

Sixth Grade Kansas College & Career Readiness Standards for MATH

Record keeping of implementation:

PINK= WEEKLY (Once or Twice/Week)

BLUE=DAILY (3 or MORE X/Week)

ALL OTHERS=Dates Listed

Statistics and Probability: Statistical variability

SP1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

dates ---->

SP2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

dates ---->

SP3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

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Statistics and Probability: Distribution

SP4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

dates ---->

SP5 Summarize numerical data sets in relation to their context, such as by:

dates ---->

SP5a Reporting the number of observations.

dates ---->

SP5b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

dates ---->

SP5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

dates ---->

SP5d Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

dates ---->

Expressions and Equations: Algebraic Expressions

EE1 Write and evaluate numerical expressions involving whole-number exponents.

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EE2 Write, read, and evaluate expressions in which letters stand for numbers.

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EE2a Write expressions that record operations with numbers and with letters standing for numbers.

dates ---->

EE2b Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.

dates ---->

EE2c	Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole- number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
dates ---->	
EE3	Apply the properties of operations to generate equivalent expressions.
dates ---->	
EE4	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
dates ---->	
Expressions and Equations: One-variable equations and expressions	
EE5	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
dates ---->	
EE6	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
dates ---->	
EE7	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q and x are all nonnegative rational numbers.
dates ---->	
EE8	Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
dates ---->	
Geometry: Area, surface area, and volume problems	
G1	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
dates ---->	
G2	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
dates ---->	

G3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

dates ---->

G4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

dates ---->

Ratios and Proportional Relationships: Reasoning with Ratios

RP1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities

dates ---->

RP2 Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.

dates ---->

RP3 Use ratio and rate reasoning to solve real-world and mathematical problems,

dates ---->

RP3a Make tables of equivalent ratios relating quantities with whole- number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

dates ---->

RP3b Solve unit rate problems including those involving unit pricing and constant speed.

dates ---->

RP3c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.

dates ---->

RP3d Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

dates ---->

Number System: Dividing Fractions by Fractions

NS1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

dates ---->

Number System: Fluent computation and common factors and multiples

NS2 Fluently divide multi-digit numbers using the standard algorithm.

dates ---->

NS3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

dates ---->

NS4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

dates ---->

Number System: Rational Number System

RS5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
dates ---->	
RS6	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
dates ---->	
RS6a	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself
dates ---->	
RS6b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
dates ---->	
RS6c	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
dates ---->	
RS7	Understand ordering and absolute value of rational numbers.
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RS7a	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
dates ---->	
RS7b	Write, interpret, and explain statements of order for rational numbers in real-world contexts.
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RS7c	Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.
dates ---->	
RS7d	Distinguish comparisons of absolute value from statements about order.
dates ---->	
RS8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
dates ---->	