KSDE Program Managers

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Service Center Collaboration

258 dates, 7 locations, 7 areas – November 2024 to January 2026

KSDE + Service Centers = Incredible Partnership

ESC/KSDE Collaboration Information

ESC/KSDE Collaboration

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Mathematics

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KSDE Math Team

- Jennifer Hamlet - Program Manager
- Jolene Goodheart Peterson - TLC
- Cherryl Delacruz - TLC
- Lara Staker - TLC
- Amber Boyington - TLC
- Todd Flory - TLC
- Amber Graham - FE
- Diane Kimsey - FE
- Julie Keithline - FE
- Shelly DeWeese - FE
- Luke Henke - FE
- Jennifer Walker - FE

A

2017
Math
Standards

Mathematics Standards Alignment Toolkit

A

2017 Math Standards Document

B

Kansas Math Standards Guidance Document

C

Unpacking the Kansas Math Standards and SMPs

D

Curriculum Adoption Process and Evaluation Tool

E

Suggested Scope and Sequence

Kansas Math Standards Documents

K–5, Geometric Measurement

1

Overview

Geometric measurement connects the two most critical domains of early mathematics, geometry and number, with each providing conceptual support to the other. Measurement is central to mathematics, to other areas of mathematics (e.g., laying a sensory and conceptual foundation for arithmetic with fractions), to other subject matter domains, especially science, and to activities in everyday life. For these reasons, measurement is a core component of the mathematics curriculum.

Measurement is the process of assigning a number to a magnitude of some attribute shared by some class of objects, such as length, relative to a unit. Length is a *continuous* attribute—a length can always be subdivided in smaller lengths. In contrast, we can count 4 apples exactly—cardinality is a discrete attribute. We can add the 4 apples to 5 other apples and know that the result is exactly 9 apples. However, the *weight* of those apples is a continuous attribute, and scientific measurement with tools gives only an approximate measurement—to the nearest pound (or, better, kilogram) or the nearest 1/100th of a pound, but always with some error.•

Before learning to measure attributes, children need to recognize them, distinguishing them from other attributes. That is, the attribute to be measured has to "stand out" for the student and be discriminated from the undifferentiated sense of amount that young children often have, labeling greater lengths, areas, volumes, and so forth, as "big" or "bigger."

Students then can become increasingly competent at *direct comparison*—comparing the amount of an attribute in two objects without measurement. For example, two students may stand back to back to directly compare their heights. In many circumstances, such direct comparison is impossible or unwieldy. Sometimes, a third object can be used as an intermediary, allowing *indirect comparison*. For example, if we know that Aleisha is taller than Barbara and that

[1]This progression concerns Measurement and Data standards related to geometric measurement. The remaining Measurement and Data standards are discussed in the K–3 Categorical Data and Grades 2–5 Measurement Data Progressions.

• The Standards do not differentiate between weight and mass. Technically, mass is the amount of matter in an object. Weight is the force exerted on the body by gravity. On the earth's surface, the distinction is not important (on the moon, an object would have the same mass, would weight less due to the lower gravity).

