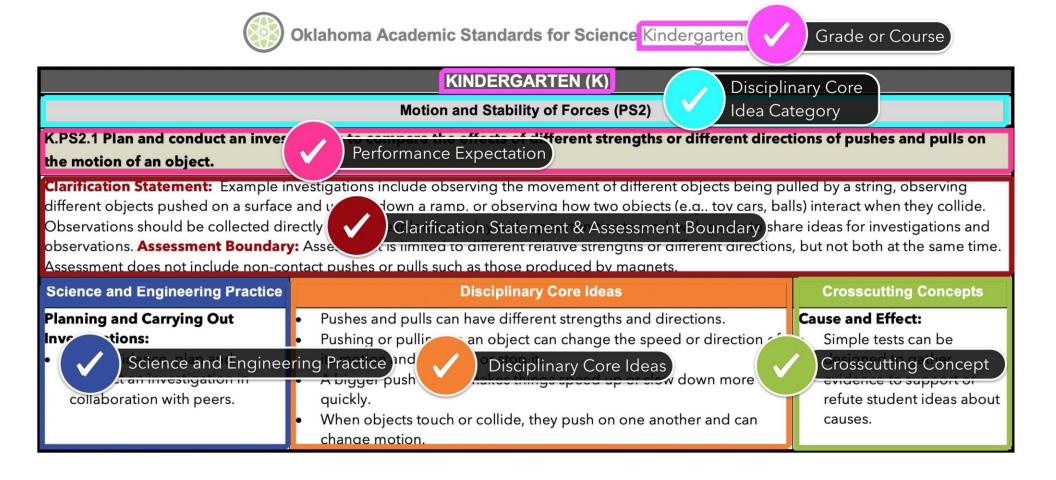
Systems and System Models

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

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Reading the Oklahoma Academic Standards for Science



KINDERGARTEN (K)

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.

Clarification Statement: Example investigations include observing the movement of different objects being pulled by a string, observing different objects pushed on a surface and up and down a ramp, or observing how two objects (e.g., toy cars, balls) interact when they collide. Observations should be collected directly through exploratory play with opportunities to work with peers to 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	Disciplinary Core Ideas	Crosscutting Concepts
Planning and Carrying Out	 Pushes and pulls can have different strengths and directions. 	Cause and Effect:
Investigations:	 Pushing or pulling on an object can change the speed or direction of its 	Simple tests can be designed
 With guidance, plan and conduct an 	motion and can start or stop it.	to gather evidence to support
investigation in collaboration with	A bigger push or pull makes things speed up or slow down more quickly.	or refute student ideas about
peers.	When objects touch or collide, they push on one another and can change	causes.
	motion.	

K.PS2.2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull.*

Clarification Statement: Data should be limited to observational data collected through exploration-based play of simple design solutions to address problems. Example problems include having an object (e.g., toy car or ball) move a certain distance, follow a particular path, or knock down other objects. Designed solutions could include using or building a ramp to increase the speed of the object, using objects that would cause an object like a toy car or ball to follow a particular path. Emphasis is on basic play as a means to develop a designed solution and test that design. Assessment Boundary: Assessment does not include friction as a mechanism for change in speed.

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts			
 Analyzing Data: Analyze data from tests of an object or tool to determine if it works as intended. 	 Pushes and pulls can have different strengths and directions. Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. 	Cause and Effect: Simple tests can be designed to gather evidence to support or refute student ideas about causes.			
Energy (PS3)					

K.PS3.1 Make observations to determine the effect of sunlight on Earth's surface.

Clarification Statement: Making observations should include opportunities to directly observe surfaces (e.g. sand, soil, rocks, or playground equipment) in direct sunlight, partial sunlight and shade with opportunities to explore and discuss observed patterns of the sun's impact on those surfaces. Opportunities to share noticings and wonderings should be encouraged. Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
Planning and Carrying Out	Sunlight warms the Earth's surface.	Cause and Effect:
Investigations:		 Events have causes that
 Make observations (firsthand or 		generate observable patterns.
from media) to collect data that can		
be used to make comparisons.		

K.PS3.2 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.*

Clarification Statement: Examples of structures could include forms of umbrellas, canopies, and tents developed through exploratory play with a variety of materials allowing opportunities to build and test how designed structures might minimize the warming effect of the sun. Effectiveness can be determined by placing rocks or sand under the structure and observing the warmth or coolness of the object.

Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
 Designing Solutions: Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. 	Sunlight warms the Earth's surface.	Events have causes that generate observable patterns.

From Molecules to Organisms: Structure and Function (LS1)

K.LS1.1 Use observations to describe patterns of what plants and animals (including humans) need to survive.

Clarification Statement: Examples of observable patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and that all living things need water. Observations could be collected through nature walks around the playground and videos. Patterns of similarities and differences among different animals or between plants and animals should be discussed.

Assessment Boundary: Assessment is limited to observations and not how plants use light (photosynthesis).

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
 Analyzing and Interpreting Data: Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. 	 All animals need food in order to live and grow. Animals obtain their food from plants or from other animals. Plants need water and light to live and grow. 	Patterns: • Patterns in the natural and human designed world can be observed and used as evidence.

