

Grade 3
Subject Mathematics
Standard
Code SPI 0306.5.3
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Make predictions based on various representations of data.

Detail

General Skill(s)
 3,C,13: Bar & Picture Graphs
 3,C,107: Pictorial Displays of Data*
 3,C,108: Collecting & Interpreting Data*

Skill Tree(s)
 90MC: Data Management and Probability K-3
 137SB: Math Strategies 1-3

Grade 4
Subject Mathematics
Standard Mathematical Processes
Code GLE 0406.1.1
Grade/Course Level Expectation Use mathematical language, symbols, and definitions while developing mathematical reasoning.
Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
 4,C,20: Multiplication Applications: Whole Numbers
 4,C,21: Division Applications: Whole Numbers
 4,C,35: Addition
 4,C,36: Subtraction

Skill Tree(s)
 6SB: Whole Numbers: Advanced
 17LG: Rounding: Mixed Practice
 64LG: Whole Numbers: Mixed Practice
 68MC: Basic Operations and Order of Operations

<p>Grade 4</p> <p>Subject Mathematics</p> <p>Standard Mathematical Processes</p> <p>Code GLE 0406.1.2</p> <p>Grade/Course Level Expectation Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>Checks for Understanding</p> <p>State Performance Indicators</p> <p>Detail</p>	<p>General Skill(s)</p> <p>4,C,22: Estimation</p> <p>4,C,23: Problem Solving</p> <p>4,C,25: Problem Solving</p> <p>4,C,32: Problem Solving</p> <p>Skill Tree(s)</p> <p>7LG: Rounding: Mixed Practice</p> <p>17LG: Math Word Problems: Intermediate</p> <p>67MC: Number Sense</p> <p>68MC: Basic Operations and Order of Operations</p> <p>138SB: Math Strategies 4-6</p>
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<p>Grade 4</p> <p>Subject Mathematics</p> <p>Standard Mathematical Processes</p> <p>Code GLE 0406.1.3</p> <p>Grade/Course Level Expectation Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p> <p>Checks for Understanding</p> <p>State Performance Indicators</p> <p>Detail</p>	<p>General Skill(s)</p> <p>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.</p> <p>Skill Tree(s)</p> <p>Orchard Skill Trees are not currently correlated to this specific standard. See above for details.</p>
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Grade 4
Subject Mathematics
Standard Mathematical Processes
Code GLE 0406.1.4
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)
4,C,20: Multiplication Applications: Whole Numbers
4,C,21: Division Applications: Whole Numbers

Skill Tree(s)
6SB: Whole Numbers: Advanced
17LG: Rounding: Mixed Practice
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

Grade 4
Subject Mathematics
Standard Mathematical Processes
Code GLE 0406.1.5
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)
4,C,6: Skip Counting
4,C,9: Patterning

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

Grade 4
Subject Mathematics
Standard Mathematical Processes
Code GLE 0406.1.6
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 4
Subject Mathematics
Standard Mathematical Processes
Code GLE 0406.1.7
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.

Grade	4	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.
Subject	Mathematics	Skill Tree(s)	Orchard Skill Trees are not currently correlated to this specific standard. See above for details.
Standard	Mathematical Processes		
Code	GLE 0406.1.8		
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.		
Checks for Understanding			
State Performance Indicators			
Detail			

Grade	4	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.
Subject	Mathematics	Skill Tree(s)	Orchard Skill Trees are not currently correlated to this specific standard. See above for details.
Standard	Mathematical Processes		
Code	0406.1.1		
Grade/Course Level Expectation			
Checks for Understanding	Understand the relationship between use of answers and the accuracy of the number.		
State Performance Indicators			
Detail			

Grade	4	General Skill(s)
Subject	Mathematics	4,C,22: Estimation
Standard	Mathematical Processes	Skill Tree(s)
Code	0406.1.2	7LG: Rounding: Mixed Practice
Grade/Course Level Expectation		17LG: Math Word Problems: Intermediate
Checks for Understanding	Identify the range of appropriate estimates, including over-estimate and under-estimate.	138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,1: Standard & Expanded Number Forms: Decimals
Standard	Mathematical Processes	4,C,5: Place Value of Decimal Numbers
Code	0406.1.3	Skill Tree(s)
Grade/Course Level Expectation		67MC: Number Sense
Checks for Understanding	Connect operations with decimals to money and make estimates.	138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,100: Properties of Addition* 4,C,101: Properties of Multiplication*
Standard	Mathematical Processes	Skill Tree(s)
Code	0406.1.4	6SB: Whole Numbers Advanced 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations
Grade/Course Level Expectation		
Checks for Understanding	Use commutative, associative, and distributive properties of numbers including oral descriptions of mathematical reasoning.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,30: Measurement
Standard	Mathematical Processes	Skill Tree(s)
Code	0406.1.5	72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Measure using ruler, meter stick, clock, thermometer, or other scaled instruments.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,30: Measurement
Standard	Mathematical Processes	Skill Tree(s)
Code	0406.1.6	72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Identify geometric or physical attributes that are appropriate to measure in a given situation.	

