

TN STANDARDS NOT INCLUDED IN TEXTBOOK

- ✓ **0406.2.2** Understand decimal notation as an extension of the base-ten number system.
- ✓ **0406.4.12** Estimate the size of an object with respect to a given measurement attribute (length, perimeter, area, or capacity).
SPI 0406.4.3 Construct geometric figures with vertices at points on a coordinate grid.
- ✓ **0406.5.1** Create and label appropriate scales for graphs
- ✓ **0406.5.3** Interpret and prepare pie charts using appropriate measurements of angles.
- ✓ **0406.5.7** Express a probability pictorially.
SPI 0406.5.2 Solve problems using estimation and comparison within a single set of data.
- ✓ **0406.4.13** Compare objects with respect to a given attribute such as length, area, and capacity.
SPI 0406.5.4 List all possible outcomes of a given situation or event.

Fourth Grade Academic Vocabulary

Accuracy	Mixed number
Acute	Obtuse
Chance	Ordered pairs
Common fraction	Pattern rules
Composite	Prime
Computation	Probability
Convert	Proper fraction
Coordinate system	Quadrant
Diameter	Radius (pl. radii)
Equation	Range
Expression	Relationship
Face of a polyhedron	Remainder
Function table	Right
Improper fraction	Scale of instrument/graph
Inverse operation	Square unit
Measures of central tendency (mean, median, mode)	Stem-and-leaf plot
	Tiling/tessellation
	Vertex (pl. vertices)

FIRST NINE WEEKS – TOPICS 1, 2, 3, 4, 5

August 8th – October 6th

TOPIC	STANDARD	
1	Connect operations with decimals to money and make estimates.	✓ 0406.1.3
1	Determine the correct change from a transaction.	SPI 0406.1.3
1	Compose and decompose quantities according to place value.	✓ 0406.2.1
1	Read and write numbers from hundredths to hundred-thousands in numerals and in words.	SPI 0406.2.1
1, 6	Translate between symbolic, numerical, verbal, or pictorial representations of a whole number pattern or relationship.	✓ 0406.3.4
1	Identify the place value of a specified digit in a number and the quantity it represents.	SPI 0406.2.3
2, 3, 5	Use commutative, associative, and distributive properties of numbers including oral descriptions of mathematical reasoning.	✓ 0406.1.4
2, 3, 4, 5	Solve contextual problems using whole numbers, fractions, and decimals.	SPI 0406.2.10
3	Verify a conclusion using the commutative, associative, and distributive properties.	SPI 0406.1.1
3	Identify factors of whole numbers and model factors and products beyond basic multiplication facts using arrays and area models.	✓ 0406.2.7
3	Find factors, common factors, multiples, and common multiples of two numbers.	SPI 0406.2.4
4	Understand that division by zero is undefined.	✓ 0406.2.5
4	Use models to understand division as the inverse of multiplication, partitioning, and repeated subtraction.	✓ 0406.2.10
5	Understand the relationship between use of answers and the accuracy of the number.	✓ 0406.1.1
5	Identify the range of appropriate estimates, including over-estimate and under-estimate.	✓ 0406.1.2
5	Understand and use a reliable algorithm for multiplying multi-digit numbers and dividing numbers by a single-digit divisor accurately and efficiently.	✓ 0406.2.4
5	Solve problems using whole number multi-digit multiplication.	SPI 0406.2.11

