

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

**Grades K - 4**

**Subject: MATH**

**Standard: I. Problem Solving**

**Strand: Problem Solving**

**Substrand Titles that Address the Substrand**

(Gr. K-4 ) f. select and apply appropriate mathematical tools and technology to solve problems (NCTM Standard 1; MO 2.7)

**Quarter Mile Math Level 1**

**Quarter Mile Math Level 2**

**Subject: MATH**

**Standard: IV. Connections**

**Strand: Connections**

**Substrand Titles that Address the Substrand**

(Gr. K-4 ) c. recognize relationships among different topics in mathematics (NCTM Standard 4; MO 1.6, 1.10)

**Quarter Mile Math Level 1**

**Quarter Mile Math Level 2**

**Subject: MATH**

**Standard: IX. Mathematical Systems And Number Theory**

**Strand: Mathematical Systems And Number Theory**

**Substrand Titles that Address the Substrand**

(Gr. K-2 ) a. develop the need for whole numbers, integers and rational numbers, including fractions and decimals by looking for patterns and relationships to solve problems (NCTM Standard 6; MO 1.6, 3.2, 3.3)

**Quarter Mile Math Level 1**

**Quarter Mile Math Level 2**

(Gr. K-2 ) b. develop and use number operations and order relations for decimals (money) (NCTM Standard 6; MO 1.6, 3.2, 3.3)

**Quarter Mile Math Level 2**

(Gr. K-2 ) c. develop an understanding of how basic arithmetic operations are related to one another (NCTM Standard 6; MO 1.6)

**Quarter Mile Math Level 1**

(Gr. K-2 ) d. develop and use number theory concepts, including factors and multiples in problem solving (NCTM Standard 6; MO 1.6, 3.5)

**Quarter Mile Math Level 1**

(Gr. K-2 ) e. model, develop, and explain basic facts and algorithms with reasonable proficiency (NCTM Standard 8; MO 3.6)

**Quarter Mile Math Level 1**

**Subject: MATH**  
**Standard: V. Number Sense**  
**Strand: Number Sense**

**Substrand**                      **Titles that Address the Substrand**

(Gr. K-4 ) a. model, explore, develop, and explain number operations for whole numbers (NCTM Standard 7; MO 1.6, 2.1, 3.3)

**Quarter Mile Math Level 1**  
**Quarter Mile Math Level 2**

(Gr. K-4 ) d. demonstrate an understanding of our numeration system by relating counting, grouping, and place value concepts (NCTM Standard 6; MO 1.6, 3.6, 4.1)

**Quarter Mile Math Level 1**  
**Quarter Mile Math Level 2**

(Gr. K-4 ) e. utilize number sense to develop number meanings and explore number relationships (NCTM Standard 6; MO 1.6, 3.3)

**Quarter Mile Math Level 1**  
**Quarter Mile Math Level 2**

(Gr. K-4 ) f. use a variety of mental computation and estimation strategies to solve specific problems (NCTM Standard 5; MO 1.10, 3.3, 4.1)

**Quarter Mile Math Level 1**  
**Quarter Mile Math Level 2**

(Gr. K-4 ) i. Explore the concepts of fractions, mixed numbers, and decimals and be able to apply them to problem situations (NCTM Standard 12; MO 1.6, 3.2, 3.3, 4.1)

**Quarter Mile Math Level 1**  
**Quarter Mile Math Level 2**

**Subject: MATH**  
**Standard: VIII. Patterns And Relationships**  
**Strand: Patterns And Relationships**

**Substrand**                      **Titles that Address the Substrand**

(Gr. K-2 ) b. represent and describe mathematical relationships (NCTM Standard 13; MO 1.6, 1.8, 2.2, 3.3)

**Quarter Mile Math Level 1**

(Gr. K-2 ) c. investigate the use of variables and open sentences in expressing relationships (NCTM Standard 13; MO 1.6, 1.8, 3.3)

**Quarter Mile Math Level 1**

**Subject: MATH**  
**Standard: III. Reasoning**  
**Strand: Reasoning**

**Substrand**                      **Titles that Address the Substrand**

(Gr. 5-8 ) e. use patterns and relationships to generalize an algebraic representation (NCTM Standard 3; MO 1.6)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

**Subject: MATH**

**Standard: IX. Mathematical Systems And Number Theory**

**Strand: Mathematical Systems And Number Theory**

**Substrand**

**Titles that Address the Substrand**

(Gr. 5-8 ) a. Evaluate the need and applications of numbers not contained in the set of whole number (NCTM Standard 6; MO 1.1, 3.2, 3.3, 4.1)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

(Gr. 5-8 ) b. develop an understanding of and explain order and relationship among integers, fractions, and decimals (NCTM Standard 6; MO 1.6, 2.2)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