State Performance Indicators

Detail

Grade	4	General Skill(s)
Subject	Mathematics	4,C,8: Whole Number Expressions 4,C,102: Expressions*
Standard	Mathematical Processes	Skill Tree(s)
Code	0406.1.7	6SB: Whole Numbers: Advanced 17LG: Math Word Problems: Intermediate 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	Translate the details of a contextual problem into diagrams and/or numerical expressions, and express answers using appropriate units.	

State Performance Indicators

Detail

Grade	4	General Skill(s)
Subject	Mathematics	4,C,1: Standard & Expanded Number Forms: Decimals 4,C,5: Place Value of Decimal Numbers
Standard	Mathematical Processes	
Code	0406.1.8	Skill Tree(s)
Grade/Course Level Expectation		67MC: Number Sense 138SB: Math Strategies 4-6
Checks for Understanding	Match the spoken, written, concrete (including base ten blocks), and pictorial representations of decimals.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,25: Problem Solving
Standard	Mathematical Processes	
Code	0406.1.9	Skill Tree(s)
Grade/Course Level Expectation		17LG: Math Word Problems: Intermediate 68MC: Basic Operations and Order of Operations 138SB: Math Strategies 4-6
Checks for Understanding	Develop a story problem that illustrates a given multiplication or division number sentence.	
State Performance Indicators		
Detail		

Grade 4
Subject Mathematics
Standard Mathematical Processes
Code 0406.1.10
Grade/Course Level Expectation
Checks for Understanding Use age-appropriate books, stories, and videos to convey ideas of mathematics.

General Skill(s)
4,C,23: Problem Solving
4,C,25: Problem Solving
4,C,32: Problem Solving
Skill Tree(s)
17LG: Math Word Problems: Intermediate
67MC: Number Sense
68MC: Basic Operations and Order of Operations
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Mathematical Processes
Code SPI 0406.1.1
Grade/Course Level Expectation
Checks for Understanding
State Performance Indicators Verify a conclusion using the commutative, associative and distributive properties.

General Skill(s)
4,C,100: Properties of Addition*
4,C,101: Properties of Multiplication*
Skill Tree(s)
6SB: Whole Numbers Advanced
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

Detail

Grade	4	General Skill(s)
Subject	Mathematics	4,C,106: Comparing & Ordering Decimals*
Standard	Mathematical Processes	Skill Tree(s)
Code	SPI 0406.1.2	67MC: Number Sense
Grade/Course Level Expectation		
Checks for Understanding		
State Performance Indicators	Compare decimals using concrete and pictorial representations.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,103: Monetary Amounts*
Standard	Mathematical Processes	4,C,115: Monetary Models*
Code	SPI 0406.1.3	Skill Tree(s)
Grade/Course Level Expectation		10LG: Decimals: Mixed Practice 17LG: Math Word Problems: Intermediate 72MC: Measurement
Checks for Understanding		
State Performance Indicators	Determine the correct change from a transaction.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,13: Metric & Customary Measurement 4,C,30: Measurement
Standard	Mathematical Processes	
Code	SPI 0406.1.4	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Compare objects with respect to a given geometric or physical attribute and select appropriate measurement instrument.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,3: Place Value of Whole Numbers 4,C,28: Standard & Expanded Number Forms: Whole Numbers
Standard	Number and Operations	
Code	GLE 0406.2.1	Skill Tree(s)
Grade/Course Level Expectation	Understand place value of numbers from hundredths to the hundred-thousands place.	138SB: Math Strategies 4-6 67MC: Number Sense 73MC: Algebra, Patterning, and Logic
Checks for Understanding		
State Performance Indicators		
Detail		

Grade 4
Subject Mathematics
Standard Number and Operations
Code GLE 0406.2.2
Grade/Course Level Expectation Develop fluency with multiplication and single-digit division.
Checks for Understanding

General Skill(s)
4,C,101: Properties of Multiplication*
4,C,112: Basic Facts*
4,C,20: Multiplication Applications: Whole Numbers

Skill Tree(s)
6SB Whole Numbers Advanced
17LG: Math Word Problems: Intermediate
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code GLE 0406.2.3
Grade/Course Level Expectation Identify prime and composite numbers.
Checks for Understanding

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.

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code GLE 0406.2.4
Grade/Course Level Expectation Understand and use the connections between fractions and decimals.
Checks for Understanding

General Skill(s)
4,C,106: Comparing & Ordering Decimals*
4,C,110: Fraction & Decimal Relationships*
4,C,123: Fraction & Decimal Relationships*

Skill Tree(s)
67MC: Number Sense
71CM: Probability
72MC: Measurement
84MC: Fraction Concepts

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code GLE 0406.2.5
Grade/Course Level Expectation Add and subtract fractions with like and unlike denominators.
Checks for Understanding

General Skill(s)
4,C,106: Comparing & Ordering Decimals*
4,C,110: Fraction & Decimal Relationships*
4,C,123: Fraction & Decimal Relationships*

Skill Tree(s)
67MC: Number Sense
71CM: Probability
72MC: Measurement
84MC: Fraction Concepts

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code GLE 0406.2.6
Grade/Course Level Expectation Solve problems involving whole numbers, fractions, and/or decimals using all four arithmetic operations.
Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
 4,C,106: Comparing & Ordering Decimals*
 4,C,110: Fraction & Decimal Relationships*
 4,C,123: Fraction & Decimal Relationships*

Skill Tree(s)
 67MC: Number Sense
 71CM: Probability
 72MC: Measurement
 84MC: Fraction Concepts

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.1
Grade/Course Level Expectation
Checks for Understanding Compose and decompose quantities according to place value.