Topic 1: 8 days

Topic 3: 8 days

Topic 5: 9 days

Topic 2: 8 days

Topic 4: 6 days

SECOND NINE WEEKS –TOPICS 6, 7, 8, ,9 ,10

October 17th – December 15th

TOPIC	STANDARD	
6	Solve contextual problems using whole numbers, fractions, and decimals.	SPI 0406.2.10
6	Translate between symbols and words to represent quantities in expressions or equations.	✓ 0406.3.2
6	Create, explain and use a rule to generate terms of a pattern or sequence.	✓ 0406.3.3
1, 6	Translate between symbolic, numerical, verbal, or pictorial representations of a whole number pattern or relationship.	✓ 0406.3.4
6	Use letters and symbols to represent an unknown quantity and write a simple mathematical expression.	SPI 0409.3.1
6	Make generalizations about geometric and numeric patterns.	SPI 0406.3.2
6	Represent and analyze patterns using words, function tables, and graphs.	SPI 0406.3.3
7	Use commutative, associative, and distributive properties of numbers including oral descriptions of mathematical reasoning.	✓ 0406.1.4
7	Multiply two- and three-digit whole numbers.	✓ 0406.2.3
7, 8	Understand and use reliable algorithm for multiplying multi-digit numbers and dividing numbers by a single-digit divisor accurately and efficiently.	✓ 0406.2.4
7, 8	Solve multi-step problems of various types using whole numbers, fractions, and decimals.	✓ 0406.2.13
7	Solve problems using whole number multi-digit multiplication.	SPI 0406.2.11
8	Develop a story problem that illustrates a given multiplication or division number sentence.	✓ 0406.1.9
8	Understand the role of the remainder in division.	✓ 0406.2.14
8	Find factors, common factors, multiples, and common multiples of two numbers.	SPI 0406.2.4
8	Solve problems using whole number division with one- or two- digit divisors.	SPI 0406.2.12
9	Identify geometric or physical attributes that are appropriate to measure in a given situation.	✓ 0406.1.6
9	Compare objects with respect to a given geometric or physical attribute and select appropriate measurement instrument.	SPI 0406.1.4
9	Identify the basic parts of circles.	✓ 0406.4.1
9	Understand the definition of degree as it relates to the circle.	✓ 0406.4.2
9	Classify angles and triangles as obtuse, acute, or right.	✓ 0406.4.3
9	Measure and draw angles.	✓ 0406.4.4

9	Determine if a figure is a polygon.	✓ 0406.4.5
9	Classify lines and line segments as parallel, perpendicular, or intersecting.	SPI 0406.4.1
9	Identify acute, obtuse, and right angles in 2-dimensional shapes.	SPI 0406.4.4
10	Identify the range of appropriate estimates, including over-estimate and under-estimate.	✓ 0406.1.2
10	Generate equivalent forms of whole numbers, decimals, and common fractions (e.g., $1/10$, $1/4$, $1/2$, $3/4$).	✓ 0406.2.8
10	Generate equivalent forms of common fractions and decimals and use them to compare size.	SPI 0406.2.5
10	Use the symbols $<$, $>$ and $=$ to compare common fractions and decimals in both increasing and decreasing order.	SPI 0406.2.6
10	Convert improper fractions into mixed numbers and/or decimals.	SPI 0406.2.7

Topic 6: 5 days

Topic 8: 11 days

Topic 10: 10 days

Topic 7: 8 days

Topic 9: 8 days

THIRD NINE WEEKS – TOPICS 11, 12, 13, 14, 15

January 3rd – March 9th

TOPIC	STANDARD	
11, 12	Generate equivalent forms of whole numbers, decimals, and common fractions (e.g., $1/10$, $1/4$, $1/2$, $3/4$).	✓ 0406.2.8
11	Add and subtract proper fractions with like and unlike denominators and simplify the answer.	SPI 0406.2.8
11, 13	Solve contextual problems using whole numbers, fractions, and decimals.	SPI 0406.2.10
12, 13	Match the spoken, written, concrete (including base ten blocks), and pictorial representations of decimals.	✓ 0406.1.8
12	Compare decimals using concrete and pictorial representations.	SPI 0406.1.2
12	Compose and decompose quantities according to place value.	✓ 0406.2.1
12	Compare equivalent forms of whole numbers, fractions, and decimals to each other and to benchmark numbers.	✓ 0406.2.9
12	Use models, benchmarks, and equivalent forms to compare fractions/decimals and locate them on the number line.	✓ 0406.2.11
12	Understand and use decimal numbers up to hundredths and write them as fractions.	✓ 0406.2.12
12	Read and write numbers from hundredths to hundred thousands in numerals and in words.	SPI 0406.2.1
12	Locate and place mixed numbers on the number line.	SPI 0406.2.2
12	Generate equivalent forms of common fractions and decimals and use them to compare size.	SPI 0406.2.5
12	Use the symbols $<$, $>$ and $=$ to compare common fractions and decimals in both increasing and decreasing order.	SPI 0406.2.6
12	Convert improper fractions into mixed numbers and/or decimals.	SPI 0406.2.7
13	Use age-appropriate books, stories, and videos to convey ideas of mathematics.	✓ 0406.1.10
13	Add and subtract decimals through hundredths.	SPI 0406.2.9
14	Compare objects with respect to a given geometric or physical attribute and select appropriate measurement instrument.	SPI 0406.1.4
14	Recognize that a measure of area represents the total number of same-sized units that cover the shape without gaps or overlaps.	✓ 0406.4.8
14	Recognize that area does not change when 2-dimensional figures are cut apart and rearranged.	✓ 0406.4.9