Earth Systems (ESS2)

K.ESS.2.1 Use and share observations of local weather conditions to describe patterns over time.

Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.

Assessment Boundary: Assessment of temperature is limited to whole numbers for patterns, and relative measures such as warmer/cooler for temperatures.

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
 Analyzing and Interpreting Data: Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. 	 Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. 	Patterns: • Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

Earth Systems (ESS2)

K.ESS2.2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

Clarification Statement: Arguments center on sharing examples of how plants and animals change their environments and discussing ideas as to why those changes meet a need of plants and animals (e.g., shelter, food, room to grow). Examples of arguments could include squirrels digging in the ground to hide food, tree roots breaking sidewalks, birds building a nest to protect their young.

Assessment Boundary: Arguments should be based on qualitative not quantitative evidence.

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
 Engaging in Argument from Evidence: Construct an argument with evidence to support a claim. 	 Plants and animals can change their environment. Things that people do to live comfortably can affect the world around them. 	 Systems and System Models: Systems in the natural and designed world have parts that work together.

Earth and Human Activity (ESS3)

K.ESS3.1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

Clarification Statement: Models could include drawings, physical replicas, or dramatizations that show relationships between plants or animals and their surroundings. Examples of relationships could include that squirrels eat nuts and seeds, and therefore, they usually live near trees; and grasses need sunlight, so they often grow in meadows with no or few trees. Opportunities to share noticings and wondering should be encouraged. Assessment Boundary: N/A

Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
 Developing and Using Models: Use a model to represent relationships in the natural world. 	 Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everthing they do. 	 Systems and System Models: Systems in the natural and designed world have parts that work together.

Earth and Human Activity (ESS3)

K.ESS3.2 Ask questions to understand the purpose of weather forecasting to prepare for and respond to severe weather.*

Clarification Statement: Questions may arise or be encouraged through observations, interests, text, or media. Emphasis is on weather forecasting of local weather and how weather forecasting can help people plan for, and respond to, specific types of local weather (e.g., staying indoors during severe weather, going to cool places during heat waves). **Assessment Boundary:** Assessment does not include causes for severe weather.

going to cool places during heat waves). Assessment Boundary: Assessment does not include causes for severe weather.		
Science and Engineering Practice	Disciplinary Core Ideas	Crosscutting Concepts
 Asking Questions: Asking questions, making observations, and gathering information are helpful in thinking about problems. 	 Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. People depend on various technologies in their lives; human life would be very different without technology. 	Cause and Effects: Events have causes that generate observable patterns.

February 2020



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.
- 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.
- 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.



Oklahoma Academic Standards for Social Studies Introduction

Reading the Oklahoma Academic Standards for Social Studies





Oklahoma Academic Standards for Social Studies Kindergarten (K)

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		
	Kindergarten Content Standards					
K.1 The student will exhibit of good citizenship.	traits K.1.1 Describe the impo	1				
	K.1.2 Identify ways to be	K.1.2 Identify ways to be an active member of the community.				
		K.1.3 Identify the United States Flag as a symbol of the country, explaining the stripes as symbols for the first states and the stars as symbols for the current states in our country.				
	K.1.4 Identify the purpo	K.1.4 Identify the purpose of the Pledge of Allegiance and explain appropriate flag etiquette.				
	K.1.5 Identify other impo	K.1.5 Identify other important United States symbols including the Statue of Liberty located in New York Harbor.				
K.2 The student will	· · · · · ·	K.2.1 Explain that a globe is a model of the Earth and that a map is a drawing of a place; construct basic maps.				
demonstrate knowledge of basic physical and human geographic	1.6 .1	K.2.2 Identify basic cardinal directions and relative location terms.				
concepts.	K.2.3 Identify the shape	K.2.3 Identify the shape of the state of Oklahoma on a map.				
	K.2.4 Explain that the so	K.2.4 Explain that the school is part of a larger community and one's community is within the state of Oklahoma.				
	K.2.5 Describe what mal	K.2.5 Describe what makes one's community alike or different than other communities.				
	K.2.6 Describe family an	K.2.6 Describe family and community customs and traditions as basic elements of culture.				



Oklahoma Academic Standards for Social Studies Kindergarten (K)

K.3 The student will understand that history relates to events and people of other times and places.	K.3.1 Explain how events of the past may have affected our community and the way we live today.
	K.3.2 Explain how we honor people and events of the past.
	K.3.3 Use words and phrases related to chronology and time to explain how things change including before/after and yesterday/today/tomorrow.
	K.3.4 Explain that different types of sources can be used to learn about the past.
K.4 The student will identify basic economic concepts.	K.4.1 Describe the basic needs of all people: food, clothing, and shelter; differentiate between these needs and a want.
	K.4.2 Explain the relationship between work and earning money.
	K.4.3 Identify ways that people use their money, including spending and saving.
	K.4.4 Explain how various community members including police officers, firefighters, soldiers, school personnel, business professionals, and medical personnel impact the student's life.