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

Grades PK - PK
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: K.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand	Titles that Address the Substrand

(Gr. PreK) b.count by ones and tens to 50;
Quarter Mile Math Level 1

(Gr. PreK) c.count backward from 10 to 1;
Quarter Mile Math Level 1

(Gr. PreK) d.match quantities up to twenty with numerals;
Quarter Mile Math Level 1

(Gr. PreK) j.order numbers less than 20;
Quarter Mile Math Level 1

(Gr. PreK) k.express the relationship between two numbers less than 20 using the words less than, more than, or equal to;
Quarter Mile Math Level 1

Grades 1 - 1
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 1.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand	Titles that Address the Substrand

(Gr. 1) a.count by twos, fives, and tens to 100;
Quarter Mile Math Level 1

(Gr. 1) b.count a group of objects by ones to 100;
Quarter Mile Math Level 1

(Gr. 1) c.count a group of objects by twos, fives, and tens up to 30;
Quarter Mile Math Level 1

(Gr. 1) d.count forward or backward by one beginning with any number less than 100;
Quarter Mile Math Level 1

(Gr. 1) e.recognize the place value of a digit in numbers to 99;
Quarter Mile Math Level 1

(Gr. 1) f.read and write numerals up to 100;
Quarter Mile Math Level 1

(Gr. 1) i.identify odd and even whole numbers to 50;
Quarter Mile Math Level 1

(Gr. 1) o.order whole numbers less than 100;
Quarter Mile Math Level 1

(Gr. 1) p.represent numbers in flexible ways using a variety of materials (e.g., 23 as 23 ones, 1 ten and 13 ones, and/or 2 tens and 3 ones);
Quarter Mile Math Level 1

(Gr. 1) r.compare two numbers using the appropriate symbol (i.e., <, >, =);
Quarter Mile Math Level 1

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **1.1.3 Solve problems, compute fluently, and make reasonable estimates.**

Substrand **Titles that Address the Substrand**

(Gr. 1) e.use a variety of strategies to add and subtract two-digit whole numbers (e.g., counting up or back, taking away, doubles plus one, comparison, number relationships, modeling);
Quarter Mile Math Level 1

Subject: **MATH**
Standard: **2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.**
Strand: **1.2.3 Use concrete, pictorial, and verbal representations to develop an understanding of the language and symbols of mathematics.**

Substrand **Titles that Address the Substrand**

(Gr. 1) b.communicate and use mathematical terms and symbols appropriately;
Quarter Mile Math Level 1

(Gr. 1) c.interpret and solve simple open addition sentences.
Quarter Mile Math Level 1

Subject: **MATH**
Standard: **2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.**
Strand: **1.2.4 Illustrate general properties of operations.**

Substrand	Titles that Address the Substrand

(Gr. 1) a.apply the commutative property of addition.
Quarter Mile Math Level 1

Grades 2 - 2
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 2.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand	Titles that Address the Substrand

(Gr. 2) a.count a set of objects to 100 using an efficient grouping strategy (e.g., two's, three's, five's, ten's);
Quarter Mile Math Level 1

(Gr. 2) b.count forward and backward by one from any number less than 999;
Quarter Mile Math Level 1

(Gr. 2) c.read and write numerals to 999;
Quarter Mile Math Level 1

(Gr. 2) d.recognize the place value of a digit in numbers to 999;
Quarter Mile Math Level 1

(Gr. 2) e.identify odd and even numbers to 100;
Quarter Mile Math Level 1

(Gr. 2) j.order whole numbers less than 1000;
Quarter Mile Math Level 1

(Gr. 2) k.compare two numbers using the appropriate symbol (i.e., <, >, =);
Quarter Mile Math Level 1

(Gr. 2) l.represent numbers to 999 in flexible ways using a variety of materials (e.g., 23 as 23 ones, 1 ten and 13 ones, and/or 2 tens and 3 ones);
Quarter Mile Math Level 1

Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 2.1.3 Solve problems, compute fluently, and make reasonable estimates.

