



Literacy and Intervention

TENNESSEE STATE STANDARDS

Academy of MATH[®]

Proven to Raise Achievement for Struggling Students

Grades 2–12



Academy of MATH® Correlation to Tennessee's Mathematics Standards K-8

Tennessee Math Standard		Lesson in Academy of Math®
Kindergarten Mathematical Processes 0006.1.1	Model addition and subtraction (e.g., using a number chart, number line and/or concrete objects).	Level 1: Addition, Subtraction, Equations, Graphing
Kindergarten Mathematical Processes 0006.1.2	Begin to develop the concept of estimation using concrete objects.	Level 1: Measurement
Kindergarten Mathematical Processes 0006.1.3	Use words to describe time (e.g., day, night, morning, afternoon, yesterday, today, tomorrow).	Level 1: Measurement
Kindergarten Mathematical Processes 0006.1.4	Tell time to the hour.	
Kindergarten Mathematical Processes 0006.1.5	Recognize a calendar as a way of measuring time.	Level 2: Measurement
Kindergarten Mathematical Processes 0006.1.6	Name and identify coins and their values.	Level 1: Measurement
Kindergarten Mathematical Processes 0006.1.7	Use words to describe temperature (e.g., hot, warm, cool, cold).	Level 1: Measurement
Kindergarten Mathematical Processes 0006.1.8	Recognize a thermometer as a way of measuring temperature.	Levels 2-3: Measurement
Kindergarten Mathematical Processes 0006.1.9	Use age-appropriate books, stories, and videos to convey ideas of mathematics.	
Kindergarten Number and Operations 0006.2.1	Count objects to 25 using one-to-one correspondence and identify the quantity in the counted group.	Level 1: Number Sense, Addition, Subtraction
Kindergarten Number and Operations 0006.2.2	Match quantities to 25 with numerals and written words.	Level 1: Number Sense, Addition, Subtraction

Kindergarten Number and Operations 0006.2.3	Count backward from 10 to 1.	Level 1: Number Sense, Addition
Kindergarten Number and Operations 0006.2.4	Count to 20 by twos.	Levels 1-2: Number Sense Level 2: Multiplication
Kindergarten Number and Operations 0006.2.5	Create a set with a given number of objects.	Level 1: Division
Kindergarten Number and Operations 0006.2.6	Quickly recognize the number of objects in a small set.	Level 1: Number Sense, Addition, Subtraction, Multiplication
Kindergarten Number and Operations 0006.2.7	Recognize zero (0) as a set with “no objects”.	Level 1: Subtraction
Kindergarten Number and Operations 0006.2.8	Compare sets of ten or fewer objects and identify which are equal to, more than, or less than others.	Level 1: Number Sense, Addition, Subtraction
Kindergarten Number and Operations 0006.2.9	Order the numbers through 25 using numerals and words.	Level 1: Number Sense
Kindergarten Number and Operations 0006.2.10	Recognize 6 through 10 as “five and some ones.”	Level 1: Addition
Kindergarten Number and Operations 0006.2.11	Recognize and use ordinal numbers (e.g., first, fourth, last).	Level 1: Number Sense
Kindergarten Number and Operations 0006.2.12	Model simple joining and separating situations with objects.	Level 1: Addition, Subtraction, Equations, Graphing
Kindergarten Number and Operations 0006.2.13	Add and subtract single-digit numbers whose total or difference is between 0 and 10.	Level 1: Addition, Subtraction, Equations, Graphing
Kindergarten Number and Operations 0006.2.14	Understand add as “put together” or “count on” and solve addition problems with sums less than 20.	Level 1: Addition, Equations, Graphing
Kindergarten Number and Operations 0006.2.15	Understand subtraction as “break apart” or “take away” and solve subtraction problems using numbers 1 through 10.	Level 1: Subtraction, Equations

Kindergarten Number and Operations 0006.2.16	Model, demonstrate, and solve story problems that illustrate addition and subtraction.	Level 1: Addition, Subtraction
Kindergarten Number and Operations 0006.2.17	Understand that numbers can be represented by different groupings.	Level 1: Equations
Kindergarten Algebra 0006.3.1	Use a variety of manipulatives (such as connecting cubes, number cards, shapes) to create patterns.	Level 1: Number Sense, Geometry
Kindergarten Algebra 0006.3.2	Name, copy, and extend patterns.	Level 1: Number Sense, Geometry
Kindergarten Algebra 0006.3.3	Translate simple patterns into rules.	Level 1: Number Sense
Kindergarten Algebra 0006.3.4	Sort, order and classify objects by attribute and identify objects that do not belong in a particular group.	Level 1: Number Sense, Geometry
Kindergarten Algebra 0006.3.5	Describe change in attributes according to qualitative criteria such as longer/shorter, colder/warmer, and heavier/lighter.	Level 1: Measurement
Kindergarten Geometry and Measurement 0006.4.1	Identify, name, and describe a variety of shapes (i.e. circles, squares, triangles, rectangles, hexagons, trapezoids) shown in various positions.	Levels 1-2: Geometry
Kindergarten Geometry and Measurement 0006.4.2	Identify, name, and describe three-dimensional shapes (such as sphere, cube, cone, and cylinder).	Level 1: Geometry
Kindergarten Geometry and Measurement 0006.4.3	Sort plane figures into groups, name and describe the attributes of the shapes (such as number of sides and corners (vertices)).	Level 1: Geometry
Kindergarten Geometry and Measurement 0006.4.4	Sort solid figures into groups, name and describe the attributes of the shapes.	Level 1: Geometry
Kindergarten Geometry and Measurement 0006.4.5	Use basic shapes and spatial reasoning to model objects and construct more complex shapes.	Level 1: Geometry
Kindergarten Geometry and Measurement 0006.4.6	Identify positions (such as beside, inside, outside, above, below, between, on, over, under, near, far, forward, backward, top, middle, bottom, left, right) using models, illustrations, and stories.	Level 1: Geometry