State Performance Indicators

Detail

General Skill(s)
 4,C,3: Place Value of Whole Numbers
 4,C,28: Standard & Expanded Number Forms: Whole Numbers

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

Grade	4	General Skill(s)	4,C,1: Standard & Expanded Number Forms: Decimals
Subject	Mathematics		4,C,5: Place Value of Decimal Numbers
Standard	Number and Operations		4,C,106: Comparing & Ordering Decimals*
Code	0406.2.2	Skill Tree(s)	67MC: Number Sense
Grade/Course Level Expectation			138SB: Math Strategies 4-6
Checks for Understanding	Understand decimal notation as an extension of the base-ten number system.		
State Performance Indicators			
Detail			

Grade	4	General Skill(s)	4,C,101: Properties of Multiplication*
Subject	Mathematics		4,C,112: Basic Facts*
Standard	Number and Operations		4,C,20: Multiplication Applications: Whole Numbers
Code	0406.2.3	Skill Tree(s)	6SB Whole Numbers Advanced
Grade/Course Level Expectation			17LG: Math Word Problems: Intermediate
Checks for Understanding	Multiply two- and three-digit whole numbers.		64LG: Whole Numbers: Mixed Practice
State Performance Indicators			68MC: Basic Operations and Order of Operations
Detail			

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.4
Grade/Course Level Expectation
Checks for Understanding Understand and use a reliable algorithm for multiplying multi-digit numbers and dividing numbers by a single-digit divisor accurately and efficiently.
State Performance Indicators
Detail

General Skill(s)
4,C,101: Properties of Multiplication*
4,C,20: Multiplication Applications: Whole Numbers
4,C,21: Division Applications: Whole Numbers
4,C,102: Expressions*
Skill Tree(s)
6SB Whole Numbers Advanced
17LG: Math Word Problems: Intermediate
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.5
Grade/Course Level Expectation
Checks for Understanding Understand that division by zero is undefined.
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 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.6
Grade/Course Level Expectation
Checks for Understanding Divide three-digit whole numbers by one-digit divisors fluently with pencil and paper.

General Skill(s)
4,C,21: Division Applications: Whole Numbers
4,C,102: Expressions*
Skill Tree(s)
6SB: Whole Numbers: Advanced
17LG: Math Word Problems: Intermediate
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.7
Grade/Course Level Expectation
Checks for Understanding Identify factors of whole numbers and model factors and products beyond basic multiplication facts using arrays and area models.

General Skill(s)
4,C,20: Multiplication Applications: Whole Numbers
4,C,101: Properties of Multiplication*
4,C,112: Basic Facts*
Skill Tree(s)
6SB Whole Numbers Advanced
17LG: Math Word Problems: Intermediate
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

State Performance Indicators

Detail

Grade	4	General Skill(s)
Subject	Mathematics	4,C,1: Standard & Expanded Number Forms: Decimals 4,C,28: Standard & Expanded Number Forms: Whole Numbers
Standard	Number and Operations	
Code	0406.2.8	
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Generate equivalent forms of whole numbers, decimals, and common fractions (e.g., $1/10$, $1/4$, $1/2$, $3/4$).	67MC: Number Sense 138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,1: Standard & Expanded Number Forms: Decimals 4,C,28: Standard & Expanded Number Forms: Whole Numbers
Standard	Number and Operations	
Code	0406.2.9	
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Compare equivalent forms whole numbers, fractions, and decimals to each other and to benchmark numbers	67MC: Number Sense 138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)	4,C,21: Division Applications: Whole Numbers 4,C,102: Expressions*
Subject	Mathematics		
Standard	Number and Operations		
Code	0406.2.10	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Math Word Problems: Intermediate 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations
Grade/Course Level Expectation			
Checks for Understanding	Use models to understand division as the inverse of multiplication, partitioning, and repeated subtraction.		
State Performance Indicators			
Detail			

Grade	4	General Skill(s)	4,C,106: Comparing & Ordering Decimals* 4,C,110: Fraction & Decimal Relationships* 4,C,123: Fraction & Decimal Relationships*
Subject	Mathematics		
Standard	Number and Operations		
Code	0406.2.11	Skill Tree(s)	67MC: Number Sense 71CM: Probability 72MC: Measurement 84MC: Fraction Concepts
Grade/Course Level Expectation			
Checks for Understanding	Use models, benchmarks, and equivalent forms to compare fractions/decimals and locate them on the number line.		
State Performance Indicators			
Detail			

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.12
Grade/Course Level Expectation
Checks for Understanding Understand and use decimal numbers up to hundredths and write them as fractions.