Substrand	Titles that Address the Substrand

(Gr. 2) d.add and subtract efficiently and accurately with single-digit numbers;
Quarter Mile Math Level 1

(Gr. 2) e.use a variety of strategies and representations to add and subtract two-digit whole numbers;
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(Gr. 2) g.use estimation to justify the reasonableness of a computation.

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Subject: MATH
Standard: 2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.
Strand: 2.2.3 Use concrete, pictorial, and verbal representations to develop an understanding of the language and symbols of mathematics.

Substrand   **Titles that Address the Substrand**

(Gr. 2) a.interpret and solve open sentences that involve addition or subtraction;
Quarter Mile Math Level 1

Subject: MATH
Standard: 2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.
Strand: 2.2.4 Illustrate general properties of operations.

Substrand   **Titles that Address the Substrand**

(Gr. 2) c.apply the addition and subtraction properties of zero.
Quarter Mile Math Level 1

Grades 3 - 3
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 3.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand   **Titles that Address the Substrand**

(Gr. 3) a.count by tens, hundreds, or thousands from any whole number;
Quarter Mile Math Level 1

(Gr. 3) b.skip count by tens from any whole number less than 1000;
Quarter Mile Math Level 1

(Gr. 3) c.read and write whole numbers to 9999;
Quarter Mile Math Level 1

(Gr. 3) d.represent numbers to 9999 in flexible ways using a variety of materials;
Quarter Mile Math Level 1

(Gr. 3) e.identify whole numbers as odd or even;
Quarter Mile Math Level 1

(Gr. 3) f.name the place value of a given digit in whole numbers to 10,000's;
Quarter Mile Math Level 1

(Gr. 3) g.write whole numbers up to 10,000 in expanded form (e.g., 873 as 800 + 70 + 3);
Quarter Mile Math Level 1

(Gr. 3) i.compare unit fractions with denominators up to ten;
Quarter Mile Math Level 2

(Gr. 3) j.compare and order decimal amounts in the context of money;
Quarter Mile Math Level 2

(Gr. 3) m.order whole numbers to 10,000;
Quarter Mile Math Level 1

(Gr. 3) n.compare whole numbers to 9999 using the appropriate symbol (i.e.,<, >, =).
Quarter Mile Math Level 1

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **3.1.2 Understand meanings of operations and how they relate to one another.**

Substrand   **Titles that Address the Substrand**

(Gr. 3) a.relate skip counting to multiplication;
Quarter Mile Math Level 1

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **3.1.3 Solve problems, compute fluently, and make reasonable estimates.**

Substrand   **Titles that Address the Substrand**

(Gr. 3) a.use a variety of thinking strategies to add and subtract whole numbers (e.g., sums of ten, doubles plus one);
Quarter Mile Math Level 1

(Gr. 3) c.relate adding doubles to multiplying by two;
Quarter Mile Math Level 1
Quarter Mile Math Level 2

(Gr. 3) d.use known multiplication facts to determine a related product (e.g., 9 x 7 is 7 less than 10 x 7);
Quarter Mile Math Level 1

(Gr. 3) e.use the multiplication facts 0, 1, 2, 5, and 10 as a factor;
Quarter Mile Math Level 1

(Gr. 3) h.mentally calculate the sum or difference of any two numbers up to 100;
Quarter Mile Math Level 1

(Gr. 3) i.use strategies to estimate in problem-solving situations.
Quarter Mile Math Level 1

Subject: **MATH**
Standard: **2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.**

Strand: 3.2.3 Use concrete, pictorial, and verbal representations to develop an understanding of the language and symbols of mathematics.

Substrand   **Titles that Address the Substrand**

(Gr. 3) b.interpret and solve open sentences that involve addition, subtraction, and multiplication;
Quarter Mile Math Level 1

Subject: MATH
Standard: 2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.
Strand: 3.2.4 Illustrate general properties of operations.

