

**THE FOLLOWING STATE CURRICULUM STANDARDS ARE ADDRESSED BY
THE QUARTER MILE MATH SOFTWARE
FOR THE STATE OF SOUTH DAKOTA**

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers

Substrand **Titles that Address the Substrand**

(Gr. K) K.N.1.1. (Comprehension) Read, write, count, and sequence numerals to 20.
Quarter Mile Math Level 1

Subject: MATH
Standard: Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand **Titles that Address the Substrand**

(Gr. K) K.N.3.1. (Application) Solve addition and subtraction problems up to 10 in context.
Quarter Mile Math Level 1

Grades 1 - 1

Subject: MATH
Standard: Algebra
Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand **Titles that Address the Substrand**

(Gr. 1) 1.A.2.1. (Comprehension) Use the concepts and language of more, less, and equal (greater than and less than) to compare numbers and sets (0 to 20).
Quarter Mile Math Level 1

(Gr. 1) 1.A.2.2. (Application) Solve open addition and subtraction sentences with one unknown (?) using numbers equal to or less than 10.
Quarter Mile Math Level 1

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers

Substrand **Titles that Address the Substrand**

(Gr. 1) 1.N.1.1. (Comprehension) Read, write, count, and order numerals to 50.
Quarter Mile Math Level 1

Subject: MATH
Standard: Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand **Titles that Address the Substrand**

(Gr. 1) 1.N.3.1. (Application) Solve addition and subtraction problems up to 20 in context.
Quarter Mile Math Level 1

Subject: MATH
Standard: Number Sense
Strand: Indicator 2: Apply number operations with real numbers and other number systems.

Substrand **Titles that Address the Substrand**

(Gr. 1) 1.N.2.1. (Application) Solve addition and subtraction problems with numbers 0 to 20 written in horizontal and vertical formats using a variety of strategies.
Quarter Mile Math Level 1

Grades 2 - 2

Subject: MATH
Standard: Algebra
Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand **Titles that Address the Substrand**

(Gr. 2) 2.A.2.1. (Comprehension) Use concepts of equal to, greater than, and less than to compare numbers (0-100).
Quarter Mile Math Level 1

(Gr. 2) 2.A.2.2. (Application) Solve open addition and subtraction sentences with one unknown (?) using numbers equal to or less than 20.
Quarter Mile Math Level 1

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers

Substrand **Titles that Address the Substrand**

(Gr. 2) 2.N.1.1. (Comprehension) Read, write, count, and sequence numerals to 100.
Quarter Mile Math Level 1

Subject: MATH
Standard: Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand **Titles that Address the Substrand**

(Gr. 2) 2.N.3.1. (Application) Solve addition and subtraction problems up to 100 in context.
Quarter Mile Math Level 1

Subject: MATH

Standard: Number Sense

Strand: Indicator 2: Apply number operations with real numbers and other number systems.

Substrand Titles that Address the Substrand

(Gr. 2) 2.N.2.1. (Application) Solve two-digit addition and subtraction problems written in horizontal and vertical formats using a variety of strategies.

Quarter Mile Math Level 1

Subject: MATH

Standard: Algebra

Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand Titles that Address the Substrand

(Gr. 3) 3.A.2.1. (Comprehension) Select appropriate relational symbols ($<$, $>$, $=$) to compare numbers.

Quarter Mile Math Level 1

(Gr. 3) 3.A.2.2. (Application) Solve problems involving addition and subtraction of whole numbers.

Quarter Mile Math Level 1

Subject: MATH

Standard: Algebra

Strand: Indicator 3: Interpret and develop mathematical models.

Substrand Titles that Address the Substrand

(Gr. 3) 3.A.3.1. (Application) Use the relationship between multiplication and division to compute and check results.

Quarter Mile Math Level 1

Subject: MATH

Standard: Algebra

Strand: Indicator 4: Describe and use the properties and behaviors of relations, functions, and inverses.

Substrand Titles that Address the Substrand

(Gr. 3) 3.A.4.2. (Application) Use number patterns and relationships to learn basic facts.

Quarter Mile Math Level 1

Subject: MATH

Standard: Number Sense

Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand Titles that Address the Substrand

(Gr. 3) 3.N.2.1. (Application) Add and subtract whole numbers up to three digits and multiply two digits by one digit.

