

Grade 4

Subject Mathematics

Standard Data, Probability and Statistics

Code SPI 0406.5.4

Grade/Course Level Expectation

Checks for Understanding

State Performance Indicators List all possible outcomes of a given situation or event.

Detail

General Skill(s)
4,C,16: Possible Outcomes
4,C,120: Ratio Concepts*

Skill Tree(s)
71MC: Probability
138SB: Math Strategies 4-6

Grade 5

Subject Mathematics

Standard Mathematical Processes

Code GLE 0506.1.1

Grade/Course Level Expectation Use mathematical language, symbols, and definitions while developing mathematical reasoning.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
5,C,23: Addition Problems I
5,C,24: Subtraction Problems I
5,C,25: Multiplication Problems I
5,C,26: Division Problems I
5,C,27: Estimation
5,C,28: Whole Numbers: Problem Solving Strategies
5,C,34: Determining Reasonable Solutions
5,C,40: Estimation of Operations
5,C,41: Money Applications
5,C,42: Multiplication Problems II
5,C,43: Division Problems II
5,C,44: Addition Problems II
5,C,45: Subtraction Problems II

Skill Tree(s)
17LG: Rounding: Mixed Practice
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations
138SB: Math Strategies 4-6
10LG: Decimals: Mixed Practice
92SB_B: Decimals: Beginning
6SB: Whole Numbers: Advanced
73MC: Algebra, Patterning, and Logic
67MC: Number Sense
72MC: Measurement
8SB: Fractions: Beginning
65LG: Fractions: Mixed Practice
84MC: Fraction Concepts

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code GLE 0506.1.4
Grade/Course Level Expectation Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
5,C,28: Whole Numbers: Problem Solving Strategies

Skill Tree(s)
17LG: Rounding: Mixed Practice
138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code GLE 0506.1.5
Grade/Course Level Expectation Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
5,C,7: Patterning

Skill Tree(s)
67MC: Number Sense
73MC: Algebra, Patterning, and Logic
138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code GLE 0506.1.6
Grade/Course Level Expectation Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code GLE 0506.1.7
Grade/Course Level Expectation Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

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Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Orchard Correlation to the Tennessee Curriculum Standards



Grade	5	General Skill(s)	
Subject	Mathematics		This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.
Standard	Mathematical Processes		
Code	GLE 0506.1.8		
Grade/Course Level Expectation	Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.	Skill Tree(s)	Orchard Skill Trees are not currently correlated to this specific standard. See above for details.
Checks for Understanding			
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	
Subject	Mathematics		5,C,116: Geometric Models*
Standard	Mathematical Processes	Skill Tree(s)	69MC: Geometry and Spatial Sense
Code	0506.1.1		
Grade/Course Level Expectation			
Checks for Understanding	Make and test conjectures about geometric properties and develop logical arguments to justify conclusions.		
State Performance Indicators			
Detail			

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code 0506.1.2
Grade/Course Level Expectation
Checks for Understanding Make reasonable estimates of fraction and decimal sums or differences using models.

General Skill(s)
5,C,27: Estimation
5,C,40: Estimation of Operations
5,C,48: Logic Problems
Skill Tree(s)
7LG: Rounding: Mixed Practice
17LG: Rounding: Mixed Practice
67MC: Number Sense
70MC: Graphing and Managing Data
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code 0506.1.3
Grade/Course Level Expectation
Checks for Understanding Explore different methods of estimation including rounding and truncating.

General Skill(s)
5,C,27: Estimation
5,C,40: Estimation of Operations
Skill Tree(s)
7LG: Rounding: Mixed Practice
17LG: Rounding: Mixed Practice
67MC: Number Sense
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade	5	General Skill(s)
Subject	Mathematics	5,C,23: Addition Problems I
Standard	Mathematical Processes	5,C,24: Subtraction Problems I
Code	0506.1.4	5,C,25: Multiplication Problems I
Grade/Course Level Expectation		5,C,26: Division Problems I
Checks for Understanding	Explore problems in different contexts to interpret the meaning of remainders as discrete values or not.	5,C,27: Estimation
		5,C,28: Whole Numbers: Problem Solving Strategies
		5,C,34: Determining Reasonable Solutions
		5,C,40: Estimation of Operations
		5,C,41: Money Applications
		5,C,42: Multiplication Problems II
		5,C,43: Division Problems II
		5,C,44: Addition Problems II
		5,C,45: Subtraction Problems II
State Performance Indicators		Skill Tree(s)
		8SB: Fractions: Beginning
		10LG: Decimals: Mixed Practice
		64LG: Whole Numbers: Mixed Practice
		65LG: Fractions: Mixed Practice
Detail		68MC: Basic Operations and Order of Operations
		84MC: Fraction Concepts
		138SB: Math Strategies 4-6

