

NCSD #1 Math Program

NCSD #1 Math Mission Statement

Students in NCSD will be empowered and inspired to recognize and engage in solving mathematical concepts to support their community everyday.

Math Curriculum at a Glance

Grade Level or Course	Purpose Statement
Kindergarten Math	Students will use numbers, including written numerals, to represent quantities, compare, analyze and solve mathematical problems. Students will identify and describe basic 2 dimensional and 3 dimensional shapes and relate the shapes to their physical world.
1 st Grade Math	Students will apply addition and subtraction strategies within 20; compose and decompose whole numbers including grouping into tens and ones; apply linear measurement with nonstandard units; identify attributes of geometric shapes; identify and count money; and tell time to the nearest hour and half hour.
2 nd Grade Math	Students will compose and decompose whole numbers in the base ten system up to 1,000, memorize addition and subtraction facts to 20, apply standard units of linear measurement (inch and centimeter); describe and analyze 2D and 3D shapes by sides and angles; tell time to the nearest 5 minutes; locate dates on a calendar; and identify the value of a set of coins.
3 rd Grade Math	Students will apply multiplication and division strategies within 100 and compare fractions in real-world problem solving situations and 2 step real world problems. Students will fluently add and subtract whole numbers with regrouping applying appropriate strategies up to 10,000.
4 th Grade Math	Students will compute multi-digit multiplication and dividends; produce equivalent fractions, compute addition and subtraction of fractions with like denominators, multiply fractions by whole number, compare decimals and fractions, create lines and angles according to properties, and utilize data and measurement to solve problems.
5 th Grade Math	Students will add, subtract, multiply, and divide fractions with whole numbers, mixed numbers, and unlike denominators; demonstrate use of operations with decimals to hundredths including fractions; measure and identify necessary attributes of shapes in order to determine volume.
6 th Grade Math	Students will use rational numbers to compute: area, surface area, and volume of geometric figures; evaluate, write and solve algebraic expressions, equations, and inequalities; locate, graph and solve problems on the coordinate plane; use proportional reasoning to solve problems; and analyze data.

7th Grade Math	Students will be able to apply the operations and properties of mathematics with rational numbers in expressions and linear equations; apply proportional relationships in equations to solve problems; analyze and solve percent and ratio problems; calculate angle measures, diameter, radius and circumference; produce two and three-dimensional shapes to solve problems involving area, surface area, and volume; draw inferences to interpret data about populations.
8th Grade Math	Students will be able to distinguish between rational and irrational numbers; evaluate and solve equations using square and cubed roots; apply the properties of integer exponents; analyze and solve linear equations; evaluate and graph linear functions; solve systems of linear equations; construct and interpret scatterplots; apply the Pythagorean Theorem; solve problems involving surface area and volume; analyze and understand congruence and similarity.
Algebra 1	Students will apply addition, subtraction, multiplication and division on rational and irrational numbers; solve equations and inequalities in one variable; model linear equations and convert between various formats; create linear functions from bivariate data; solve systems of linear equations; apply the laws of exponents and extend the properties of exponents to include rational exponents; apply addition, subtraction, multiplication and factoring to polynomials; create quadratic functions and graphs from data and model quadratic functions using various formats.
Geometry	Students will define and construct: lines, points, angles, perpendicular and parallel lines, angle bisectors, lengths, midpoints and circles; transform shapes by rotations, translations, reflections and dilations; write theorems using inductive and deductive reasoning, and conditional statements to prove congruence or similarity of triangles, quadrilaterals or other polygons; analyze 2 and 3 D models
Algebra 2	Students will be able to solve quadratic equations; calculate the roots of and solve polynomial functions; identify the characteristics of absolute value and piecewise defined functions; solve rational functions; apply rational exponents and radical functions; use matrices to solve systems of equations; apply addition, subtraction, and multiplication on matrices; analyze data and distributions; analyze probability
Pre-Calculus	Students will be able to graph and interpret polynomial, rational, radical, exponential and logarithmic functions; graph trig functions and apply trig equations and identities to real world problems; write and graph the equations of conic sections;
Consumer Math	Students will be able to write and solve equations that involve evaluating different types of wages; analyze and select appropriate measurement when figuring APR; calculate and compare loan options; use units as a way to evaluate and solve multi-step problems; Rearrange formulas to solve for the missing part in real world problems; Analyze compound interest tables; Creating and utilizing a budget.

Math Program Intervention

Classroom teachers will teach using the Math Curriculum document with resources (SAVVAS) and track student progress. Teachers will utilize research-based instructional strategies to teach math concepts.

Classroom-specific formative assessments, grades, district and state assessments will be analyzed to track student progress. Students who do not meet district expectations of proficiency on assessments (classroom, district and state) will receive intervention during WIN time. At the 7th-12th grade level ALEKS will be utilized with specific instruction. At the K-6th grade level WIN time is provided during which students receive intervention, remediation, and enrichment opportunities through the use of a Math Interventionist. Student data and performance is reviewed on an ongoing basis to ensure math instruction is meeting the needs of all students.