Quarter Mile Math Level 1

Subject: MATH

Standard: Number Sense

Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand Titles that Address the Substrand

(Gr. 3) 3.N.3.1. (Application) Round two-digit whole numbers to the nearest ten and three-digit whole numbers to the nearest hundred.

Quarter Mile Math Level 1

Subject: MATH

Standard: Number Sense

Strand: Indicator 1: Use the structural characteristics of a set of real numbers and its various subsets.

Substrand Titles that Address the Substrand

(Gr. 3) 3.N.1.1. (Comprehension) Order and compare whole numbers less than 10,000 using appropriate words and symbols.

Quarter Mile Math Level 1

(Gr. 3) 3.N.1.2. (Comprehension) Find multiples of whole numbers 2, 5, and 10.

Quarter Mile Math Level 1

Grades 4 - 4

Subject: MATH

Standard: Algebra

Strand: Indicator 1: Use procedures to transform algebraic expressions.

Substrand Titles that Address the Substrand

(Gr. 4) 4.A.1.1. (Comprehension) Simplify whole number expressions involving addition, subtraction, multiplication, and division.

Quarter Mile Math Level 2

(Gr. 4) 4.A.1.2. (Application) Recognize and use the commutative property of addition and multiplication.

Quarter Mile Math Level 2

(Gr. 4) 4.A.1.3. (Application) Relate the concepts of addition, subtraction, multiplication, and division to one another.

Quarter Mile Math Level 2

Subject: MATH

Standard: Algebra

Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand Titles that Address the Substrand

(Gr. 4) 4.A.2.1. (Comprehension) Select appropriate relational symbols ($<$, $>$, $=$) to make number sentences true.

Quarter Mile Math Level 1

(Gr. 4) 4.A.2.2. (Application) Simplify a two-step equation using whole numbers.

Quarter Mile Math Level 2

Subject: MATH

Standard: Algebra

Strand: Indicator 3: Interpret and develop mathematical models.

Substrand Titles that Address the Substrand

(Gr. 4) 4.A.3.1. (Application) Write and solve number sentences that represent one-step word problems using whole numbers.

Quarter Mile Math Level 2

Subject: MATH
Standard: Number Sense
Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand **Titles that Address the Substrand**

(Gr. 4) 4.N.2.1. (Application) Find the products of two-digit factors and quotient of two natural numbers using a one-digit divisor.

Quarter Mile Math Level 2

(Gr. 4) 4.N.2.2. (Application) Add and subtract decimals with the same number of decimal places.

Quarter Mile Math Level 2

Subject: MATH
Standard: Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand **Titles that Address the Substrand**

(Gr. 4) 4.N.3.1. (Application) Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.

Quarter Mile Math Level 2

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Use the structural characteristics of a set of real numbers and its various subsets.

Substrand **Titles that Address the Substrand**

(Gr. 4) 4.N.1.1. (Comprehension) Read, write, order, and compare numbers from .01 to 1,000,000.

Quarter Mile Math Level 2

(Gr. 4) 4.N.1.2. (Comprehension) Find multiples of whole numbers through 12

Quarter Mile Math Level 2

Subject: MATH
Standard: Statistics and Probability
Strand: Indicator 1: Use statistical models to gather, analyze, and display data to draw conclusions.

Substrand **Titles that Address the Substrand**

(Gr. 4) 4.S.1.2. (Knowledge) Given a small ordered data set of whole number data points (odd number of points), students will identify the median, mode, and range.

Quarter Mile Math Level 2

Grades 5 - 5

Subject: MATH
Standard: Algebra
Strand: Indicator 1: Use procedures to transform algebraic expressions.

Substrand **Titles that Address the Substrand**

(Gr. 5) 5.A.1.1. (Application) Use a variable to write an addition expression.

Quarter Mile Math Level 2

Subject: MATH
Standard: Measurement
Strand: Indicator 1: Apply measurement concepts in practical applications.