Kindergarten Geometry and Measurement 0006.4.7	Make direct and indirect comparisons between objects (such as recognize which is shorter, longer, taller, lighter, heavier, or holds more).	Level 1: Measurement
Kindergarten Data, Probability, and Statistics 0006.5.1	Sort objects into sets and describe how the objects were sorted.	Level 1: Number Sense
Kindergarten Data, Probability, and Statistics 0006.5.2	Sort objects in different ways.	Level 1: Number Sense
Kindergarten Data, Probability, and Statistics 0006.5.3	Collect and count data.	Level 1: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade One Mathematical Processes 0106.1.1	Describe the relationship between days and months.	Level 1: Measurement
Grade One Mathematical Processes 0106.1.2	Read and write time to the hour, half-hour, and quarter-hour.	Level 3: Measurement
Grade One Mathematical Processes 0106.1.3	Compare units of time.	Level 1: Measurement
Grade One Mathematical Processes 0106.1.4	Count the value of a set of coins up to fifty cents.	Levels 1-2: Measurement
Grade One Mathematical Processes 0106.1.5	Use a thermometer to measure temperature.	Levels 2-3: Measurement
Grade One Mathematical Processes 0106.1.6	Recognize scales as a way of measuring weight.	Level 1: Measurement
Grade One Mathematical Processes 0106.1.7	Apply spatial sense to recreate a figure from memory.	
Grade One	Recognize the “word clues” and mathematical symbols for addition and subtraction.	Level 1: Addition, Subtraction

Mathematical Processes 0106.1.8		
Grade One Mathematical Processes 0106.1.9	Use age-appropriate books, stories, and videos to convey ideas of mathematics.	
Grade One Mathematical Processes 0106.1.10	Match the spoken, written, concrete, and pictorial representations of whole numbers, one-half, and one-fourth.	Level 1: Fractions
Grade One Number and Operations 0106.2.1	Read and write numerals up to 100.	Level 2: Number Sense
Grade One Number and Operations 0106.2.2	Write numbers up to 10 in words.	Level 1: Number Sense
Grade One Number and Operations 0106.2.3	Count forward and backward by ones beginning with any number less than 100.	Levels 1-2: Number Sense, Addition
Grade One Number and Operations 0106.2.4	Skip count by twos, fives, and tens.	Level 2: Number Sense, Multiplication
Grade One Number and Operations 0106.2.5	Order and compare (less than, greater than, or equal to) whole numbers to 100.	Level 2: Number Sense, Addition, Subtraction, Multiplication, Division
Grade One Number and Operations 0106.2.6	Recognize the place value of numbers (tens, ones).	Level 1: Number Sense
Grade One Number and Operations 0106.2.7	Develop fluency with addition and subtraction facts of sums through ten.	Level 1: Addition, Subtraction, Equations, Graphing
Grade One Number and Operations 0106.2.8	Relate “counting on” and “counting back” to addition and subtraction and understand them as inverse operations.	Level 2: Equations
Grade One Number and Operations 0106.2.9	Add three single-digit numbers.	Level 2: Addition
Grade One Number and Operations 0106.2.10	Use models (such as discrete objects, connecting cubes, and number lines) to represent “part-whole,” “adding to,” “taking away from,” and “comparing to” situations to develop understanding of the meaning of addition and subtraction.	Level 1: Addition, Subtraction, Equations, Graphing
Grade One Number and Operations	Recognize the “part-whole” relationship in representations of basic fractions such as $\frac{1}{2}$ and $\frac{1}{4}$.	Level 1: Fractions