General Skill(s)
4,C,1: Standard & Expanded Number Forms: Decimals
4,C,5: Place Value of Decimal Numbers
4,C,110: Fraction & Decimal Relationships*

Skill Tree(s)
67MC: Number Sense
138SB: Math Strategies 4-6
71CM: Probability
72MC: Measurement
84MC: Fraction Concepts

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.13
Grade/Course Level Expectation
Checks for Understanding Solve multi-step problems of various types using whole numbers, fractions, and decimals.

General Skill(s)
4,C,25: Problem Solving
4,C,32: Problem Solving

Skill Tree(s)
17LG: Rounding: Mixed Practice
68MC: Basic Operations and Order of Operations
138SB: Math Strategies 4-6
67MC: Number Sense

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code 0406.2.14
Grade/Course Level Expectation
Checks for Understanding Understand the role of the remainder in division.

General Skill(s)
4,C,21: Division Applications: Whole Numbers
4,C,102: Expressions*
Skill Tree(s)
6SB: Whole Numbers: Advanced
17LG: Math Word Problems: Intermediate
64LG: Whole Numbers: Mixed Practice
68MC: Basic Operations and Order of Operations

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code SPI 0406.2.1
Grade/Course Level Expectation
Checks for Understanding
State Performance Indicators Read and write numbers from hundredths to hundred-thousands in numerals and in words.

General Skill(s)
4,C,1: Standard & Expanded Number Forms: Decimals
4,C,28: Standard & Expanded Number Forms: Whole Numbers
Skill Tree(s)
67MC: Number Sense
138SB: Math Strategies 4-6

Detail

Grade 4
Subject Mathematics
Standard Number and Operations
Code SPI 0406.2.2
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Locate and place mixed numbers on the number line.

Detail

General Skill(s)
4,C,2: Comparing Whole Numbers
4,C,10: Using Number Lines

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

Grade 4
Subject Mathematics
Standard Number and Operations
Code SPI 0406.2.3
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Identify the place value of a specified digit in a number and the quantity it represents.

Detail

General Skill(s)
4,C,1: Standard & Expanded Number Forms: Decimals
4,C,3: Place Value of Whole Numbers
4,C,28: Standard & Expanded Number Forms: Whole Numbers

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

Grade	4	General Skill(s)
Subject	Mathematics	4,C,39: Number Properties: Prime, Composite, Factor, or Multiple
Standard	Number and Operations	
Code	SPI 0406.2.4	Skill Tree(s)
Grade/Course Level Expectation		73MC: Algebra, Patterning, and Logic
Checks for Understanding		
State Performance Indicators	Find factors, common factors, multiples, and common multiples of two numbers.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,1: Standard & Expanded Number Forms: Decimals 4,C,28: Standard & Expanded Number Forms: Whole Numbers
Standard	Number and Operations	
Code	SPI 0406.2.5	Skill Tree(s)
Grade/Course Level Expectation		67MC: Number Sense 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Generate equivalent forms of common fractions and decimals and use them to compare size.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,7: Fraction Models
Standard	Number and Operations	4,C,119: Equality & Inequality Symbols*
Code	SPI 0406.2.6	Skill Tree(s)
Grade/Course Level Expectation		67MC: Number Sense
Checks for Understanding		84MC: Fraction Concepts
		138SB: Math Strategies 4-6
State Performance Indicators	Use the symbols $<$, $>$ and $=$ to compare common fractions and decimals in both increasing and decreasing order.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,1: Standard & Expanded Number Forms: Decimals
Standard	Number and Operations	4,C,5: Place Value of Decimal Numbers
Code	SPI 0406.2.7	4,C,110: Fraction & Decimal Relationships*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding		67MC: Number Sense
		71CM: Probability
		72MC: Measurement
		84MC: Fraction Concepts
		138SB: Math Strategies 4-6
State Performance Indicators	Convert improper fractions into mixed numbers and/or decimals.	
Detail		

Grade	4	General Skill(s)	
Subject	Mathematics		4,C,33: Fractions: Addition & Subtraction
Standard	Number and Operations	Skill Tree(s)	
Code	SPI 0406.2.8		8SB: Fractions: Beginning 65LG: Fractions: Mixed Practice 84MC: Fraction Concepts
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Add and subtract proper fractions with like and unlike denominators and simplify the answer.		
Detail			

Grade	4	General Skill(s)	
Subject	Mathematics		4,C,33: Fractions: Addition & Subtraction
Standard	Number and Operations	Skill Tree(s)	
Code	SPI 0406.2.9		8SB: Fractions: Beginning 65LG: Fractions: Mixed Practice 84MC: Fraction Concepts
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Add and subtract decimals through hundredths.		
Detail			