Substrand **Titles that Address the Substrand**

(Gr. 5) 5.M.1.2. (Application) Solve problems involving money including making change.
Quarter Mile Math Level 2

Subject: MATH
Standard: Number Sense
Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand **Titles that Address the Substrand**

(Gr. 5) 5.N.2.1. (Application) Find the quotient of whole numbers using two-digit divisors.
Quarter Mile Math Level 2

(Gr. 5) 5.N.2.2. (Application) Determine equivalent fractions including simplification (lowest terms of fractions).
Quarter Mile Math Level 2

(Gr. 5) 5.N.2.3. (Application) Multiply and divide decimals by natural numbers (1 –9).
Quarter Mile Math Level 2

Subject: MATH
Standard: Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand **Titles that Address the Substrand**

(Gr. 5) 5.N.3.1. (Application) Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.
Quarter Mile Math Level 2

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Use the structural characteristics of a set of real numbers and its various subsets.

Substrand **Titles that Address the Substrand**

(Gr. 5) 5.N.1.1. (Comprehension) Read, write, order, and compare numbers from .001 to 1,000,000,000.
Quarter Mile Math Level 2

(Gr. 5) 5.N.1.2. (Comprehension) Find prime, composite, and factors of whole numbers from 1 to 50.
Quarter Mile Math Level 2

(Gr. 5) 5.N.1.3. (Knowledge) Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.
Quarter Mile Math Level 2

(Gr. 5) 5.N.1.5. (Comprehension) Determine the squares of numbers 1 – 12.
Quarter Mile Math Level 2

Grades 6 - 6

Subject: MATH

Standard: Algebra

Strand: Indicator 1: Use procedures to transform algebraic expressions.

Substrand Titles that Address the Substrand

(Gr. 6) 6.A.1.1. (Application) Use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions.

Quarter Mile Math Level 2

Quarter Mile Math Level 3

(Gr. 6) 6.A.1.2. (Application) Write algebraic expressions involving addition or multiplication using whole numbers.

Quarter Mile Math Level 2

Quarter Mile Math Level 3

Subject: MATH

Standard: Algebra

Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand Titles that Address the Substrand

(Gr. 6) 6.A.2.1. (Application) Write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers.

Quarter Mile Math Level 3

Subject: MATH

Standard: Number Sense

Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand Titles that Address the Substrand

(Gr. 6) 6.N.2.1. (Comprehension) Add, subtract, multiply, and divide decimals.

Quarter Mile Math Level 2

Quarter Mile Math Level 3

Subject: MATH

Standard: Number Sense

Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand Titles that Address the Substrand

(Gr. 6) 6.N.3.1. (Application) Use various strategies to solve one- and two-step problems involving positive decimals.

Quarter Mile Math Level 2

Quarter Mile Math Level 3

Subject: MATH

Standard: Number Sense

Strand: Indicator 1: Use the structural characteristics of the set of real numbers and its various subsets. Apply the concept of value, magnitude, and relative magnitude of real numbers.

Substrand Titles that Address the Substrand

(Gr. 6) 6.N.1.1. (Comprehension) Represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, and hundredths.

Quarter Mile Math Level 2

(Gr. 6) 6.N.1.2. (Knowledge) Find factors and multiples of whole numbers.

Quarter Mile Math Level 2

Quarter Mile Math Level 3

Subject: MATH

Standard: Statistics and Probability

Strand: Indicator 1: Use statistical models to gather, analyze, and display data to draw conclusions.

Substrand

Titles that Address the Substrand

(Gr. 6) 6.S.1.1. (Comprehension) Find the mean, mode, and range of an ordered set of positive data.

Quarter Mile Math Level 2

Grades 7 - 7

Subject: MATH

Standard: Algebra

Strand: Indicator 1: Use procedures to transform algebraic expressions.

Substrand

Titles that Address the Substrand

(Gr. 7) 7.A.1.1. (Application) Write and evaluate algebraic expressions using the set of whole numbers.

Quarter Mile Math Level 3

Subject: MATH

Standard: Algebra

Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand

Titles that Address the Substrand

(Gr. 7) 7.A.2.1. (Application) Write and solve one-step 1st degree equations, with one variable, using the set of integers and inequalities, with one variable, using the set of whole numbers.

Quarter Mile Math Level 3

Subject: MATH

Standard: Number Sense

Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand

Titles that Address the Substrand

(Gr. 7) 7.N.2.1. (Application) Add, subtract, multiply, and divide integers and positive fractions.