Grade	5	General Skill(s)
Subject	Mathematics	5,C,28: Whole Numbers: Problem Solving Strategies
Standard	Mathematical Processes	Skill Tree(s)
Code	0506.1.5	17LG: Rounding: Mixed Practice
Grade/Course Level Expectation		138SB: Math Strategies 4-6
Checks for Understanding	Solve problems in more than one way and explain why one process may be more effective than another.	
State Performance Indicators		
Detail		

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code 0506.1.6
Grade/Course Level Expectation
Checks for Understanding Communicate answers in correct verbal and numerical form; including use of mixed numbers or fractions and use of units.
State Performance Indicators
Detail

General Skill(s)
5,C,3: Fractions I
5,C,4: Fractions II
Skill Tree(s)
8SB: Fractions: Beginning
65LG: Fractions: Mixed Practice
73MC: Algebra, Patterning, and Logic
84MC: Fraction Concepts
138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Mathematical Processes
Code 0506.1.7
Grade/Course Level Expectation
Checks for Understanding Organize and consolidate verbal statements involving fractions and mixed numbers into diagrams, symbols, and numerical expressions.
State Performance Indicators
Detail

General Skill(s)
5,C,3: Fractions I
5,C,4: Fractions II
Skill Tree(s)
8SB: Fractions: Beginning
65LG: Fractions: Mixed Practice
73MC: Algebra, Patterning, and Logic
84MC: Fraction Concepts
138SB: Math Strategies 4-6

Grade	5	General Skill(s)
Subject	Mathematics	5,C,7: Patterning
Standard	Mathematical Processes	5,C,109: Functions*
Code	0506.1.8	5,C,114: Whole Number Equations & Inequalities*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Use patterns, models, and relationships as contexts for writing inequalities and simple equations.	6SB: Whole Numbers: Advanced
State Performance Indicators		64LG: Whole Numbers: Mixed Practice
Detail		67MC: Number Sense
		68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic
		138SB: Math Strategies 4-6

Grade	5	General Skill(s)
Subject	Mathematics	5,C,28: Whole Numbers: Problem Solving Strategies
Standard	Mathematical Processes	Skill Tree(s)
Code	0506.1.9	17LG: Rounding: Mixed Practice
Grade/Course Level Expectation		138SB: Math Strategies 4-6
Checks for Understanding	Use age-appropriate books, stories, and videos to convey ideas of mathematics.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,29: Geometric Problem Solving I
Standard	Mathematical Processes	Skill Tree(s)
Code	SPI 0506.1.1	69MC: Geometry and Spatial Sense
Grade/Course Level Expectation		72MC: Measurement
Checks for Understanding		138SB: Math Strategies 4-6
State Performance Indicators	Given a series of geometric statements, draw a conclusion about the figure described.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,27: Estimation
Standard	Mathematical Processes	5,C,40: Estimation of Operations
Code	SPI 0506.1.2	Skill Tree(s)
Grade/Course Level Expectation		7LG: Rounding: Mixed Practice
Checks for Understanding		17LG: Rounding: Mixed Practice
State Performance Indicators	Estimate fraction and decimal sums or differences.	
Detail		

Grade	5	General Skill(s)	5,C,104: Fraction & Decimal Relationships*
Subject	Mathematics		
Standard	Mathematical Processes	Skill Tree(s)	71MC: Probability 72MC: Measurement 84MC: Fraction Concepts
Code	SPI 0506.1.3		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Recognize the unit associated with the remainder in a division problem or the meaning of the fractional part of a whole given in either decimal or fraction form.		
Detail			

Grade	5	General Skill(s)	5,C,28: Whole Numbers: Problem Solving Strategies
Subject	Mathematics		
Standard	Mathematical Processes	Skill Tree(s)	17LG: Rounding: Mixed Practice 138SB: Math Strategies 4-6
Code	SPI 0506.1.4		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Identify missing information and/or too much information in contextual problems.		
Detail			

Grade 5
Subject Mathematics
Standard Number and Operations
Code GLE 0506.2.1
Grade/Course Level Expectation Extend the understanding of place value through millions and millionths in various contexts and representations.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

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Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade 5
Subject Mathematics
Standard Number and Operations
Code GLE 0506.2.2
Grade/Course Level Expectation Write natural numbers (to 50) as a product of prime factors and understand that this is unique (apart from order).