(Gr. 5-8 ) e. apply commutative, associative, and distributive relationships in computation and estimation situations. (NCTM Standard 6; MO 1.6; 3.2, 3.3)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

**Subject: MATH**

**Standard: V. Number Sense**

**Strand: Number Sense**

**Substrand**

**Titles that Address the Substrand**

(Gr. 5-8 ) a. Extend understanding and ability to apply whole number operations to all rational numbers (such as integers, and fractions, decimals) (NCTM Standard 6; MO 3.2, 3.3, 4.1)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

(Gr. 5-8 ) b. use multiple representations of equivalent forms of numbers such as integers, fractions, decimals, percent, exponents, and scientific notation in a variety of situations (NCTM Standard 5; MO 1.6, 1.10)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

(Gr. 5-8 ) c. describe connections and relationships of numbers such as ratios, proportions, and percents in problem situations (NCTM Standard 5; MO 1.6, 2.1)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

(Gr. 5-8 ) e. develop, analyze, and explain procedures for computation and techniques for estimation (NCTM Standard 7; MO 2.3, 3.3)

**Quarter Mile Math Level 2**

**Quarter Mile Math Level 3**

(Gr. 5-8 ) f. develop, analyze, and explain methods for solving proportions (NCTM Standard 7; MO 2.3, 3.3)

**Quarter Mile Math Level 2**

(Gr. 5-8 ) g. check and explain the reasonableness of solutions, strategies, and results (NCTM Standard 7; MO 1.7, 3.3, 3.7, 4.1)

**Quarter Mile Math Level 2**  
**Quarter Mile Math Level 3**

(Gr. 5-8 ) h. select appropriate methods of computation, such as mental arithmetic, estimation, calculator, computer, and paper/pencil to reflect upon solutions, strategies and results (NCTM Standard 7; MO 3.3, 3.6, 3.7)

**Quarter Mile Math Level 2**  
**Quarter Mile Math Level 3**

**Subject: MATH**  
**Standard: VIII. Patterns And Relationships**  
**Strand: Patterns And Relationships**

**Substrand**                      **Titles that Address the Substrand**

(Gr. 5-8 ) e. solve equations and inequalities (NCTM Standard 9; MO 1.6, 1.8, 2.2, 3.3)

**Quarter Mile Math Level 2**  
**Quarter Mile Math Level 3**

**Grades 9 - 12**

**Subject: MATH**  
**Standard: I. Problem Solving**  
**Strand: Problem Solving**

**Substrand**                      **Titles that Address the Substrand**

(Gr. 9-12) a. use problem-solving strategies to investigate and understand mathematical content (NCTM Standard 1; MO 1.6, 3.5)

**Quarter Mile Math Level 3**

(Gr. 9-12) b. recognize and formulate problems from situations within and outside mathematics (NCTM Standard 1; MO 3.1, 3.5)

**Quarter Mile Math Level 3**

(Gr. 9-12) c. organize, develop and apply integrated mathematical problem-solving strategies to solve problems within and outside mathematics (NCTM Standard 1; MO 3.2, 3.3)

**Quarter Mile Math Level 3**

**Subject: MATH**  
**Standard: IX. Mathematical Systems And Number Theory**  
**Strand: Mathematical Systems And Number Theory**

**Substrand**                      **Titles that Address the Substrand**

(Gr. 9-12) a. compare and contrast the real number system and its various subsystems (NCTM Standard 14; MO 2.1, 4.1)

**Quarter Mile Math Level 3**

(Gr. 9-12) b. select and apply appropriate technology as a problem-solving tool to achieve understanding of the logic of algebraic and geometric procedures (NCTM Standard 14; MO 1.4, 3.6)

**Quarter Mile Math Level 3**

(Gr. 9-12) c. investigate and determine similarities and differences between mathematical systems (NCTM Standard 14; MO 2.1, 4.1, 4.6)

**Quarter Mile Math Level 3**

(Gr. 9-12) d. Extend understanding and application of number theory concepts (NCTM Standard 6; MO 1.6, 3.2, 3.3)

**Quarter Mile Math Level 3**

**Subject:** MATH

**Standard:** VIII. Patterns And Relationships

**Strand:** Patterns And Relationships

**Substrand**                      **Titles that Address the Substrand**

(Gr. 9-12) d. represent situations that involve variable quantities with expressions, equations and inequalities (NCTM Standard 5; MO 1.6, 1.8, 3.3)

**Quarter Mile Math Level 3**

(Gr. 9-12) e. solve equations and inequalities (NCTM Standard 5; MO 1.6, 1.8, 2.2, 3.3)

**Quarter Mile Math Level 3**