Substrand   **Titles that Address the Substrand**

(Gr. 3) c.apply the addition and subtraction properties of zero;
Quarter Mile Math Level 1

(Gr. 3) d.apply the zero and identity properties of multiplication;
Quarter Mile Math Level 1

Grades 4 - 4
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 4.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand   **Titles that Address the Substrand**

(Gr. 4) a.read and write numbers from hundredths to hundred-thousands;
Quarter Mile Math Level 2

(Gr. 4) b.recognize the place value of a given digit from hundredths to hundred-thousands;
Quarter Mile Math Level 2

(Gr. 4) c.compare and order whole numbers using the appropriate symbols (i.e., >, <, =);
Quarter Mile Math Level 2

(Gr. 4) e.recognize and generate equivalent forms of whole numbers and commonly used fractions and decimals;
Quarter Mile Math Level 2

(Gr. 4) i.communicate and use mathematical language and symbols correctly.
Quarter Mile Math Level 2

Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 4.1.3 Solve problems, compute fluently, and make reasonable estimates.

Substrand   **Titles that Address the Substrand**

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(Gr. 4) a.use strategies to estimate the results of whole-number computations;
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(Gr. 4) c.add and subtract fractions with like denominators;
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(Gr. 4) d.multiply and divide efficiently and accurately with single-digit whole numbers;
Quarter Mile Math Level 2

(Gr. 4) e.add, subtract, and multiply decimals (includes monetary units);
Quarter Mile Math Level 2

(Gr. 4) f.select appropriate methods and tools for computing with whole numbers (e.g., mental computation, estimation, calculators, paper and pencil, guess and check);
Quarter Mile Math Level 2

(Gr. 4) j.select the appropriate computational and operational method to solve problems;
Quarter Mile Math Level 2

Subject: MATH
Standard: 2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.
Strand: 4.2.2 Represent and analyze mathematical situations and structures using algebraic symbols.

Substrand   Titles that Address the Substrand

(Gr. 4) a.interpret and solve open sentences that involve addition, subtraction, multiplication, and division;
Quarter Mile Math Level 2

Subject: MATH
Standard: 5.0 Data Analysis And Probability - The Student Will Understand And Apply Basic Statistical And Probability Concepts As They, Organize, And Analyze Data, And To Make Predictions And Conjectures.
Strand: 4.5.2 Select and use appropriate statistical methods to analyze data.

Substrand   Titles that Address the Substrand

 (Gr. 4) a.explore measures of central tendency (i.e., mean, median, mode).
Quarter Mile Math Level 2

Grades 5 - 5
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 5.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand   Titles that Address the Substrand

(Gr. 5) a.read and write numbers from thousandths to millions;
Quarter Mile Math Level 2

(Gr. 5) b.name the place value of a given digit from thousandths to millions;

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(Gr. 5) f.show the relationship between improper fractions and mixed numbers;
Quarter Mile Math Level 2

(Gr. 5) g.recognize and generate equivalent forms of commonly used fractions, decimals, and percents (e.g., 1/10, 1/4, 1/2, 3/4);
Quarter Mile Math Level 2

(Gr. 5) h.recognize relationships among commonly used fractions and decimals.
Quarter Mile Math Level 2

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **5.1.3 Solve problems, compute fluently, and make reasonable estimates.**

Substrand **Titles that Address the Substrand**

(Gr. 5) a.select appropriate methods and tools for computations (e.g., mental computation, estimation, calculators, paper and pencil);
Quarter Mile Math Level 2

(Gr. 5) b.explain why one from of a number might be more useful for computation than another form;
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(Gr. 5) c.recognize reasonable estimates for operations;
Quarter Mile Math Level 2

(Gr. 5) d.add, subtract, multiply, and divide whole numbers and decimals;
Quarter Mile Math Level 2

Subject: **MATH**
Standard: **5.0 Data Analysis And Probability - The Student Will Understand And Apply Basic Statistical And Probability Concepts As They, Organize, And Analyze Data, And To Make Predictions And Conjectures.**
Strand: **5.5.2 Select and use appropriate statistical methods to analyze data.**

Substrand **Titles that Address the Substrand**

(Gr. 5) a.use measures of central tendency (i.e., mean, median, mode);
Quarter Mile Math Level 2