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)

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Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	5	General Skill(s)
Subject	Mathematics	5,C,26: Division Problems I
Standard	Number and Operations	5,C,101: Properties of Multiplication*
Code	GLE 0506.2.3	5,C,104: Fraction & Decimal Relationships*
Grade/Course Level Expectation	Develop fluency with division of whole numbers. Understand the relationship of divisor, dividend, and quotient in terms of multiplication and division.	Skill Tree(s)
Checks for Understanding		6SB: Whole Numbers: Advanced
		17LG: Rounding: Mixed Practice
		64LG: Whole Numbers: Mixed Practice
		68MC: Basic Operations and Order of Operations
		71MC: Probability
		72MC: Measurement
		84MC: Fraction Concepts
		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,3: Fractions I
Standard	Number and Operations	5,C,4: Fractions II
Code	GLE 0506.2.4	5,C,44: Addition Problems II
Grade/Course Level Expectation	Develop fluency with addition and subtraction of proper and improper fractions and mixed numbers; explain and model the algorithm.	5,C,45: Subtraction Problems II
Checks for Understanding		5,C,104: Fraction & Decimal Relationships*
		Skill Tree(s)
		8SB: Fractions: Beginning
		10LG: Decimals: Mixed Practice
		64LG: Whole Numbers: Mixed Practice
		65LG: Fractions: Mixed Practice
		68MC: Basic Operations and Order of Operations
		84MC: Fraction Concepts
		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	5	General Skill(s)	5,C,44: Addition Problems II 5,C,45: Subtraction Problems II
Subject	Mathematics		
Standard	Number and Operations		
Code	GLE 0506.2.5	Skill Tree(s)	8SB: Fractions: Beginning 10LG: Decimals: Mixed Practice 64LG: Whole Numbers: Mixed Practice 65LG: Fractions: Mixed Practice 68MC: Basic Operations and Order of Operations 71MC: Probability 72MC: Measurement 73MC: Algebra, Patterning, and Logic 84MC: Fraction Concepts 138SB: Math Strategies 4-6
Grade/Course Level Expectation	Develop fluency in solving multi-step problems using whole numbers, fractions, mixed numbers, and decimals.		
Checks for Understanding			
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,5: Factoring 5,C,47: Number Properties
Subject	Mathematics		
Standard	Number and Operations		
Code	0506.2.1	Skill Tree(s)	6SB: Whole Numbers: Advanced 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations 73MC: Algebra, Patterning, and Logic 138SB: Math Strategies 4-6
Grade/Course Level Expectation			
Checks for Understanding	Identify prime numbers up to 50.		
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,5: Factoring
Subject	Mathematics	Skill Tree(s)	6SB: Whole Numbers: Advanced
Standard	Number and Operations		64LG: Whole Numbers: Mixed Practice
Code	0506.2.2		65LG: Fractions: Mixed Practice
Grade/Course Level Expectation			68MC: Basic Operations and Order of Operations
Checks for Understanding	Use the prime factorization of two whole numbers to determine the greatest common factor and the least common multiple.		73MC: Algebra, Patterning, and Logic
State Performance Indicators			84MC: Fraction Concepts
Detail			138SB: Math Strategies 4-6

Grade	5	General Skill(s)	5,C,3: Fractions I
Subject	Mathematics	Skill Tree(s)	8SB: Fractions: Beginning
Standard	Number and Operations		65LG: Fractions: Mixed Practice
Code	0506.2.3		71MC: Probability
Grade/Course Level Expectation			72MC: Measurement
Checks for Understanding	Use visual models, benchmarks, and equivalent forms to add and subtract commonly used fractions and decimals.		73MC: Algebra, Patterning, and Logic
State Performance Indicators			84MC: Fraction Concepts
Detail			