Kansas state department of Education

leadership and support for student learning

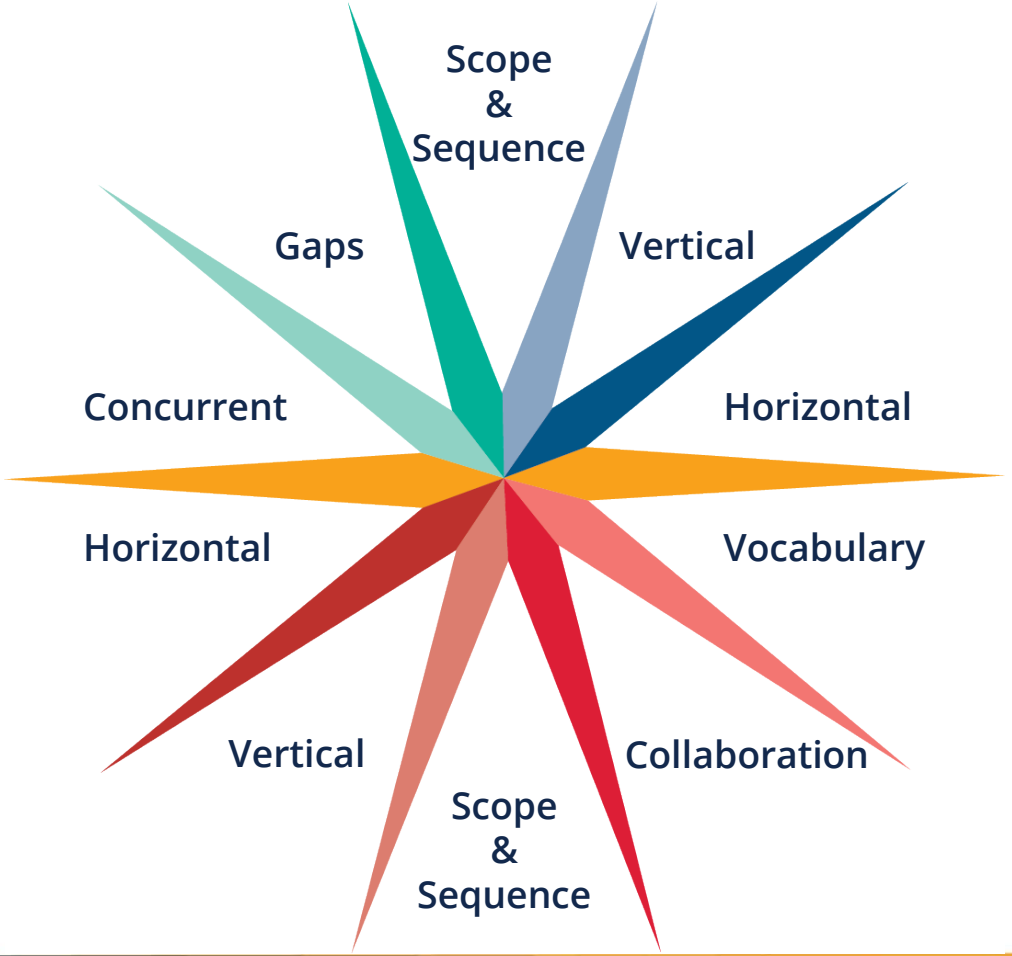
K-12 Student Glossary for the 2017 Kansas Mathematics Standards

KSDE - Kansas Math Standards Guidance Document

The major work of the grade level should focus on the major clusters. The supporting and additional clusters should support the major clusters and provide foundational ideas for future mathematics.

Major | Supporting | Additional | All

Previous Grade(s) Standards	8th Grade Standards Taught in Advance	8th Grade Standard	8th Grade Standards Taught Concurrently	Building Toward Other 8th Grade Standards Horizontal Alignment	Future Grade Standard(s) Vertical Alignment	Standards of Mathematical Practice	Vocabulary	Resources	Notes
4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison (Example: 6 times as many vs. 6 more than). **(4.OA.2)**		**8.EE.2** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as* 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.* **(8.EE.3)**	**8.EE.3** Read and write numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities *(e.g. use millimeters per year for seafloor spreading).* Interpret scientific notation that has been generated by technology. **(8.EE.4)**		**N.RN.1** (9/10) Know and apply the properties of integer exponents to generate equivalent numerical and algebraic expressions. **(8.EE.1)**	SMP 2: Reason abstractly and quantitatively. SMP 5: Use appropriate tools strategically. SMP 6: Attend to precision.	**Integer** **Scientific notation**	Integers: The set of whole numbers and their opposites: . . . ,-2, -1, 0, 1, 2, . . . Scientific notation: Where a number is written in two parts-A decimal point is placed after the first non-zero digit. This is followed by: ×10 to a power that will put the decimal point back where it should be.	
5.NBT.2 Explain and apply patterns in the number of zeros of the product when multiplying a number by powers of 10. Explain and apply patterns in the values of the digits in the product or the quotient, when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. **(5.NBT.2)**									
7.EE.3 Solve multi-step real-life and mathematical problems with rational numbers. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50.* **(7.EE.3)**		**8.EE.3** Read and write numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities *(e.g. use millimeters per year for seafloor spreading).* Interpret scientific notation that has been generated by technology. **(8.EE.4)**	**8.EE.2** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as* 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.* **(8.EE.3)**		**N.Q.1** (all) Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.★ **(N.Q.1)**	SMP 2: Reason abstractly and quantitatively. SMP 4: Model with mathematics. SMP 6: Attend to precision.	**Integer** **Scientific notation**		



How can we use the Kansas Math Standards Guidance Document?

Topics at the Service Centers

- Standards Alignment Toolkit.
- Unpacking the Kansas Math Standards.
- Unpacking the Standards for Mathematical Practices.
- Aligning the Kansas Standards to Curriculum.
- Using a Balanced Assessment System to Drive Instruction.