Grade	4	General Skill(s)
Subject	Mathematics	4,C,18: Addition Applications: Decimals
Standard	Number and Operations	4,C,19: Subtraction Applications: Decimals
Code	SPI 0406.2.10	4,C,20: Multiplication Applications: Whole Numbers
Grade/Course Level Expectation		4,C,21: Division Applications: Whole Numbers
Checks for Understanding		4,C,23: Problem Solving
		4,C,25: Problem Solving
		4,C,32: Problem Solving
		4,C,33: Fractions: Addition & Subtraction
		4,C,34: Fractions: Multiplication & Division
		4,C,35: Addition
		4,C,36: Subtraction
		Skill Tree(s)
State Performance Indicators	Solve contextual problems using whole numbers, fractions, and decimals.	6SB: Whole Numbers: Advanced
Detail		8SB: Fractions: Beginning
		10LG: Decimals: Mixed Practice
		17LG: Rounding: Mixed Practice
		64LG: Whole Numbers: Mixed Practice
		65LG: Fractions: Mixed Practice
		67MC: Number Sense
		68MC: Basic Operations and Order of Operations
		72MC: Measurement
		84MC: Fraction Concepts
		92SB_B: Decimals: Beginning
		138SB: Math Strategies 4-6

Grade	4	General Skill(s)
Subject	Mathematics	4,C,20: Multiplication Applications: Whole Numbers
Standard	Number and Operations	4,C,101: Properties of Multiplication*
Code	SPI 0406.2.11	4,C,102: Expressions*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding		6SB: Whole Numbers: Advanced
		17LG: Math Word Problems: Intermediate
		64LG: Whole Numbers: Mixed Practice
		68MC: Basic Operations and Order of Operations
State Performance Indicators	Solve problems using whole number multi-digit multiplication.	
Detail		

Grade	4	General Skill(s)	4,C,21: Division Applications: Whole Numbers 4,C,102: Expressions*
Subject	Mathematics		
Standard	Number and Operations		
Code	SPI 0406.2.12	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Math Word Problems: Intermediate 64LG: Whole Numbers: Mixed Practice 68MC: Basic Operations and Order of Operations
Grade/Course Level Expectation			
Checks for Understanding			
State Performance Indicators	Solve problems using whole number division with one- or two-digit divisors.		
Detail			

Grade	4	General Skill(s)	4,C,8: Whole Number Expressions 4,C,113: Equations with Variables* 4,C,114: Whole Number Equations & Inequalities* 4,C,102: Expressions* 4,C,119: Equality & Inequality Symbols*
Subject	Mathematics		
Standard	Algebra		
Code	GLE 0406.3.1	Skill Tree(s)	6SB: Whole Numbers: Advanced 17LG: Math Word Problems: Intermediate 64LG: Whole Numbers: Mixed Practice 67MC: Number Sense 68MC: Basic Operations and Order of Operations 73MC: Algebra, Patterning, and Logic 138SB: Math Strategies 4-6
Grade/Course Level Expectation	Extend understanding of a variable to equations involving whole numbers, fractions, decimals, and/or mixed numbers.		
Checks for Understanding			
State Performance Indicators			
Detail			

Grade 4
Subject Mathematics
Standard Algebra
Code GLE 0406.3.2
Grade/Course Level Expectation Use mathematical language and modeling to develop descriptions, rules and extensions of patterns

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
 4,C,9: Patterning
 4,C,109: Functions*
 4,C,111: Patterns*

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

Grade 4
Subject Mathematics
Standard Algebra
Code GLE 0406.3.3
Grade/Course Level Expectation Translate between different forms of representations of whole number relationships.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
 4,C,8: Whole Number Expressions
 4,C,113: Equations with Variables*
 4,C,114: Whole Number Equations & Inequalities*
 4,C,119: Equality & Inequality Symbols*
 4,C,102: Expressions*

Skill Tree(s)
 6SB: Whole Numbers: Advanced
 17LG: Math Word Problems: Intermediate
 64LG: Whole Numbers: Mixed Practice
 67MC: Number Sense
 68MC: Basic Operations and Order of Operations
 73MC: Algebra, Patterning, and Logic
 138SB: Math Strategies 4-6

Grade	4	General Skill(s)
Subject	Mathematics	4,C,113: Equations with Variables*
Standard	Algebra	4,C,114: Whole Number Equations & Inequalities*
Code	0406.3.1	Skill Tree(s)
Grade/Course Level Expectation		6SB: Whole Numbers: Advanced
Checks for Understanding	Find an unknown quantity in simple equations using whole numbers, fractions, decimals, and mixed numbers.	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	4	General Skill(s)
Subject	Mathematics	4,C,8: Whole Number Expressions
Standard	Algebra	4,C,102: Expressions*
Code	0406.3.2	4,C,113: Equations with Variables*
Grade/Course Level Expectation		4,C,114: Whole Number Equations & Inequalities*
Checks for Understanding	Translate between symbols and words to represent quantities in expressions or equations.	4,C,119: Equality & Inequality Symbols*
State Performance Indicators		Skill Tree(s)
Detail		6SB: Whole Numbers: Advanced
		17LG: Math Word Problems: Intermediate
		64LG: Whole Numbers: Mixed Practice
		67MC: Number Sense
		68MC: Basic Operations and Order of Operations
		73MC: Algebra, Patterning, and Logic
		138SB: Math Strategies 4-6

Grade 4
Subject Mathematics
Standard Algebra
Code 0406.3.3
Grade/Course Level Expectation
Checks for Understanding Create, explain and use a rule to generate terms of a pattern or sequence.