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Grade One Number and Operations 0106.2.12	Use various models to develop strategies for solving arithmetic problems.	Level 1: Addition, Subtraction, Equations, Graphing
Grade One Number and Operations 0106.2.13	Solve problems that require addition and subtraction of numbers through 100.	Level 2: Addition, Subtraction
Grade One Number and Operations 0106.2.14	Use composition and decomposition of numbers to identify and discuss patterns.	Level 1: Number Sense, Addition, Subtraction
Grade One Number and Operations 0106.2.15	Represent whole numbers between 10 and 100 in groups of tens and ones.	Level 2: Number Sense, Addition, Subtraction
Grade One Number and Operations 0106.2.16	Represent whole numbers up to 100 on a number line.	Level 3: Multiplication, Measurement
Grade One Number and Operations 0106.2.17	Use the number line to create visual representations of sequences (such as even numbers, tens, multiples of five).	Level 3: Multiplication
Grade One Algebra 0106.3.1	Find repeating patterns on the number line, addition table, and hundreds chart.	Levels 1-2: Number Sense, Addition
Grade One Algebra 0106.3.2	Determine a reasonable next term in a given sequence and describe the rule.	Level 1: Number Sense, Addition, Subtraction
Grade One Algebra 0106.3.3	Use objects to illustrate the commutative property with basic facts and show that subtraction is not commutative.	Level 1: Addition
Grade One Algebra 0106.3.4	Demonstrate understanding of the basic equation $a + b = c$ by using objects to illustrate the number sentences (fact families) associated with any particular sum.	Level 1: Addition, Equations
Grade One Algebra 0106.3.5	Use various strategies to find unknowns in problems involving addition and subtraction.	Level 1: Equations
Grade One Algebra 0106.3.6	Use objects to demonstrate the inverse relationship between addition and subtraction.	Level 1: Addition, Subtraction, Equations
Grade One Algebra 0106.3.7	Use the inverse relation between addition and subtraction to check arithmetic problems.	Level 1: Addition, Subtraction, Equations

Grade One Algebra 0106.3.8	Determine whether a number is odd or even by pairing objects.	Level 2: Number Sense, Addition, Subtraction
Grade One Algebra 0106.3.9	Recognize that zero is the identity element for addition.	Level 2: Addition
Grade One Geometry and Measurement 0106.4.1	Recognize and describe similarities and differences between 2-dimensional figures (geometric attributes and properties).	Level 2: Geometry
Grade One Geometry and Measurement 0106.4.2	Recognize 2- and 3-dimensional figures from different perspectives and orientations.	Levels 1-3: Geometry
Grade One Geometry and Measurement 0106.4.3	Model part-whole relationships and properties of plane and solid figures by combining two or more shapes to make a larger shape or by breaking apart an object into its smaller shapes.	Level 3: Geometry
Grade One Geometry and Measurement 0106.4.4	Identify 2-dimensional shapes as faces of 3-dimensional figures.	Level 1: Geometry
Grade One Geometry and Measurement 0106.4.5	Estimate and measure length using non-standard units (counting by using groups of tens and ones) to represent addition.	Level 2: Measurement
Grade One Geometry and Measurement 0106.4.6	Recognize the essential role of units in measurement, and understand the difference between standard and non-standard units.	Level 2: Measurement
Grade One Geometry and Measurement 0106.4.7	Understand and use comparative words such as long, longer, longest; short, shorter, shortest; tall, taller, tallest; high, higher, highest.	Level 1: Measurement
Grade One Data, Probability, & Statistics 0106.5.1	Represent measurements and discrete data using concrete objects, picture graphs, and bar graphs.	Levels 1-2: Graphing
Grade One Data, Probability, & Statistics 0106.5.2	Represent data in both horizontal and vertical form.	Levels 1-2: Graphing
Grade One Data, Probability, & Statistics 0106.5.3	Display data using appropriate titles and labels.	Levels 1-2: Graphing
Grade One Data, Probability, & Statistics 0106.5.4	Count and compare collected data.	Levels 1-2: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade Two Mathematical Processes 0206.1.1	Read and write time up to five-minute intervals.	Level 3: Measurement
Grade Two Mathematical Processes 0206.1.2	Relate days, dates, weeks, months, and years to a calendar.	Level 2: Measurement
Grade Two Mathematical Processes 0206.1.3	Use strategies to make estimates of time.	Level 3: Measurement
Grade Two Mathematical Processes 0206.1.4	Solve problems involving elapsed time in hour and half-hour intervals.	Level 3: Measurement
Grade Two Mathematical Processes 0206.1.5	Count the value of a set of coins up to one dollar and use the transitive property of equality to recognize equivalent forms of values up to \$1.00.	Level 2: Measurement
Grade Two Mathematical Processes 0206.1.6	Read thermometers with Fahrenheit and Celsius scales.	Levels 2-3: Measurement
Grade Two Mathematical Processes 0206.1.7	Measure weight to the nearest pound or kilogram.	
Grade Two Mathematical Processes 0206.1.8	Use concrete models or pictures to show whether a fraction is less than a half, more than a half, or equal to a half.	Levels 1-2: Fractions
Grade Two Mathematical Processes 0206.1.9	Match the spoken, written, concrete, and pictorial representations of halves, thirds, and fourths.	Levels 1-2: Fractions
Grade Two Mathematical Processes 0206.1.10	Develop a story problem that illustrates a given addition or subtraction number sentence.	Level 2: Addition, Subtraction, Equations
Grade Two Mathematical Processes 0206.1.11	Use manipulatives to demonstrate addition and subtraction sentences written symbolically.	Level 2: Addition, Subtraction, Equations
Grade Two Mathematical Processes 0206.1.12	Write numbers and translate word clues to number sentences and vice versa.	Level 2: Addition, Subtraction, Equations