KSDE Math listserv
email: jhamlet@ksde.org

Science

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Science Team Updates

New – Science/STEM Program Manager

Stephanie Alderman-Oler

salderman-oler@ksde.org

Teacher Leader Consultants

Sarah Evans (USD 233)

Stacey Hart-Townsley (USD 259)

Betsy Lawrence (USD 231)

Eighth Grade

Recommended standards bundling & course scope and sequence.

Force & Motion MS-PS2-1 MS-PS2-2 MS-PS3-1 **Waves** MS-PS4-1 MS-PS4-2 MS-PS4-3 **Weather & Climate** MS-ESS2-5 MS-ESS2-6 MS-ESS3-5	**Human Impact on Ecosystems** MS-ESS3-3 MS-ESS3-4 MS-LS2-4 MS-LS2-5 **Change in Populations over Time** MS-LS4-4 MS-LS4-5 MS-LS4-6 MS-LS4-1 MS-LS4-2 MS-LS4-3

Standards Alignment Process Example

Students who demonstrate understanding can:

MS-PS2-2. **Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.** [Clarification Statement: Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units.] [*Assessment Boundary: Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to change in one variable at a time. Assessment does not include the use of trigonometry.*]

The performance expectation above was developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in 6–8 builds on K–5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or design solutions.

- Plan an investigation individually and collaboratively, and in the design: identify independent and dependent variables and controls, what tools are needed to do the gathering, how measurements will be recorded, and how many data are needed to support a claim.

Connections to Nature of Science

Scientific Knowledge is Based on Empirical Evidence

- Science knowledge is based upon logical and conceptual connections between evidence and explanations.

Disciplinary Core Ideas

PS2.A: Forces and Motion

- The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion.
- All positions of objects and the directions of forces and motions must be described in an arbitrarily chosen reference frame and arbitrarily chosen units of size. In order to share information with other people, these choices must also be shared.

Crosscutting Concepts

Stability and Change

- Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales.

Science & Engineering Practice (SEP) Unpacking

"Plan an investigation to provide evidence…"

BOX 1: **What ideas or skills are truly unique to this grade band?**
• Plan investigations individually • Identify independent and dependent variables and controls • Identify what tools are needed to do the gathering • Identify how measurements will be recorded • Identify how many data are needed to support a claim
BOX 2: **What are the key experiences students need access to, in this grade band, in order to successfully move to the next grade band?**

• Identify what variable they want to change in each part of the investigation (independent variable)
  ○ Mass of object that will have the change in motion or force applied to object that will have change in motion
• Identify what variable to measure as a result of the change (dependent variable)
  ○ How change in motion will be measured
• Identify all variables that must be kept constant for each part of the investigation (controls)
• Collect data that compares different independent variables (mass or force) in order to support a claim that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

Disciplinary Core Idea (DCI) Unpacking

"an object's motion depends on the sum of the forces on the object and the mass of the object."

BOX 1: **What are foundational concepts necessary for success that are not covered in previous grade bands?**

- Mass is a measurement of the amount of matter
- Mass is constant regardless of the force acting on it (this is how mass is different than weight)
- When defining a frame of reference for force and motion the following must be defined
  - Initial position
  - Initial motion
  - Horizontal or vertical motion (dimension)
- There are multiple forces acting on an object at a given time but within a defined, one-dimensional frame of reference the relevant forces are only within that dimension
- When forces in the same dimension (horizontal or vertical, etc) sum to zero, the force is described as balanced and the object will not move
- An object in motion has unequal forces acting on it, with a larger force acting in the direction of the motion
- Qualitative changes in motion can be observed through change in speed, or change in distance of an object, or amount of time it takes an object to travel to a certain position (actual speed calculations are not required)

BOX 2: **What are the key ideas that students need to apply in this grade band in order to successfully move to the next?**

- Objects with more mass require a larger force to change their motion
- Objects with less mass require a smaller force to change their motion
- Regardless of mass, the larger the force applied, the larger the change in motion will be for a specific object

Cross Cutting Concepts (CCC) Unpacking

"...the change in..."

BOX 1: **What ideas or elements are truly unique to this grade band?**
• Constructing explanations of stability and change • Systems can be natural or designed • Forces at different scales
BOX 2: **What are the key experiences students need access to, in this grade band, in order to successfully move to the next grade band?**
• Identify that an object not in motion (balanced forces) would be described as stable • Identify changes in motion as either: change in speed, or change in distance of an object, or amount of time it takes an object to travel to a certain position (actual speed calculations are not required) • Explain that in order to change the motion of an object an unbalanced force must be applied • Explain that in order to change the motion of an object with more mass a larger unbalanced force must be applied than for an object with less mass. • Explain that the change the motion of an object is dependent on both the mass of the object and the sum of the forces acting on the object

Standards Alignment –

How do the standards align with my students?