Grade	5	General Skill(s)
Subject	Mathematics	5,C,5: Factoring
Standard	Number and Operations	Skill Tree(s)
Code	0506.2.4	6SB: Whole Numbers: Advanced
Grade/Course Level Expectation		64LG: Whole Numbers: Mixed Practice
Checks for Understanding	Use divisibility rules to factor numbers.	68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic
		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,3: Fractions I
Standard	Number and Operations	5,C,4: Fractions II
Code	0506.2.5	5,C,104: Fraction & Decimal Relationships*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Make reasonable estimates of fraction and decimal sums and differences.	8SB: Fractions: Beginning
		65LG: Fractions: Mixed Practice
		71MC: Probability
		72MC: Measurement
		73MC: Algebra, Patterning, and Logic
		84MC: Fraction Concepts
		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	5	General Skill(s)	5,C,104: Fraction & Decimal Relationships*
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	71MC: Probability 72MC: Measurement 84MC: Fraction Concepts
Code	0506.2.6		
Grade/Course Level Expectation			
Checks for Understanding	Add and subtract mixed numbers.		
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,101: Properties of Multiplication* 5,C,104: Fraction & Decimal Relationships* 5,C,26: Division Problems I
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Rounding: Mixed Practice 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations 71MC: Probability 72MC: Measurement 84MC: Fraction Concepts 138SB: Math Strategies 4-6
Code	0506.2.7		
Grade/Course Level Expectation			
Checks for Understanding	Understand the placement of the decimal point in calculations of multiplication and long division, including the placement in the estimation of the answer.		
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,26: Division Problems I
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Rounding: Mixed Practice 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations 138SB: Math Strategies 4-6
Code	0506.2.8		
Grade/Course Level Expectation			
Checks for Understanding	Understand that division by zero is undefined.		
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,8: Number Lines
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	67MC: Number Sense 84MC: Fraction Concepts 138SB: Math Strategies 4-6
Code	0506.2.9		
Grade/Course Level Expectation			
Checks for Understanding	Explore numbers less than 0 by extending the number line through familiar applications (e.g., temperatures below zero, owing money, measuring elevation below sea level).		
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,101: Properties of Multiplication*
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	6SB: Whole Numbers: Advanced 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations
Code	0506.2.10		
Grade/Course Level Expectation			
Checks for Understanding	Use exponential notation to represent repeated multiplication of whole numbers.		
State Performance Indicators			
Detail			

Grade	5	General Skill(s)	5,C,36: Standard & Expanded Number Forms
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	67MC: Number Sense 138SB: Math Strategies 4-6
Code	SPI 0506.2.1		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Read and write numbers from millions to millionths in various contexts.		
Detail			

Grade	5	General Skill(s)	5,C,5: Factoring
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	6SB: Whole Numbers: Advanced 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations 73MC: Algebra, Patterning, and Logic 138SB: Math Strategies 4-6
Code	SPI 0506.2.2		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Write the prime factorization of numbers through 50 using both exponential and standard notation.		
Detail			

Grade	5	General Skill(s)	5,C,26: Division Problems I
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Rounding: Mixed Practice 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations 138SB: Math Strategies 4-6
Code	SPI 0506.2.3		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Select a reasonable solution to a real-world division problem in which the remainder must be considered.		
Detail			

Grade	5	General Skill(s)	5,C,26: Division Problems I
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Rounding: Mixed Practice 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations 138SB: Math Strategies 4-6
Code	SPI 0506.2.4		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Solve problems involving the division of two- and three-digit whole numbers by one- and two-digit whole numbers.		
Detail			

Grade	5	General Skill(s)	5,C,44: Addition Problems II 5,C,45: Subtraction Problems II
Subject	Mathematics		
Standard	Number and Operations	Skill Tree(s)	8SB: Fractions: Beginning 10LG: Decimals: Mixed Practice 64LG: Whole Numbers: Mixed Practice 65LG: Fractions: Mixed Practice 68MC: Basic Operations and Order of Operations 84MC: Fraction Concepts 138SB: Math Strategies 4-6
Code	SPI 0506.2.5		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Solve addition and subtraction problems involving both fractions and decimals.		
Detail			

Grade 5
Subject Mathematics
Standard Number and Operations
Code SPI 0506.2.6
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Add and subtract proper and improper fractions as well as mixed numbers.