General Skill(s)
4,C,9: Patterning
4,C,109: Functions*
4,C,111: Patterns*
Skill Tree(s)
73MC: Algebra, Patterning, and Logic
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Algebra
Code 0406.3.4
Grade/Course Level Expectation
Checks for Understanding Translate between symbolic, numerical, verbal, or pictorial representations of a whole number pattern or relationship.

General Skill(s)
4,C,9: Patterning
4,C,109: Functions*
4,C,111: Patterns*
Skill Tree(s)
73MC: Algebra, Patterning, and Logic
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade	4	General Skill(s)
Subject	Mathematics	4,C,113: Equations with Variables*
Standard	Algebra	4,C,114: Whole Number Equations & Inequalities*
Code	SPI 0406.3.1	Skill Tree(s)
Grade/Course Level Expectation		6SB: Whole Numbers: Advanced
Checks for Understanding		73MC: Algebra, Patterning, and Logic
		64LG: Whole Numbers: Mixed Practice
		67MC: Number Sense
		68MC: Basic Operations and Order of Operations
State Performance Indicators	Use letters and symbols to represent an unknown quantity and write a simple mathematical expression.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,9: Patterning
Standard	Algebra	4,C,109: Functions*
Code	SPI 0406.3.2	4,C,111: Patterns*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding		73MC: Algebra, Patterning, and Logic
		138SB: Math Strategies 4-6
State Performance Indicators	Make generalizations about geometric and numeric patterns.	
Detail		

Grade 4
Subject Mathematics
Standard Algebra
Code SPI 0406.3.3

**Grade/Course
Level
Expectation**

**Checks
for
Understanding**

**State
Performance
Indicators** Represent and analyze patterns using words,
function tables, and graphs.

Detail

General Skill(s)
4,C,9: Patterning
4,C,17: Interpreting Graphs
4,C,109: Functions*
4,C,111: Patterns*

Skill Tree(s)
70MC: Graphing and Managing Data
73MC: Algebra, Patterning, and Logic
138SB: Math Strategies 4-6

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code GLE 0406.4.1

**Grade/Course
Level
Expectation** Understand and use the properties of lines,
segments, angles, polygons, and circles.

**Checks
for
Understanding**

**State
Performance
Indicators**

Detail

General Skill(s)
4,C,11: 2-D & 3-D Figures

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

Orchard Correlation to the Tennessee Curriculum Standards



Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code GLE 0406.4.2
Grade/Course Level Expectation Understand and use measures of length, area, capacity, and weight.
Checks for Understanding

General Skill(s)
4,C,15: Area
4,C,24: Geometric Problem Solving

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

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code GLE 0406.4.3
Grade/Course Level Expectation Solve problems that involve estimating and measuring length, area, capacity and weight.
Checks for Understanding

General Skill(s)
4,C,13: Metric & Customary Measurement
4,C,30: Measurement

Skill Tree(s)
72MC: Measurement
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code GLE 0406.4.4
Grade/Course Level Expectation Understand the representation of location and movement within the first quadrant of a coordinate system.

Checks for Understanding

State Performance Indicators

Detail

General Skill(s)
4,C,29: Geometry & Spatial Sense
4,C,40: Ordered Pairs
Skill Tree(s)
69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code 0406.4.1
Grade/Course Level Expectation
Checks for Understanding Identify the basic parts of circles.

State Performance Indicators

Detail

General Skill(s)
4,C,11: 2-D & 3-D Figures
Skill Tree(s)
69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code 0406.4.2
Grade/Course Level Expectation
Checks for Understanding Understand the definition of degree as it relates to the circle.

General Skill(s)
4,C,11: 2-D & 3-D Figures
Skill Tree(s)
69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code 0406.4.3
Grade/Course Level Expectation
Checks for Understanding Classify angles and triangles as obtuse, acute, or right.

General Skill(s)
4,C,29: Geometry & Spatial Sense
4,C,38: Angles: Acute, Obtuse, Right, & Straight
4,C,121: Angles*
Skill Tree(s)
69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code 0406.4.4

**Grade/Course
Level
Expectation**

**Checks
for
Understanding** Measure and draw angles.

**State
Performance
Indicators**

Detail

General Skill(s)

4,C,29: Geometry & Spatial Sense
4,C,38: Angles: Acute, Obtuse, Right, & Straight
4,C,121: Angles*

Skill Tree(s)

69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code 0406.4.5

**Grade/Course
Level
Expectation**

**Checks
for
Understanding** Determine if a figure is a polygon.

**State
Performance
Indicators**

Detail

General Skill(s)

4,C,11: 2-D & 3-D Figures

Skill Tree(s)