Grade Two Mathematical Processes 0206.1.13	Use manipulatives such as pattern blocks, tangrams, etc. to explore geometric concepts of symmetry and transformations.	Levels 1-2: Geometry
Grade Two Mathematical Processes 0206.1.14	Create and observe numerical patterns on a calculator by repeatedly adding or subtracting the same number from some starting number.	Level 2: Multiplication, Division
Grade Two Mathematical Processes 0206.1.15	Use age-appropriate books, stories, and videos to convey ideas of mathematics.	
Grade Two Number and Operations 0206.2.1	Starting at any number, count by ones, twos, fives, tens, and hundreds up to 1000.	Levels 2-3: Number Sense, Multiplication
Grade Two Number and Operations 0206.2.2	Read and write numbers up to 1000 using numerals and up to 100 using words.	Levels 2-3: Number Sense
Grade Two Number and Operations 0206.2.3	Locate and interpret numbers on a number line.	Level 3: Multiplication, Fractions, Measurement
Grade Two Number and Operations 0206.2.4	Recognize that place-value notation represents the sums of multiples of powers of ten (e.g., 853 as 8 hundreds + 5 tens + 3 ones).	Level 2: Number Sense
Grade Two Number and Operations 0206.2.5	Compare and order multi-digit numbers up to 1000.	Level 3: Number Sense
Grade Two Number and Operations 0206.2.6	Use various models such as number lines, pictures, and base-ten blocks to illustrate addition and subtraction.	Level 2: Addition, Subtraction, Equations
Grade Two Number and Operations 0206.2.7	Develop fluency at recalling basic addition facts and related subtraction facts.	Level 2: Addition, Subtraction, Equations
Grade Two Number and Operations 0206.2.8	Use efficient procedures, and understand why they work, to solve problems involving the addition and subtraction of two- and three-digit whole numbers (including those that require regrouping).	Levels 2-3: Addition, Subtraction
Grade Two Number and Operations 0206.2.9	Apply appropriate methods to estimate and mentally calculate sums or differences with ones, tens, and hundreds.	Levels 2-3: Addition, Subtraction

Grade Two Number and Operations 0206.2.10	Add three two-digit numbers.	Level 2: Addition
Grade Two Number and Operations 0206.2.11	Solve addition and subtraction problems in context using various representations.	Level 2: Addition, Subtraction, Equations
Grade Two Number and Operations 0206.2.12	Demonstrate skip counting on the number line and relate to repeated addition and multiplication.	Level 2: Number Sense, Multiplication
Grade Two Number and Operations 0206.2.13	Relate patterns in skip counting to multiplication.	Level 2: Multiplication
Grade Two Algebra 0206.3.1	Given rules, complete tables to reveal both arithmetic and geometric patterns.	Level 2: Number Sense, Geometry
Grade Two Algebra 0206.3.2	Given a description, extend or find a missing term in a pattern or sequence.	Level 3: Number Sense, Addition, Subtraction
Grade Two Algebra 0206.3.3	Record and study patterns in lists of numbers created by repeated addition or subtraction.	Level 2: Multiplication, Division
Grade Two Algebra 0206.3.4	Generalize the patterns resulting from the addition, subtraction and multiplication of combinations of odd and even numbers.	Level 3: Number Sense, Addition, Subtraction, Multiplication
Grade Two Algebra 0206.3.5	Understand and use the commutative and associative properties of addition and multiplication.	Levels 2-3: Addition Level 4: Number Sense
Grade Two Algebra 0206.3.6	Relate repeated addition to multiplication.	Levels 2-3: Multiplication
Grade Two Algebra 0206.3.7	Find unknowns in number sentences and problems involving addition, subtraction and multiplication.	Levels 2-3: Equations
Grade Two Algebra 0206.3.8	Describe change in measures according to quantitative criteria such as growing 2 inches in one year.	Level 2: Graphing
Grade Two Geometry and Measurement 0206.4.1	Describe common geometric attributes of familiar plane and solid objects.	Levels 2-3: Geometry