Detail

General Skill(s)
5,C,44: Addition Problems II
5,C,45: Subtraction Problems II

Skill Tree(s)
8SB: Fractions: Beginning
10LG: Decimals: Mixed Practice
64LG: Whole Numbers: Mixed Practice
65LG: Fractions: Mixed Practice
68MC: Basic Operations and Order of Operations
84MC: Fraction Concepts
138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Number and Operations
Code SPI 0506.2.7
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Recognize equivalent representations for the same number.

Detail

General Skill(s)
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Skill Tree(s)
Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade	5	General Skill(s)
Subject	Mathematics	5,C,104: Fraction & Decimal Relationships*
Standard	Number and Operations	Skill Tree(s)
Code	SPI 0506.2.8	71MC: Probability
Grade/Course Level Expectation		72MC: Measurement
Checks for Understanding		84MC: Fraction Concepts
State Performance Indicators	Write terminating decimals in the form of fractions or mixed numbers.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,119: Equality & Inequality Symbols*
Standard	Number and Operations	Skill Tree(s)
Code	SPI 0506.2.9	67MC: Number Sense
Grade/Course Level Expectation		
Checks for Understanding		
State Performance Indicators	Compare whole numbers, decimals and fractions using the symbols $<$, $>$, and $=$.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,113: Equations with Variables*
Standard	Algebra	5,C,114: Whole Number Equations & Inequalities*
Code	GLE 0506.3.1	Skill Tree(s)
Grade/Course Level Expectation	Understand and use order of operations.	6SB: Whole Numbers: Advanced
Checks for Understanding		64LG: Whole Numbers: Mixed Practice
		67MC: Number Sense
		68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,113: Equations with Variables*
Standard	Algebra	5,C,114: Whole Number Equations & Inequalities*
Code	GLE 0506.3.2	Skill Tree(s)
Grade/Course Level Expectation	Develop and apply the concept of variable.	6SB: Whole Numbers: Advanced
Checks for Understanding		64LG: Whole Numbers: Mixed Practice
		67MC: Number Sense
		68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,6: Algebraic Expressions
Standard	Algebra	Skill Tree(s)
Code	GLE 0506.3.3	68MC: Basic Operations and Order of Operations 73MC: Algebra, Patterning, and Logic 138SB: Math Strategies 4-6
Grade/Course Level Expectation	Understand and apply the substitution property.	
Checks for Understanding		
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,114: Whole Number Equations & Inequalities*
Standard	Algebra	Skill Tree(s)
Code	GLE 0506.3.4	6SB: Whole Numbers: Advanced 64LG: Whole Numbers: Mixed Practice 67MC: Number Sense 68MC: Basic Operations and Order of Operations 73MC: Algebra, Patterning, and Logic
Grade/Course Level Expectation	Solve single-step linear equations and inequalities.	
Checks for Understanding		
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,113: Equations with Variables*
Standard	Algebra	5,C,114: Whole Number Equations & Inequalities*
Code	0506.3.1	Skill Tree(s)
Grade/Course Level Expectation		6SB: Whole Numbers: Advanced
Checks for Understanding	Evaluate an expression by substituting non-negative rational number values for letter variables in the expression.	64LG: Whole Numbers: Mixed Practice
State Performance Indicators		67MC: Number Sense
Detail		68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic

Grade	5	General Skill(s)
Subject	Mathematics	5,C,113: Equations with Variables*
Standard	Algebra	5,C,114: Whole Number Equations & Inequalities*
Code	0506.3.2	Skill Tree(s)
Grade/Course Level Expectation		6SB: Whole Numbers: Advanced
Checks for Understanding	Use variables appropriately to represent numbers whose values are not yet known.	64LG: Whole Numbers: Mixed Practice
State Performance Indicators		67MC: Number Sense
Detail		68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic

Grade 5
Subject Mathematics
Standard Algebra
Code 0506.3.3
Grade/Course Level Expectation
Checks for Understanding Solve single-step linear equations using inverse operations.

State Performance Indicators

Detail

General Skill(s)

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Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade 5
Subject Mathematics
Standard Algebra
Code 0506.3.4
Grade/Course Level Expectation
Checks for Understanding Solve single-step linear inequalities and graph solutions on a number line.

State Performance Indicators

Detail

General Skill(s)

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Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade 5
Subject Mathematics
Standard Algebra
Code 0506.3.5
Grade/Course Level Expectation
Checks for Understanding Determine if a given value is a solution to a linear equation/inequality.