69MC: Geometry and Spatial Sense
138SB: Math Strategies 4-6

Grade	4	General Skill(s)
Subject	Mathematics	4,C,13: Metric & Customary Measurement 4,C,30: Measurement
Standard	Geometry and Measurement	
Code	0406.4.6	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding	Recognize the use of decimals in metric measures.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,13: Metric & Customary Measurement 4,C,30: Measurement
Standard	Geometry and Measurement	
Code	0406.4.7	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding	Measure liquids using both standard units and metric units.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,15: Area 4,C,24: Geometric Problem Solving
Standard	Geometry and Measurement	
Code	0406.4.8	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding	Recognize that a measure of area represents the total number of same-sized units /that cover the shape without gaps or overlaps.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,11: 2-D & 3-D Figures
Standard	Geometry and Measurement	
Code	0406.4.9	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding	Recognize that area does not change when 2-dimensional figures are cut apart and rearranged.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,15: Area
Standard	Geometry and Measurement	4,C,24: Geometric Problem Solving
Code	0406.4.10	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense
Checks for Understanding	Connect area measure to multiplication using a rectangular area model.	72MC: Measurement
		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,15: Area
Standard	Geometry and Measurement	4,C,24: Geometric Problem Solving
Code	0406.4.11	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense
Checks for Understanding	Estimate areas of rectangles in square inches and square centimeters.	72MC: Measurement
		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,13: Metric & Customary Measurement
Standard	Geometry and Measurement	Skill Tree(s)
Code	0406.4.12	72MC: Measurement 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Estimate the size of an object with respect to a given measurement attribute (length, perimeter, area, or capacity).	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,11: 2-D & 3-D Figures
Standard	Geometry and Measurement	Skill Tree(s)
Code	0406.4.13	69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Compare objects with respect to a given attribute such as length, area, and capacity.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,29: Geometry & Spatial Sense 4,C,40: Ordered Pairs
Standard	Geometry and Measurement	
Code	0406.4.14	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding	Explain how the components of a coordinate system are used to determine location.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,29: Geometry & Spatial Sense 4,C,40: Ordered Pairs
Standard	Geometry and Measurement	
Code	0406.4.15	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding	Explore properties of paths between points.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,29: Geometry & Spatial Sense 4,C,40: Ordered Pairs
Standard	Geometry and Measurement	
Code	0406.4.16	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding	Examine transformations in the coordinate plane.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,11: 2-D & 3-D Figures
Standard	Geometry and Measurement	
Code	0406.4.17	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding	Predict the results of a transformation of a geometric shape.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,12: Similar, Congruent, & Symmetrical Figures
Standard	Geometry and Measurement	Skill Tree(s)
Code	0406.4.18	69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Determine whether a geometric shape has line and/ or rotational symmetry.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,122: Tessellations*
Standard	Geometry and Measurement	Skill Tree(s)
Code	0406.4.19	69MC: Geometry and Spatial Sense
Grade/Course Level Expectation		
Checks for Understanding	Design and analyze simple tilings and tessellations.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,11: 2-D & 3-D Figures
Standard	Geometry and Measurement	4,C,12: Similar, Congruent, & Symmetrical Figures
Code	0406.4.20	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding	Draw lines of symmetry in 2-dimensional figures.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,11: 2-D & 3-D Figures
Standard	Geometry and Measurement	Skill Tree(s)
Code	0406.4.21	69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Grade/Course Level Expectation		
Checks for Understanding	Recognize two-dimensional faces of three-dimensional shapes.	
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,104: Geometric Attributes*
Standard	Geometry and Measurement	Skill Tree(s)
Code	SPI 0406.4.1	69MC: Geometry and Spatial Sense
Grade/Course Level Expectation		
Checks for Understanding		
State Performance Indicators	Classify lines and line segments as parallel, perpendicular, or intersecting.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,40: Ordered Pairs
Standard	Geometry and Measurement	Skill Tree(s)
Code	SPI 0406.4.2	69MC: Geometry and Spatial Sense
Grade/Course Level Expectation		
Checks for Understanding		
State Performance Indicators	Graph and interpret points with whole number or letter coordinates on grids or in the first quadrant of the coordinate plane.	
Detail		

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code SPI 0406.4.3
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Construct geometric figures with vertices at points on a coordinate grid.

Detail

General Skill(s)
4,C,29: Geometry & Spatial Sense
4,C,40: Ordered Pairs

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

Grade 4
Subject Mathematics
Standard Geometry and Measurement
Code SPI 0406.4.4
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Identify acute, obtuse, and right angles in 2-dimensional shapes.