Quarter Mile Math Level 3

Subject: MATH

Standard: Number Sense

Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand

Titles that Address the Substrand

(Gr. 7) 7.N.3.1. (Application) Use various strategies to solve one- and two-step problems involving positive fractions and integers.

Quarter Mile Math Level 3

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Use the structural characteristics of the set of real numbers and its various subsets. Apply the concept of value, magnitude, and relative magnitude of real numbers.

Substrand **Titles that Address the Substrand**

(Gr. 7) 7.N.1.1. (Comprehension) Represent numbers in a variety of forms by describing, ordering, and comparing integers, decimals, percents, and fractions.

Quarter Mile Math Level 3

(Gr. 7) 7.N.1.2. (Application) Find and use common multiples and factors of whole numbers.

Quarter Mile Math Level 2

Subject: MATH
Standard: Statistics and Probability
Strand: Indicator 1: Use statistical models to gather, analyze, and display data to draw conclusions.

Substrand **Titles that Address the Substrand**

(Gr. 7) 7.S.1.1. (Comprehension) Find the mean, median, mode, and range of a set of data.

Quarter Mile Math Level 2

Grades 8 - 8

Subject: MATH
Standard: Algebra
Strand: Indicator 1: Use procedures to transform algebraic expressions.

Substrand **Titles that Address the Substrand**

(Gr. 8) 8.A.1.1. (Application) Use properties to expand, combine, and simplify 1st degree algebraic expressions with the set of integers.

Quarter Mile Math Level 3

Subject: MATH
Standard: Algebra
Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand **Titles that Address the Substrand**

(Gr. 8) 8.A.2.1. (Application) Write and solve two-step 1st degree equations, with one variable, and one-step inequalities, with one variable, using the set of integers.

Quarter Mile Math Level 3

Subject: MATH
Standard: Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand **Titles that Address the Substrand**

(Gr. 8) 8.N.3.1. (Application) Use various strategies to solve multi-step problems involving rational numbers.

Quarter Mile Math Level 3

Subject: MATH
Standard: Number Sense
Strand: Indicator 1: Use the structural characteristics of the set of real numbers and its various subsets. Apply the concept of value, magnitude, and relative magnitude of real numbers.

Substrand **Titles that Address the Substrand**

(Gr. 8) 8.N.1.1. (Comprehension) Represent numbers in a variety of forms and identify the subsets of rational numbers.
Quarter Mile Math Level 3

Subject: MATH
Standard: Statistics and Probability
Strand: Indicator 1: Use statistical models to gather, analyze, and display data to draw conclusions.

Substrand **Titles that Address the Substrand**

(Gr. 8) 8.S.1.1. (Comprehension) Find the mean, median, mode, and range of a data set from a stem–and-leaf plot and a line plot.
Quarter Mile Math Level 2

Subject: MATH
Standard: Advanced High School Number Sense
Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand **Titles that Address the Substrand**

(Gr. 9-12) 9-12.N.2.1A. (Application) Add, subtract, multiply, and divide real numbers including rational exponents.
Quarter Mile Math Level 3

Subject: MATH
Standard: High School Algebra
Strand: Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.

Substrand **Titles that Address the Substrand**

(Gr. 9-12) 9-12.A.2.1. (Comprehension) Use algebraic properties to transform multi-step, single variable, and first-degree equations.
Quarter Mile Math Level 3

Subject: MATH
Standard: High School Number Sense
Strand: Indicator 2: Apply operations within the set of real numbers.

Substrand **Titles that Address the Substrand**

(Gr. 9-12) 9-12.N.2.1. (Comprehension) Add, subtract, multiply, and divide real numbers including integral exponents.
Quarter Mile Math Level 2

Subject: MATH
Standard: High School Number Sense
Strand: Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Substrand**Titles that Address the Substrand**

(Gr. 9-12) 9-12.N.3.1. (Analysis) Use estimation strategies in problem situations to predict results and to check the reasonableness of results.

Quarter Mile Math Level 2

(Gr. 9-12) 9-12.N.3.2. (Comprehension) Select alternative computational strategies and explain the chosen strategy.

Quarter Mile Math Level 2

Quarter Mile Math Level 3