Grade Two Geometry and Measurement 0206.4.2	Reflect, rotate, and translate shapes to explore the effects of transformations.	Level 4: Geometry
Grade Two Geometry and Measurement 0206.4.3	Understand the property of transitivity as it relates to linear measurement (for example: If A is longer than B, and B is longer than C, then A is longer than C).	Level 2: Measurement
Grade Two Geometry and Measurement 0206.4.4	Estimate, measure, and calculate length to the nearest unit: meter, centimeter, yard, foot, and inch.	Levels 2-3: Measurement
Grade Two Geometry and Measurement 0206.4.5	Use rulers to measure the lengths of sides and diagonals of common 2-dimensional figures and polygons.	
Grade Two Geometry and Measurement 0206.4.6	Understand the inverse relationship between the size of a unit and the number of units used in a particular measurement (the smaller the unit, the more iterations needed to cover the length).	
Grade Two Geometry and Measurement 0206.4.7	Investigate and describe composition, decomposition, and transformations of polygons.	Levels 1-2: Geometry
Grade Two Geometry and Measurement 0206.4.8	Combine polygons to form other polygons and subdivide a polygon into other polygons.	Level 3: Geometry
Grade Two Geometry and Measurement 0206.4.9	Recognize the composition and decomposition of polygons.	Level 3: Geometry
Grade Two Data, Probability, & Statistics 0206.5.1	Read, interpret, and analyze data shown in tables, bar graphs and picture graphs.	Levels 2-3: Graphing
Grade Two Data, Probability, & Statistics 0206.5.2	Read, interpret, and create tables using tally marks.	Level 3: Graphing
Grade Two Data, Probability, & Statistics 0206.5.3	Explain whether a real world event is likely or unlikely.	Levels 2-3: Graphing
Grade Two Data, Probability, & Statistics 0206.5.4	Predict outcomes of events based on data gathered and displayed.	Levels 2-3: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade Three Mathematical Processes SPI 0306.1.1	Solve problems using a calendar.	Level 2: Measurement Level 4: Measurement
Grade Three Mathematical Processes SPI 0306.1.2	Solve problems involving elapsed time.	Level 3: Measurement
Grade Three Mathematical Processes SPI 0306.1.3	Determine the correct change from a transaction less than a dollar.	Levels 1-2: Measurement
Grade Three Mathematical Processes SPI 0306.1.4	Match the spoken, written, concrete, and pictorial representations of fractions with denominators up to ten.	Level 3: Fractions
Grade Three Mathematical Processes SPI 0306.1.5	Represent problems mathematically using diagrams, numbers, and symbolic expressions.	Level 3: Equations, Graphing
Grade Three Mathematical Processes SPI 0306.1.6	Identify and use vocabulary to describe attributes of two- and three-dimensional shapes.	Level 3: Geometry
Grade Three Mathematical Processes SPI 0306.1.7	Select appropriate units and tools to solve problems involving measures.	Level 3: Measurement
Grade Three Mathematical Processes SPI 0306.1.8	Express answers clearly in verbal, numerical, or graphical (bar and picture) form, using units when appropriate.	Level 3: Measurement, Graphing
Grade Three Number and Operations SPI 0306.2.1	Read and write numbers up to 10,000 in numerals and up to 1,000 in words.	Levels 3-4: Number Sense
Grade Three Number and Operations SPI 0306.2.2	Identify the place value of numbers in the ten-thousands, thousands, hundreds, tens, and ones positions.	Level 4: Number Sense
Grade Three Number and Operations SPI 0306.2.3	Convert between expanded and standard form with whole numbers to 10,000.	Level 4: Number Sense
Grade Three Number and Operations SPI 0306.2.4	Compare and order numbers up to 10,000 using the words less than, greater than, and equal to, and the symbols $<$, $>$, $=$.	Level 4: Number Sense
Grade Three	Identify various representations of multiplication and division.	Levels 3-4: Multiplication, Division

Number and Operations SPI 0306.2.5		
Grade Three Number and Operations SPI 0306.2.6	Recall basic multiplication facts through 10 times 10 and the related division facts.	Levels 3-4: Multiplication, Division
Grade Three Number and Operations SPI 0306.2.7	Compute multiplication problems that involve multiples of ten using basic number facts.	Levels 3-4: Multiplication
Grade Three Number and Operations SPI 0306.2.8	Solve problems that involve the inverse relationship between multiplication and division.	Level 3: Equations
Grade Three Number and Operations SPI 0306.2.9	Solve contextual problems involving the addition (with and without regrouping) and subtraction (with and without regrouping) of two- and three digit whole numbers.	Levels 2-3: Addition, Subtraction
Grade Three Number and Operations SPI 0306.2.10	Identify equivalent fractions given by various representations.	Level 4: Fractions
Grade Three Number and Operations SPI 0306.2.11	Recognize and use different interpretations of fractions.	Levels 3-4: Fractions
Grade Three Number and Operations SPI 0306.2.12	Name fractions in various contexts that are less than, equal to, or greater than one.	Level 3: Fractions
Grade Three Number and Operations SPI 0306.2.13	Recognize, compare, and order fractions (benchmark fractions, common numerators, or common denominators).	Level 3: Fractions
Grade Three Number and Operations SPI 0306.2.14	Add and subtract fractions with like denominators.	Level 4: Fractions
Grade Three Algebra SPI 0306.3.1	Verify a conclusion using algebraic properties.	Levels 3-4: Equations
Grade Three Algebra SPI 0306.3.2	Express mathematical relationships using number sentences/equations.	Levels 3-4: Equations
Grade Three Algebra SPI 0306.3.3	Find the missing values in simple multiplication and division equations.	Levels 3: Equations
Grade Three Algebra	Describe or extend (including finding missing terms) geometric and numeric patterns.	Levels 3-4: Number Sense, Addition, Subtraction

SPI 0306.3.4		
Grade Three Geometry and Measurement SPI 0306.4.1	Recognize polygons and be able to identify examples based on geometric definitions.	Level 3: Geometry
Grade Three Geometry and Measurement SPI 0306.4.2	Determine if two figures are congruent based on size and shape.	Level 3: Geometry
Grade Three Geometry and Measurement SPI 0306.4.3	Identify the line of symmetry in a two-dimensional design or shape.	Levels 2-3: Geometry
Grade Three Geometry and Measurement SPI 0306.4.4	Calculate the perimeter of shapes made from polygons.	Level 3: Measurement
Grade Three Geometry and Measurement SPI 0306.4.5	Choose reasonable units of measure, estimate common measurements using benchmarks, and use appropriate tools to make measurements.	Level 3: Measurement
Grade Three Geometry and Measurement SPI 0306.4.6	Measure length to the nearest centimeter or half inch.	Level 2: Measurement
Grade Three Geometry and Measurement SPI 0306.4.7	Solve problems requiring the addition and subtraction of lengths.	Level 3: Measurement
Grade Three Data, Probability, & Statistics SPI 0306.5.1	Interpret a frequency table, bar graph, pictograph, or line plot.	Levels 3-4: Graphing
Grade Three Data, Probability, & Statistics SPI 0306.5.2	Solve problems in which data is represented in tables or graph.	Levels 3-4: Graphing
Grade Three Data, Probability, & Statistics SPI 0306.5.3	Make predictions based on various representations of data.	Levels 3-4: Graphing