State Performance Indicators

Detail

General Skill(s)

This specific standard is either not effectively assessed or taught using technology, or is not addressed in this version of Orchard through content or assessments at this grade level.

Skill Tree(s)

Orchard Skill Trees are not currently correlated to this specific standard. See above for details.

Grade 5
Subject Mathematics
Standard Algebra
Code 0506.3.6
Grade/Course Level Expectation
Checks for Understanding Recognize there are many numbers between any two whole numbers on the number line.

State Performance Indicators

Detail

General Skill(s)

5,C,8: Number Lines

Skill Tree(s)

67MC: Number Sense
84MC: Fraction Concepts
138SB: Math Strategies 4-6

Grade	5	General Skill(s)	5,C,6: Algebraic Expressions
Subject	Mathematics		
Standard	Algebra	Skill Tree(s)	68MC: Basic Operations and Order of Operations 73MC: Algebra, Patterning, and Logic 138SB: Math Strategies 4-6
Code	SPI 0506.3.1		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Evaluate algebraic expressions involving decimals and fractions using order of operations.		
Detail			

Grade	5	General Skill(s)	5,C,3: Fractions I 5,C,4: Fractions II
Subject	Mathematics		
Standard	Algebra	Skill Tree(s)	8SB: Fractions: Beginning 65LG: Fractions: Mixed Practice 73MC: Algebra, Patterning, and Logic 84MC: Fraction Concepts 138SB: Math Strategies 4-6
Code	SPI 0506.3.2		
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Evaluate multi-step numerical expressions involving fractions using order of operations.		
Detail			

Grade 5
Subject Mathematics
Standard Algebra
Code SPI 0506.3.3

**Grade/Course
Level
Expectation**

**Checks
for
Understanding**

**State
Performance
Indicators** Find the unknown in single-step equations involving fractions and mixed numbers.

Detail

General Skill(s)
 5,C,3: Fractions I
 5,C,4: Fractions II
 5,C,113: Equations with Variables*

Skill Tree(s)
 8SB: Fractions: Beginning
 65LG: Fractions: Mixed Practice
 73MC: Algebra, Patterning, and Logic
 84MC: Fraction Concepts
 138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Algebra
Code SPI 0506.3.4

**Grade/Course
Level
Expectation**

**Checks
for
Understanding**

**State
Performance
Indicators** Given a set of values, identify those that make an inequality a true statement.

Detail

General Skill(s)
 5,C,114: Whole Number Equations & Inequalities*

Skill Tree(s)
 6SB: Whole Numbers: Advanced
 64LG: Whole Numbers: Mixed Practice
 67MC: Number Sense
 68MC: Basic Operations and Order of Operations
 73MC: Algebra, Patterning, and Logic

Grade	5	General Skill(s)
Subject	Mathematics	5,C,15: Area & Volume 5,C,29: Geometric Problem Solving I
Standard	Geometry and Measurement	
Code	GLE 0506.4.1	Skill Tree(s)
Grade/Course Level Expectation	Use basic formulas and visualization to find the area of geometric figures.	69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,10: Geometry: 2-D & 3-D Figures 5,C,15: Area & Volume 5,C,29: Geometric Problem Solving I
Standard	Geometry and Measurement	
Code	GLE 0506.4.2	Skill Tree(s)
Grade/Course Level Expectation	Describe polyhedral solids and analyze their properties, including volume and surface area.	69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators		
Detail		

Grade 5
Subject Mathematics
Standard Geometry and Measurement
Code GLE 0506.4.3
Grade/Course Level Expectation Describe length/distance relationships using the first quadrant of the coordinate system.
Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
 5,C,13: Metric & Customary Measurement
 5,C,14: Perimeter & Circumference
 5,C,15: Area & Volume
 5,C,29: Geometric Problem Solving I
 5,C,35: Elapsed Time

Skill Tree(s)
 17LG: Rounding: Mixed Practice
 69MC: Geometry and Spatial Sense
 72MC: Measurement
 138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Geometry and Measurement
Code GLE 0506.4.4
Grade/Course Level Expectation Solve problems that require attention to both approximation and precision of measurement.
Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
 5,C,13: Metric & Customary Measurement
 5,C,14: Perimeter & Circumference
 5,C,15: Area & Volume
 5,C,29: Geometric Problem Solving I
 5,C,35: Elapsed Time