Detail

General Skill(s)
4,C,29: Geometry & Spatial Sense
4,C,38: Angles: Acute, Obtuse, Right, & Straight
4,C,121: Angles*

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

Grade	4	General Skill(s)
Subject	Mathematics	4,C,11: 2-D & 3-D Figures 4,C,104: Geometric Attributes*
Standard	Geometry and Measurement	
Code	SPI 0406.4.5	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Identify attributes of simple and compound figures composed of 2- and 3- dimensional shapes.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,30: Measurement
Standard	Geometry and Measurement	
Code	SPI 0406.4.6	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Determine situations in which a highly accurate measurement is important.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,13: Metric & Customary Measurement 4,C,30: Measurement
Standard	Geometry and Measurement	
Code	SPI 0406.4.7	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Determine appropriate size of unit of measurement in problem situations involving length, capacity or weight.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,13: Metric & Customary Measurement 4,C,30: Measurement
Standard	Geometry and Measurement	
Code	SPI 0406.4.8	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Convert measurements within a single system that are common in daily life (e.g., hours and minutes, inches and feet, centimeters and meters, quarts and gallons, liters and milliliters).	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,14: Perimeter 4,C,15: Area
Standard	Geometry and Measurement	
Code	SPI 0406.4.9	Skill Tree(s)
Grade/Course Level Expectation		72MC: Measurement 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Solve problems involving area and/or perimeter of rectangular figures.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,29: Geometry & Spatial Sense
Standard	Geometry and Measurement	
Code	SPI 0406.4.10	Skill Tree(s)
Grade/Course Level Expectation		69MC: Geometry and Spatial Sense 138SB: Math Strategies 4-6
Checks for Understanding		
State Performance Indicators	Identify images resulting from reflections, translations, or rotations.	
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,17: Interpreting Graphs
Standard	Data, Probability and Statistics	4,C,26: Charts & Graphs
Code	GLE 0406.5.1	4,C,108: Collecting & Interpreting Data*
Grade/Course Level Expectation	Collect, record, arrange, present, and interpret data using tables and various representations.	Skill Tree(s)
Checks for Understanding		70MC: Graphing and Managing Data
State Performance Indicators		138SB: Math Strategies 4-6
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,16: Possible Outcomes
Standard	Data, Probability and Statistics	4,C,120: Ratio Concepts*
Code	GLE 0406.5.2	Skill Tree(s)
Grade/Course Level Expectation	Use probability to describe chance events.	71MC: Probability
Checks for Understanding		138SB: Math Strategies 4-6
State Performance Indicators		
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,17: Interpreting Graphs
Standard	Data, Probability and Statistics	4,C,26: Charts & Graphs
Code	0406.5.1	4,C,108: Collecting & Interpreting Data*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Create and label appropriate scales for graphs.	70MC: Graphing and Managing Data
State Performance Indicators		138SB: Math Strategies 4-6
Detail		

Grade	4	General Skill(s)
Subject	Mathematics	4,C,17: Interpreting Graphs
Standard	Data, Probability and Statistics	4,C,26: Charts & Graphs
Code	0406.5.2	4,C,108: Collecting & Interpreting Data*
Grade/Course Level Expectation		Skill Tree(s)
Checks for Understanding	Evaluate how well various representations show the collected data.	70MC: Graphing and Managing Data
State Performance Indicators		138SB: Math Strategies 4-6
Detail		

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code 0406.5.3
Grade/Course Level Expectation
Checks for Understanding Interpret and prepare pie charts using appropriate measurements of angles.

General Skill(s)
4,C,17: Interpreting Graphs
4,C,38: Angles: Acute, Obtuse, Right, & Straight

Skill Tree(s)
69MC: Geometry and Spatial Sense
70MC: Graphing and Managing Data
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code 0406.5.4
Grade/Course Level Expectation
Checks for Understanding Develop and use stem-and-leaf plots.

General Skill(s)
4,C,26: Charts & Graphs

Skill Tree(s)
70MC: Graphing and Managing Data
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code 0406.5.5
Grade/Course Level Expectation
Checks for Understanding Use measures of central tendency to compare two sets of related data.

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

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code 0406.5.6
Grade/Course Level Expectation
Checks for Understanding Determine a simple probability.

General Skill(s)
4,C,16: Possible Outcomes
4,C,120: Ratio Concepts*
Skill Tree(s)
71MC: Probability
138SB: Math Strategies 4-6

State Performance Indicators

Detail

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code 0406.5.7

**Grade/Course
Level
Expectation**

**Checks
for
Understanding** Express a probability pictorially.

**State
Performance
Indicators**

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 4
Subject Mathematics
Standard Data, Probability and Statistics
Code SPI 0406.5.1

**Grade/Course
Level
Expectation**

**Checks
for
Understanding**

**State
Performance
Indicators** Depict data using various representations (e.g., tables, pictographs, line graphs, bar graphs).

Detail

General Skill(s)
4,C,107: Models & Displays of Data*
4,C,108: Collecting & Interpreting Data*

Skill Tree(s)
70MC: Graphing and Managing Data

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code SPI 0406.5.2
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Solve problems using estimation and comparison within a single set of data.

Detail

General Skill(s)
 4,C,22: Estimation
 4,C,107: Models & Displays of Data*
 4,C,108: Collecting & Interpreting Data*

Skill Tree(s)
 7LG: Rounding: Mixed Practice
 17LG: Math Word Problems: Intermediate
 70MC: Graphing and Managing Data
 138SB: Math Strategies 4-6

Grade 4
Subject Mathematics
Standard Data, Probability and Statistics
Code SPI 0406.5.3
Grade/Course Level Expectation
Checks for Understanding

State Performance Indicators Given a set of data or a graph, describe the distribution of the data using median, range, or mode.

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 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