Tennessee Math Standard	Lesson in Academy of Math®	
Grade Four Mathematical Processes SPI 0406.1.1	Verify a conclusion using the commutative, associative and distributive properties.	Levels 4-5: Number Sense, Multiplication
Grade Four Mathematical Processes SPI 0406.1.2	Compare decimals using concrete and pictorial representations.	Level 3: Fractions
Grade Four Mathematical Processes SPI 0406.1.3	Determine the correct change from a transaction.	Levels 3-4: Measurement
Grade Four Mathematical Processes SPI 0406.1.4	Compare objects with respect to a given geometric or physical attribute and select appropriate measurement instrument.	Level 5: Measurement
Grade Four Number and Operations SPI 0406.2.1	Read and write numbers from hundredths to hundred-thousands in numerals and in words.	Levels 4-6: Fractions
Grade Four Number and Operations SPI 0406.2.2	Locate and place mixed numbers on the number line.	Level 3: Measurement
Grade Four Number and Operations SPI 0406.2.3	Identify the place value of a specified digit in a number and the quantity it represents.	Levels 4-5: Number Sense
Grade Four Number and Operations SPI 0406.2.4	Find factors, common factors, multiples, and common multiples of two numbers.	Level 5: Multiplication, Fractions
Grade Four Number and Operations SPI 0406.2.5	Generate equivalent forms of common fractions and decimals and use them to compare size.	Levels 3-4: Fractions
Grade Four Number and Operations SPI 0406.2.6	Use the symbols $<$, $>$ and $=$ to compare common fractions and decimals in both increasing and decreasing order.	Levels 3-4: Fractions
Grade Four Number and Operations SPI 0406.2.7	Convert improper fractions into mixed numbers and/or decimals.	Levels 5-6: Fractions
Grade Four Number and Operations SPI 0406.2.8	Add and subtract proper fractions with like and unlike denominators and simplify the answer.	Levels 4-6: Fractions

Grade Four Number and Operations SPI 0406.2.9	Add and subtract decimals through hundredths.	Levels 4-5: Fractions
Grade Four Number and Operations SPI 0406.2.10	Solve contextual problems using whole numbers, fractions, and decimals.	Levels 4-5: Addition, Subtraction, Multiplication, Division, Fractions, Equations
Grade Four Number and Operations SPI 0406.2.11	Solve problems using whole number multi-digit multiplication.	Levels 4-5: Multiplication
Grade Four Number and Operations SPI 0406.2.12	Solve problems using whole number division with one- or two-digit divisors.	Levels 3-4: Division
Grade Four Algebra SPI 0406.3.1	Use letters and symbols to represent an unknown quantity and write a simple mathematical expression.	Levels 4-5: Equations
Grade Four Algebra SPI 0406.3.2	Make generalizations about geometric and numeric patterns.	Level 4: Number Sense, Addition, Subtraction
Grade Four Algebra SPI 0406.3.3	Represent and analyze patterns using words, function tables, and graphs.	Level 4: Graphing
Grade Four Geometry and Measurement SPI 0406.4.1	Classify lines and line segments as parallel, perpendicular, or intersecting.	Level 4: Geometry
Grade Four Geometry and Measurement SPI 0406.4.2	Graph and interpret points with whole number or letter coordinates on grids or in the first quadrant of the coordinate plane.	Level 3: Graphing
Grade Four Geometry and Measurement SPI 0406.4.3	Construct geometric figures with vertices at points on a coordinate grid.	Level 3: Graphing
Grade Four Geometry and Measurement SPI 0406.4.4	Identify acute, obtuse, and right angles in 2-dimensional shapes.	Level 5: Geometry
Grade Four Geometry and Measurement SPI 0406.4.5	Identify attributes of simple and compound figures composed of 2- and 3- dimensional shapes.	Levels 4-5: Geometry
Grade Four Geometry and Measurement SPI 0406.4.6	Determine situations in which a highly accurate measurement is important.	