Skill Tree(s)
 17LG: Rounding: Mixed Practice
 69MC: Geometry and Spatial Sense
 72MC: Measurement
 138SB: Math Strategies 4-6

Grade	5	General Skill(s)
Subject	Mathematics	5,C,15: Area & Volume 5,C,29: Geometric Problem Solving I
Standard	Geometry and Measurement	
Code	0506.4.1	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding	Develop the formula for the area of a triangle as it relates to the area of a parallelogram/rectangle.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,15: Area & Volume 5,C,29: Geometric Problem Solving I
Standard	Geometry and Measurement	
Code	0506.4.2	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding	Find the area of a convex polygon by decomposing it into triangles/rectangles.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,10: Geometry: 2-D & 3-D Figures
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.3	69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Build, draw, and work with prisms by means of orthogonal views, projective views, and nets.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,10: Geometry: 2-D & 3-D Figures
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.4	69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Describe and identify the five regular (Platonic) solids and their properties with respect to faces, shapes of faces, edges, and vertices.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,15: Area & Volume
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.5	69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Quantify total volume as filling space with same-sized units of volume without gaps or overlap.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,10: Geometry: 2-D & 3-D Figures
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.6	69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Decompose prisms to calculate surface area and volume.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement 5,C,14: Perimeter & Circumference 5,C,15: Area & Volume 5,C,29: Geometric Problem Solving I 5,C,35: Elapsed Time
Standard	Geometry and Measurement	
Code	0506.4.7	
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Understand, select and use units of appropriate size and type to measure angles, lengths/distances, area, surface area and volume.	17LG: Rounding: Mixed Practice 69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,112: Geometric Attributes*
Standard	Geometry and Measurement	
Code	0506.4.8	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense
Checks for Understanding	Identify characteristics of the set of points that define vertical and horizontal line segments.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.9	17LG: Rounding: Mixed Practice 72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Correctly interpret significant digits in the accuracy of measurements and associated calculations.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,103: Nonstandard Units of Measure*
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.10	72MC: Measurement
Grade/Course Level Expectation		
Checks for Understanding	Recognize that measurements are never exact.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,103: Nonstandard Units of Measure*
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.11	72MC: Measurement
Grade/Course Level Expectation		
Checks for Understanding	Understand the usefulness of approximations.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.12	17LG: Rounding: Mixed Practice 72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Develop strategies for choosing correct tools of measurement.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement
Standard	Geometry and Measurement	Skill Tree(s)
Code	0506.4.13	17LG: Rounding: Mixed Practice
Grade/Course Level Expectation		72MC: Measurement
Checks for Understanding	Recognize and use measures of weight and temperature.	138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,15: Area & Volume
Standard	Geometry and Measurement	5,C,29: Geometric Problem Solving I
Code	SPI 0506.4.1	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense
Checks for Understanding		72MC: Measurement
State Performance Indicators	Solve contextual problems that require calculating the area of triangles and parallelograms.	138SB: Math Strategies 4-6
Detail		

Grade 5
Subject Mathematics
Standard Geometry and Measurement
Code SPI 0506.4.2
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Decompose irregular shapes to find perimeter and area.

Detail

General Skill(s)
5,C,14: Perimeter & Circumference
5,C,29: Geometric Problem Solving I

Skill Tree(s)
17LG: Rounding: Mixed Practice
69MC: Geometry and Spatial Sense
72MC: Measurement
138SB: Math Strategies 4-6

Grade 5
Subject Mathematics
Standard Geometry and Measurement
Code SPI 0506.4.3
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Identify a three-dimensional object from two-dimensional representations of that object and vice versa.