14	Connect area measure to multiplication using a rectangular area model.	✓ 0406.4.10
14	Estimate area of rectangles in square inches and square centimeters.	✓ 0406.4.11
14	Solve problems involving area and/or perimeter of rectangular figures.	SPI 0406.4.9
15	Make generalizations about geometric and numeric patterns.	SPI 0406.3.2
15	Recognize two-dimensional faces of three-dimensional shapes.	✓ 0406.2.21
15	Identify attributes of simple and compound figures composed of 2- and 3- dimensional shapes.	SPI 0406.4.5

Topic 11: 5 days

Topic 13: 8 days

Topic 15: 6 days

Topic 12: 7 days

Topic 14: 10 days

FOURTH NINE WEEKS – TOPICS 16, 17, 18, 19, 20

March 19th – May 21st

TOPIC	STANDARD	
16	Measure using ruler, meter stick, clock, thermometer, or other scaled instruments.	✓ 0406.1.5
16	Recognize the use of decimals in metric measures.	✓ 0406.4.6
16	Measure liquids using both standard units and metric units.	✓ 0406.4.7
16	Determine situations in which a highly accurate measurement is important.	SPI 0406.4.6
16	Determine appropriate size of unit of measurement in problem situations involving length, capacity, or weight.	SPI 0406.4.7
16	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).	SPI 0406.4.8
17	Explain how the components of a coordinate system are used to determine location.	✓ 0406.4.14
17	Explore properties of paths between points.	✓ 0406.4.15
17	Graph and interpret points with whole number or letter coordinates on grids or in the first quadrant of the coordinate plane.	SPI 0406.4.2
17	Evaluate how well various representations show the collected data.	✓ 0406.5.2
17, 20	Develop and use stem-and-leaf plots.	✓ 0406.5.4
17	Use measure of central tendency to compare two sets of related data.	✓ 0406.5.5
17	Depict data using various representations (e.g., tables, pictographs, line graphs, bar graphs).	SPI 0406.5.1
17	Given a set of data or a graph, describe the distribution of the data using median, range, or mode.	SPI 0406.5.3
18, 20	Translate the details of a contextual problem into diagrams and/or numerical expressions, and express answers using appropriate units.	✓ 0406.1.7
18	Find an unknown quantity in simple equations using whole numbers, fractions, decimals, and mixed numbers.	✓ 0406.3.1
19	Compare objects with respect to a given geometric or physical attribute and select appropriate measurement instrument.	SPI 0406.1.4
19	Examine transformations in the coordinate plane.	✓ 0406.4.16

19	Predict the results of a transformation of a geometric shape.	✓ 0406.4.17
19	Determine whether a geometric shape has line and/or rotational symmetry.	✓ 0406.4.18
19	Design and analyze simple tilings and tessellations.	✓ 0406.4.19
19	Draw lines of symmetry in 2-dimensional figures.	✓ 0406.4.20
19	Identify images resulting from reflections, translations, or rotations.	SPI 0406.4.10
20	Determine a simple probability.	✓ 040.5.6

Topic 16: 13 days

Topic 18: 6 days

Topic 20: 5 days

Topic 17: 11 days

Topic 19: 8 days