Grade Four Geometry and Measurement SPI 0406.4.7	Determine appropriate size of unit of measurement in problem situations involving length, capacity or weight.	Level 4: Measurement
Grade Four Geometry and Measurement SPI 0406.4.8	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).	Level 4: Measurement
Grade Four Geometry and Measurement SPI 0406.4.9	Solve problems involving area and/or perimeter of rectangular figures.	Levels 4-5: Geometry
Grade Four Geometry and Measurement SPI 0406.4.10	Identify images resulting from reflections, translations, or rotations.	Levels 4-5: Geometry
Grade Four Data, Probability, & Statistics SPI 0406.5.1	Depict data using various representations (e.g., tables, pictographs, line graphs, bar graphs).	Levels 4-5: Graphing
Grade Four Data, Probability, & Statistics SPI 0406.5.2	Solve problems using estimation and comparison within a single set of data.	Level 4: Addition, Subtraction
Grade Four Data, Probability, & Statistics SPI 0406.5.3	Given a set of data or a graph, describe the distribution of the data using median, range, or mode.	Level 8: Graphing
Grade Four Data, Probability, & Statistics SPI 0406.5.4	List all possible outcomes of a given situation or event.	Levels 7-8: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade Five Mathematical Processes SPI 0506.1.1	Given a series of geometric statements, draw a conclusion about the figure described.	Level 6: Geometry
Grade Five Mathematical Processes SPI 0506.1.2	Estimate fraction and decimal sums or differences.	Levels 5-6: Fractions, Equations
Grade Five Mathematical Processes SPI 0506.1.3	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.	Level 5: Division, Fractions

Grade Five Mathematical Processes SPI 0506.1.4	Identify missing information and/or too much information in contextual problems.	Level 5: Addition, Subtraction, Multiplication, Division, Fractions, Equations
Grade Five Number and Operations SPI 0506.2.1	Read and write numbers from millions to millionths in various contexts.	Level 6: Number Sense, Fractions
Grade Five Number and Operations SPI 0506.2.2	Write the prime factorization of numbers through 50 using both exponential and standard notation.	Level 6: Multiplication
Grade Five Number and Operations SPI 0506.2.3	Select a reasonable solution to a real-world division problem in which the remainder must be considered.	Level 5: Division
Grade Five Number and Operations SPI 0506.2.4	Solve problems involving the division of two- and three-digit whole numbers by one- and two-digit whole numbers.	Levels 4-5: Division
Grade Five Number and Operations SPI 0506.2.5	Solve addition and subtraction problems involving both fractions and decimals.	Levels 5-6: Fractions, Equations
Grade Five Number and Operations SPI 0506.2.6	Add and subtract proper and improper fractions as well as mixed numbers.	Levels 5-7: Fractions, Equations
Grade Five Number and Operations SPI 0506.2.7	Recognize equivalent representations for the same number.	Level 5: Fractions
Grade Five Number and Operations SPI 0506.2.8	Write terminating decimals in the form of fractions or mixed numbers.	Levels 5-6: Fractions
Grade Five Number and Operations SPI 0506.2.9	Compare whole numbers, decimals and fractions using the symbols $<$, $>$, and $=$.	Levels 5-7: Number Sense Level 7: Fractions
Grade Five Algebra SPI 0506.3.1	Evaluate algebraic expressions involving decimals and fractions using order of operations.	Levels 5-6: Fractions
Grade Five Algebra SPI 0506.3.2	Evaluate multi-step numerical expressions involving fractions using order of operations.	Levels 5-6: Fractions
Grade Five Algebra SPI 0506.3.3	Find the unknown in single-step equations involving fractions and mixed numbers.	Level 5: Equations

Grade Five Algebra SPI 0506.3.4	Given a set of values, identify those that make an inequality a true statement.	
Grade Five Geometry and Measurement SPI 0506.4.1	Solve contextual problems that require calculating the area of triangles and parallelograms.	Levels 5-6: Measurement
Grade Five Geometry and Measurement SPI 0506.4.2	Decompose irregular shapes to find perimeter and area.	Levels 7-8: Measurement
Grade Five Geometry and Measurement SPI 0506.4.3	Identify a three-dimensional object from two-dimensional representations of that object and vice versa.	Level 4: Measurement
Grade Five Geometry and Measurement SPI 0506.4.4	Solve problems involving surface area and volume of rectangular prisms and polyhedral solids.	Levels 5-8: Measurement
Grade Five Geometry and Measurement SPI 0506.4.5	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.	
Grade Five Geometry and Measurement SPI 0506.4.6	Record measurements in context to reasonable degree of accuracy using decimals and/or fractions.	Level 5: Measurement
Grade Five Data, Probability, & Statistics SPI 0506.5.1	Depict data using various representations, including decimal and/or fractional data.	Level 5: Graphing
Grade Five Data, Probability, & Statistics SPI 0506.5.2	Make predictions based on various data representations, including double bar and line graphs.	Levels 5-6: Graphing
Grade Five Data, Probability, & Statistics SPI 0506.5.3	Calculate measures of central tendency to analyze data.	Level 8: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade Six Mathematical Processes SPI 0606.1.1	Make conjectures and predictions based on data.	Levels 6-7: Graphing
Grade Six Mathematical Processes SPI 0606.1.2	Judge the reasonableness of the results of rational number estimates and/or computations.	Levels 6-7: Addition, Subtraction, Multiplication, Division, Fractions, Equations
Grade Six Mathematical Processes SPI 0606.1.3	Use concrete, pictorial, and symbolic representation for integers.	Levels 7-8: Number Sense, Addition Level 8: Subtraction, Multiplication
Grade Six Mathematical Processes SPI 0606.1.4	Select the representation that models one of the arithmetic properties (commutative, associative, or distributive).	Level 5: Number Sense, Multiplication Level 6: Equations
Grade Six Mathematical Processes SPI 0606.1.5	Model algebraic expressions using algebra tiles.	
Grade Six Number and Operations SPI 0606.2.1	Solve problems involving the multiplication and division of fractions.	Levels 6-8: Fractions, Equations
Grade Six Number and Operations SPI 0606.2.2	Solve problems involving the addition, subtraction, multiplication, and division of mixed numbers.	Levels 7-8: Fractions, Equations
Grade Six Number and Operations SPI 0606.2.3	Solve problems involving the addition, subtraction, multiplication, and division of decimals.	Levels 6-8: Fractions, Equations
Grade Six Number and Operations SPI 0606.2.4	Solve multi-step arithmetic problems using fractions, mixed numbers, and decimals.	Levels 6-8: Fractions, Equations
Grade Six Number and Operations SPI 0606.2.5	Transform numbers from one form to another (fractions, decimals, percents, and mixed numbers).	Levels 7-8: Fractions
Grade Six Number and Operations SPI 0606.2.6	Solve problems involving ratios, rates and percents.	Level 6: Fractions, Measurement
Grade Six Number and Operations SPI 0606.2.7	Locate positive rational numbers on the number line.	Level 8: Number Sense