(Gr. 5) b.relate mean, median, and mode to a visual representation of a data set;
Quarter Mile Math Level 2

Grades 6 - 6
Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **6.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.**

Substrand	Titles that Address the Substrand

(Gr. 6) a.recognize the place value of a given digit;
Quarter Mile Math Level 2

(Gr. 6) b.read, write, and represent whole numbers and decimals in expanded notation;
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) c.develop understanding of equivalent number representations (i.e., fractions, decimals, percents);
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) d.compare fractions, decimals, percents, and integers using the appropriate symbol (i.e., <, >, =);
Quarter Mile Math Level 2

(Gr. 6) f.develop meaning for percents greater than 100 and less than one;
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) m.develop meaning for number theory concepts (i.e., divisibility, factors, multiples).
Quarter Mile Math Level 3

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **6.1.2 Understand operations and how they relate to one another.**

Substrand	Titles that Address the Substrand

(Gr. 6) a.understand the meaning and effects of arithmetic operations on fractions and decimals;
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) d.apply order of operations when computing with whole numbers and decimals;
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) e.understand and use the inverse relationships of addition and subtraction and multiplication and division to simplify computations and solve problems.
Quarter Mile Math Level 2
Quarter Mile Math Level 3

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **6.1.3 Solve problems, compute fluently and make reasonable estimates.**

Substrand	Titles that Address the Substrand

(Gr. 6) a.select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, and percents in problem-solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil);
Quarter Mile Math Level 2

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(Gr. 6) b.analyze procedures for computing with fractions, decimals, and integers;
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) e.judge the reasonableness of the results of rational number estimates and computations;
Quarter Mile Math Level 2
Quarter Mile Math Level 3

(Gr. 6) f.recognize when an estimate is more appropriate than an exact answer in a variety of problem situations.
Quarter Mile Math Level 2
Quarter Mile Math Level 3

Subject: MATH
Standard: 2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.
Strand: 6.2.2 Represent and analyze mathematical situations and structures using algebraic symbols.

Substrand	**Titles that Address the Substrand**

(Gr. 6) c.evaluate algebraic expressions for a given value of the variable;
Quarter Mile Math Level 3

(Gr. 6) d.find missing addends or factors represented as variables in simple equations;
Quarter Mile Math Level 3

Subject: MATH
Standard: 5.0 Data Analysis And Probability - The Student Will Understand And Apply Basic Statistical And Probability Concepts As They, Organize, And Analyze Data, And To Make Predictions And Conjectures.
Strand: 6.5.2 Select and use appropriate statistical methods to analyze data.

Substrand	**Titles that Address the Substrand**

(Gr. 6) a.find, use, and interpret measures of center and spread (e.g., mean, median, mode, interquartile range);
Quarter Mile Math Level 2

Grades 7 - 7
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 7.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Substrand	**Titles that Address the Substrand**

(Gr. 7) b.develop meaning for perfect squares (e.g., 1, 4, 9, 16);
Quarter Mile Math Level 2

 (Gr. 7) d.use exponential notation;
Quarter Mile Math Level 2

(Gr. 7) f.represent equivalent numbers using a variety of forms (i.e., whole numbers, fraction, decimals, percents);
Quarter Mile Math Level 3

(Gr. 7) g.compare fractions, decimals, percents, and integers using the appropriate symbol (i.e., <, >, =);
Quarter Mile Math Level 3

(Gr. 7) i.develop meaning for percents greater than 100 and less than one;
Quarter Mile Math Level 3

 (Gr. 7) m.apply number theory concepts to solve problems (e.g., divisibility, factors, multiples, composite numbers, prime factorization, relatively prime).
Quarter Mile Math Level 3

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **7.1.2 Understand operations and how they relate to one another.**

Substrand   **Titles that Address the Substrand**

(Gr. 7) a.understand the meaning and effects of arithmetic operations with fractions and decimals;
Quarter Mile Math Level 3

(Gr. 7) d.apply order of operations when computing with whole numbers, decimals, and fractions;
Quarter Mile Math Level 3