- What everyday experiences or knowledge from other content areas might students bring to help them develop the targets from the SEP, DCI, and CCC?
- Where are students using and experiencing these ideas, practices, and concepts outside of the science classroom?
- What questions may students have related to these ideas about how the world works?
- What scaffolding might my students need to fully understand this particular standard?
- What phenomena could capture students' interest and provide opportunities to use the science covered in this standard to understand the phenomena?

Timeline

November 2024*:	High School Standards Alignment Toolkits
February 2025*:	Middle School Standards Alignment Toolkit
February 2025*:	Elementary School Standards Alignment Toolkit
Summer 2025:	Standards Alignment Professional Development

**toolkit dates are tentative as work is in progress*

HGSS

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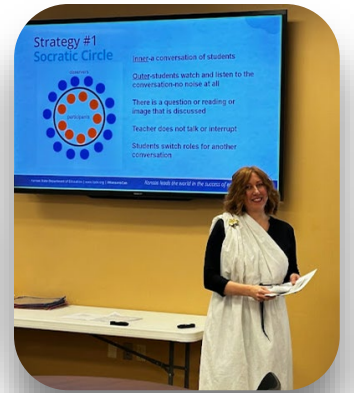
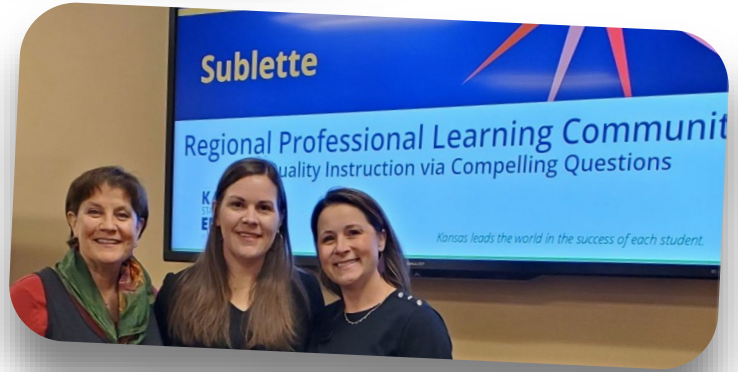
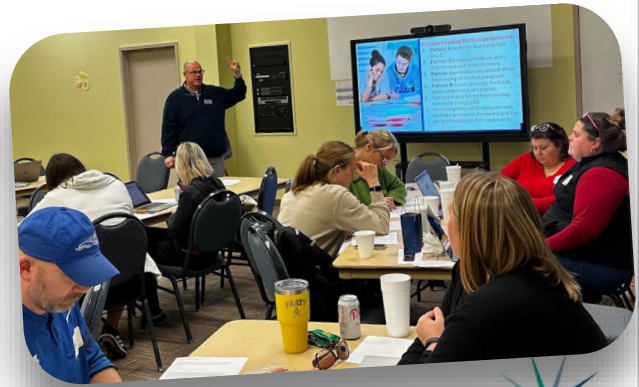