Detail

General Skill(s)
5,C,10: Geometry: 2-D & 3-D Figures

Skill Tree(s)
69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

Grade	5	General Skill(s)
Subject	Mathematics	5,C,15: Area & Volume 5,C,29: Geometric Problem Solving I
Standard	Geometry and Measurement	
Code	SPI 0506.4.4	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Solve problems involving surface area and volume of rectangular prisms and polyhedral solids.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,112: Geometric Attributes*
Standard	Geometry and Measurement	
Code	SPI 0506.4.5	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense
Checks for Understanding		
State Performance Indicators	Find the length of vertical or horizontal line segments in the first quadrant of the coordinate system, including problems that require the use of fractions and decimals.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement
Standard	Geometry and Measurement	Skill Tree(s)
Code	SPI 0506.4.6	17LG: Rounding: Mixed Practice
Grade/Course Level Expectation		72MC: Measurement
Checks for Understanding		138SB: Math Strategies 4-6
State Performance Indicators	Record measurements in context to reasonable degree of accuracy using decimals and/or fractions.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,107: Models & Displays of Data*
Standard	Data, Probability and Statistics	5,C,108: Collecting & Interpreting Data*
Code	GLE 0506.5.1	Skill Tree(s)
Grade/Course Level Expectation	Make, record, display and interpret data and graphs that include whole numbers, decimals, and fractions.	70MC: Graphing and Managing Data
Checks for Understanding		
State Performance Indicators		
Detail		

Orchard Correlation to the Tennessee Curriculum Standards



Grade 5
Subject Mathematics
Standard Data, Probability and Statistics
Code GLE 0506.5.2
Grade/Course Level Expectation Describe the shape and important features of a set of data using the measures of central tendency.
Checks for Understanding

General Skill(s)
5,C,33: Interpreting Data
5,C,37: Analyze Data
Skill Tree(s)
70MC: Graphing and Managing Data
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 5
Subject Mathematics
Standard Data, Probability and Statistics
Code 0506.5.1
Grade/Course Level Expectation
Checks for Understanding Construct and analyze double bar and line graphs.

General Skill(s)
5,C,33: Interpreting Data
5,C,37: Analyze Data
Skill Tree(s)
70MC: Graphing and Managing Data
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 5
Subject Mathematics
Standard Data, Probability and Statistics
Code 0506.5.2
Grade/Course Level Expectation
Checks for Understanding Represent data using ordered pairs in the first quadrant of the coordinate system.

General Skill(s)
5,C,107: Models & Displays of Data*
5,C,108: Collecting & Interpreting Data*
Skill Tree(s)
70MC: Graphing and Managing Data

State Performance Indicators

Detail

Grade 5
Subject Mathematics
Standard Data, Probability and Statistics
Code 0506.5.3
Grade/Course Level Expectation
Checks for Understanding Design investigations to address a question and consider how data collection methods affect the nature of the data set.

General Skill(s)
5,C,107: Models & Displays of Data*
5,C,108: Collecting & Interpreting Data*
Skill Tree(s)
70MC: Graphing and Managing Data

State Performance Indicators

Detail

Grade	5	General Skill(s)
Subject	Mathematics	5,C,107: Models & Displays of Data* 5,C,108: Collecting & Interpreting Data*
Standard	Data, Probability and Statistics	
Code	0506.5.4	Skill Tree(s)
Grade/Course Level Expectation		70MC: Graphing and Managing Data
Checks for Understanding	Recognize the differences in representing categorical and numerical data.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,22: Determining Mean
Standard	Data, Probability and Statistics	
Code	0506.5.5	Skill Tree(s)
Grade/Course Level Expectation		138SB: Math Strategies 4-6
Checks for Understanding	Evaluate how different measures of central tendency describe data.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,22: Determining Mean
Standard	Data, Probability and Statistics	Skill Tree(s)
Code	0506.5.6	138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Identify outliers and determine their effect on mean, median, mode and range.	
State Performance Indicators		
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement
Standard	Data, Probability and Statistics	Skill Tree(s)
Code	SPI 0506.5.1	17LG: Rounding: Mixed Practice 72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding		
State Performance Indicators	Depict data using various representations, including decimal and/or fractional data.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,13: Metric & Customary Measurement
Standard	Data, Probability and Statistics	Skill Tree(s)
Code	SPI 0506.5.2	17LG: Rounding: Mixed Practice
Grade/Course Level Expectation		72MC: Measurement
Checks for Understanding		138SB: Math Strategies 4-6
State Performance Indicators	Make predictions based on various data representations, including double bar and line graphs.	
Detail		

Grade	5	General Skill(s)
Subject	Mathematics	5,C,22: Determining Mean
Standard	Data, Probability and Statistics	Skill Tree(s)
Code	SPI 0506.5.3	138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding		
State Performance Indicators	Calculate measures of central tendency to analyze data.	
Detail		