(Gr. 7) e.understand and use the inverse relationships of addition and subtraction and multiplication and division to simplify computations and solve problems.
Quarter Mile Math Level 3

Subject: **MATH**
Standard: **1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.**
Strand: **7.1.3 Solve problems, compute fluently, and make reasonable estimates.**

Substrand   **Titles that Address the Substrand**

(Gr. 7) a.select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, percents, and integers in problem solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil);
Quarter Mile Math Level 3

(Gr. 7) b.analyze procedures for computing with fractions, decimals, and integers;
Quarter Mile Math Level 3

(Gr. 7) d.judge the reasonableness of the results of rational number estimates and computations;
Quarter Mile Math Level 3

Subject: **MATH**
Standard: **2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.**

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Strand: **7.2.2 Represent and analyze mathematical situations and structures using algebraic symbols.**

Substrand   **Titles that Address the Substrand**

(Gr. 7) a.demonstrate understanding of different uses of variables;
                          Quarter Mile Math Level 3

(Gr. 7) c.translate one-variable verbal and written expressions into algebraic expressions;
                          Quarter Mile Math Level 3

(Gr. 7) f.identify whole numbers that satisfy a given one-variable inequality;
                          Quarter Mile Math Level 3

Grades 8 - 8
Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To
              Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To
              Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 8.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and
              number systems.

Substrand   **Titles that Address the Substrand**

(Gr. 8) e.work flexibly with fractions, decimals, and percents to solve problems;
                          Quarter Mile Math Level 3

(Gr. 8) f.compare and order fractions, decimals, and percents;
                          Quarter Mile Math Level 3

(Gr. 8) h.develop meaning for percents greater than 100 and less than one;
                          Quarter Mile Math Level 3

(Gr. 8) i.use appropriate mathematical language and symbols to express numerical relationships (e.g., <, >, =, 3);
                          Quarter Mile Math Level 3

(Gr. 8) l.demonstrate understanding of opposites, reciprocals, and integers;
                          Quarter Mile Math Level 3

(Gr. 8) o.apply number theory concepts to solve problems (e.g., divisibility, factors, multiples, composite numbers, prime
factorization, relatively prime).
                          Quarter Mile Math Level 3

Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To
              Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To
              Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 8.1.2 Understand operations and how they relate to one another.

Substrand   **Titles that Address the Substrand**

(Gr. 8) a.understand the meaning and effects of arithmetic operations with fractions, decimals, and integers;
                          Quarter Mile Math Level 3

(Gr. 8) d.apply order of operations in computing with rational numbers;
                          Quarter Mile Math Level 3

Subject: MATH
Standard: 1.0 Number And Operations - The Student Will Develop Number And Operation Sense Needed To Represent Numbers And Number Relationships Verbally, Symbolically, And Graphically And To Compute Fluently And Make Reasonable Estimates In Problem Solving.
Strand: 8.1.3 Solve problems, compute fluently, and make reasonable estimates.

Substrand   **Titles that Address the Substrand**

(Gr. 8) a.select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, percents, and integers in problem-solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil);
                          Quarter Mile Math Level 3

(Gr. 8) b.develop and analyze procedures for computing with fractions, decimals, and integers;
                          Quarter Mile Math Level 3

(Gr. 8) d.judge the reasonableness of the results of rational number estimates and computations;
                          Quarter Mile Math Level 3

(Gr. 8) h.develop, analyze, and explain methods for solving problems involving proportions (e.g., scaling, finding equivalent ratios);
                          Quarter Mile Math Level 2

Subject: MATH
Standard: 2.0 Algebra - The Student Will Understand And Generalize Patterns As They Represent And Analyze Quantitative Relationships And Change In A Variety Of Contexts And Problems Using Graphs, Tables, And Equations.
Strand: 8.2.2 Represent and analyze mathematical situations and structures using algebraic symbols.

Substrand   **Titles that Address the Substrand**

(Gr. 8) g.solve one- and two-step linear equations involving integers;
                          Quarter Mile Math Level 3

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