HGSS Teacher Leader Team

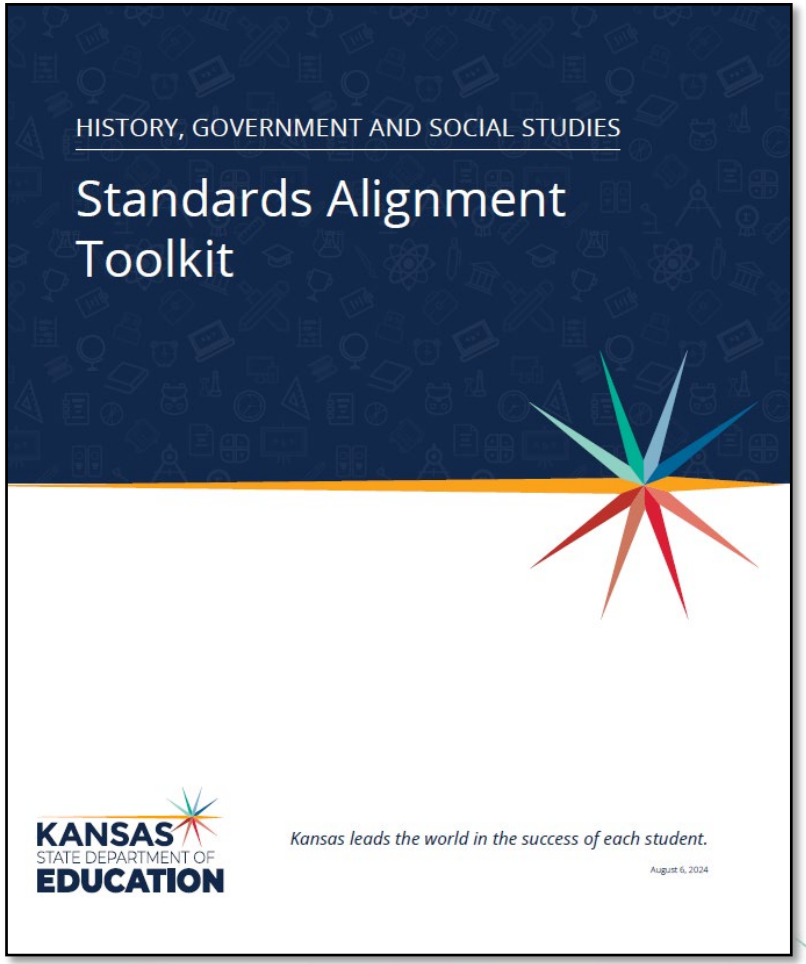




HGSS

Standards Alignment

We clearly communicate what we want our students to know and be able to do in Social Studies.



Standards Aligned Unit Planning Guidance

The work of each unit of study should be centered around a "**Focus Standard**", while building a depth of knowledge through scaffolded HGSS benchmarks connecting HGSS discipline literacies and skills.

HGSS Standards:

1. Choices have consequences.
2. Individuals have rights and responsibilities.
3. Societies are shaped by identities, beliefs and practices of individuals and groups.
4. Societies experience continuity and change over time.
5. Relationships among people, places, ideas and environments are dynamic.

HGSS Content and Skills Planning Tool for Units of Study

(The Unit plan of Study is designed to assist educators as they intentionally link the KSDE HGSS Standards with Units of Study in the classroom. **This is not meant to replace daily lesson planning**. Follow the steps below to complete this Unit Plan of Study.)

Step 1: Unit of Study:_____

(Identify the essential content covered in the unit. For example, The Vietnam Era, Bleeding Kansas, Regions of Kansas, etc.)

Step 2: HGSS Focus Standard: _____

(Select the HGSS Standard and Benchmarks that will inform the instruction for the Unit. Your instruction may change depending on the Focus Standard selected. Use the HGSS Benchmark sentence starters to aid in building your unit.)

1. The student will recognize and evaluate...
2. The student will analyze the context and draw conclusions about...
3. The student will investigate and connect ___ with contemporary issues.
4. The student will use their understanding of ___ to make a claim or advance a thesis using evidence and argument.

Step 3: HGSS Supporting Standard(s):

(Identify which HGSS Standards will best support the Unit. Not all remaining standards will be utilized.)

Step 4: Compelling question(s):

(As compelling questions typically focus on a narrow amount of content, you may have several compelling questions depending on the scope of the unit. Refer to page 7 of the Classroom Based Assessment Toolkit for Compelling Question ideas.)

Step 5: Assessment Connections:

(How does this unit prepare teachers and students for a Classroom Based Assessment?)

NCHE
National Council for History Education

KSDE Partnership with the National Council for History Education

For Elementary Educators in grade 3-5

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Service Center Partnerships

Southwest Plains Regional Service Center

Site-based learning for teachers in Western Kansas built around the Four Fundamentals.

ESSDACK

3-Day Summer Symposiums for teachers built around the Four Fundamentals.

Greenbush Education Service Center

Multiple Summer Training Opportunities for K-12 teachers built around the Four Fundamentals.

2024-25 HGSS Regional PLCs: Locations and Dates with Registration Links

Sublette, KS | Oakley, KS | Girard, KS | NE Kansas (KCK and Olathe) | Hutchinson, KS | Salina, KS

KSDE PLC Registration Page

2024-25 Social Studies PLCs: Join the KSDE Teacher Leaders for a wonderful year of learning focused on innovative instructional strategies and collaboration with fellow educators. **All built around the KSDE Four Fundamentals with a focus on Standards Alignment and High-Quality Instruction**

Northwest Educational SC in Oakley, KS Dates
Oakley: September 27, 2024
Oakley: November 22, 2024
Scott City: February 21, 2025 (LOC)
Oakley: March 28, 2025

Greenbush Education SC in Girard, KS Dates
October 5, 2024
December 6, 2024
February 28, 2025
April 7, 2025 (LOC)

SW Plains Regional SC in Sublette, KS Dates
Sublette: September 30, 2024
Sublette: December 2, 2024
Scott City: February 21, 2025 (LOC)
Sublette: April 15, 2025

ESSDACK in Hutchinson, KS Dates
October 16, 2024
December 11, 2024
February 19, 2025 (LOC)
April 16, 2025

NE KS Dates and Locations
October 4, 2024 (KCK Board Building)
December 11, 2024 (Olathe Resource Center)
February 14, 2025 (KCK Board Building)
April 3, 2025 (Olathe Resource Center) (LOC)

Smoky Hill in Salina, KS Dates
October 3, 2024
December 5, 2024
February 27, 2024
April 10, 2024

English Language Arts
English Learners

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English Language Arts/ English Learner Teacher Leader Consultants

Effie Conway

LuAnn Fox

Jennifer Hansen

Mary Lonker

Mary Williams

Denice Scott

Tonya Martinez

English Language Arts/ English Learners Team

Work in support of Kansas School Improvement

- Provision of multiple sessions at the KSDE conference.
- Provision of on-demand professional learning for educators, starting November.
- Service Center Collaborative Effort.

ELA Standards Alignment Toolkit

- Vertical alignment of standards.
- Horizontal alignment of standards.
- Text complexity guidance.
- IECC Grammar Scaffolding Guidance.
- KAP ELA Assessment Support.
- The Kansas Writing Tenets.
- Directed Reading Thinking Protocol.

Service Center Collaborative Efforts: English Language Arts Team

- Examining the importance of text complexity and analyzing how to use it to increase learning.
- Engaging in deep learning of the Kansas ELA standards, including vertical alignment and the support provided by the KSDE mini-tests and interim assessments.
- Examination of the KSDE Writing Tenets and application to all content areas.

Service Center Collaborative Efforts: English Language Arts Team

- Incorporating vocabulary and morphology to provide standards-aligned instruction.
- Utilizing a Directed Reading Thinking Activity model to engage in standards-based instruction.
- Prioritizing standards-aligned grammar and writing techniques to enhance instruction.
- Advanced examination of text complexity across all disciplines and using professional learning communities to sustain instructional coherence.

Structured Literacy

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The Early Literacy/ Dyslexia Team

- Hailey Hawkinson
- Melissa Brunner
- Jeri Powers
- Amy Bybee
- Casey Peine
- Sam Cool
- Mary Larkin
- Katie Orr
- Taylor Fegan
- Deanna Frost








Kansas Dyslexia Initiatives

- Universal screening- no anticipated changes.
- Newly revised Initial Dyslexia Modules were implemented this fall.
- Literacy Leadership Cadre to offer networking and support for Kansas LETRS facilitators as teachers implement LETRS within the district's curriculum.
- Literacy Lifeline is up and running…help for any and all via email, Zoom or information provided to all through the newsletter.

Structured Literacy Toolkit

- Structured literacy within school improvement.
- Clarification of terms.
- Process of reading acquisition.
- Principles and elements of structured literacy.
- Instructional shifts from balanced literacy to structured literacy.
- Aligned materials and practices.
- Using assessments to guide instruction/ intervention.
- Coherent professional learning and offerings from KSDE.
- Effective professional collaboration to support both students and teachers.
- How to remain aware of and connected to support at KSDE.

Service Center Collaborative Efforts:
Early Literacy/ Dyslexia Team

- Instructional shifts required to move from balanced literacy to structured literacy.
- Effective use of literacy data to meet the needs of all students .
- Evidence-based practices for teaching phonological awareness, decoding, and sight words.
- Differentiation of phonics instruction and management of small-group literacy instruction.

Service Center Collaborative Efforts: Early Literacy/ Dyslexia Team

- Evidence-based practices for fluency instruction to improve and assess reading comprehension.
- Evidence-based school wide routines to build vocabulary to increase reading comprehension.
- Developmental Language Disorder and how it affects reading acquisition and achievement.

Educators remain updated via

- KSDE Weekly
- Listservs (Early Literacy/ Dyslexia)
- KSDE Dyslexia Webpage
  - ELitDyslexia@ksde.org or lcurtis@ksde.org