Grade Six Number and Operations SPI 0606.2.8	Locate integers on the number line.	Level 8: Number Sense
Grade Six Algebra SPI 0606.3.1	Represent on a number line the solution of a linear inequality.	
Grade Six Algebra SPI 0606.3.2	Use order of operations and parentheses to simplify expressions and solve problems.	Levels 6-8: Equations
Grade Six Algebra SPI 0606.3.3	Write equations that correspond to given situations or represent a given mathematical relationship.	Levels 6-8: Equations
Grade Six Algebra SPI 0606.3.4	Rewrite expressions to represent quantities in different ways.	Levels 6-8: Equations
Grade Six Algebra SPI 0606.3.5	Translate between verbal expressions/sentences and algebraic expressions/equations.	Levels 6-8: Equations
Grade Six Algebra SPI 0606.3.6	Solve two-step linear equations using number sense, properties, and inverse operations.	Levels 7-8: Equations
Grade Six Algebra SPI 0606.3.7	Use algebraic expressions and properties to analyze numeric and geometric patterns.	Level 8: Number Sense
Grade Six Algebra SPI 0606.3.8	Select the qualitative graph that models a contextual situation (e.g., water filling then draining from a bathtub).	
Grade Six Algebra SPI 0606.3.9	Graph ordered pairs of integers in all four quadrants of the Cartesian coordinate system.	Level 8: Graphing
Grade Six Geometry and Measurement SPI 0606.4.1	Identify, define or describe geometric shapes given a visual representation or a written description of its properties.	Level 6: Measurement
Grade Six Geometry and Measurement SPI 0606.4.2	Find a missing angle measure in problems involving interior/exterior angles and/or their sums.	Levels 7-8: Geometry
Grade Six Geometry and Measurement SPI 0606.4.3	Solve problems using the Triangle Inequality Theorem.	

Grade Six Geometry and Measurement SPI 0606.4.4	Calculate with circumferences and areas of circles.	Level 8: Measurement
Grade Six Geometry and Measurement SPI 0606.4.5	Determine the surface area and volume of prisms, pyramids and cylinders.	Levels 6-8: Measurement
Grade Six Geometry and Measurement SPI 0606.4.6	Given the volume of a cone/pyramid, find the volume of the related cylinder/prism or vice versa.	
Grade Six Data, Probability, & Statistics SPI 0606.5.1	Determine the theoretical probability of simple and compound events in familiar contexts.	Levels 7-8: Graphing
Grade Six Data, Probability, & Statistics SPI 0606.5.2	Identify features of graphs that may be misleading.	Levels 6-8: Graphing
Grade Six Data, Probability, & Statistics SPI 0606.5.3	Determine whether or not a sample is biased.	Levels 6-8: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade Seven Mathematical Processes SPI 0706.1.1	Use proportional reasoning to solve mixture/concentration problems.	
Grade Seven Mathematical Processes SPI 0706.1.2	Generalize a variety of patterns to a symbolic rule from tables, graphs, or words.	Level 8: Number Sense
Grade Seven Mathematical Processes SPI 0706.1.3	Recognize whether information given in a table, graph, or formula suggests a directly proportional, linear, inversely proportional, or other nonlinear relationship.	
Grade Seven Mathematical Processes SPI 0706.1.4	Use scales to read maps.	Level 6: Measurement
Grade Seven Number and Operations SPI 0706.2.1	Simplify numerical expressions involving rational numbers.	Levels 7-8: Fractions
Grade Seven Number and Operations SPI 0706.2.2	Compare rational numbers using appropriate inequality symbols.	Level 7: Fractions

Grade Seven Number and Operations SPI 0706.2.3	Use rational numbers and roots of perfect squares/cubes to solve contextual problems.	Levels 7-8: Number Sense
Grade Seven Number and Operations SPI 0706.2.4	Determine the approximate location of square/cube roots on a number line.	
Grade Seven Number and Operations SPI 0706.2.5	Solve contextual problems that involve operations with integers.	Level 8: Number Sense, Addition, Subtraction, Multiplication, Equations
Grade Seven Number and Operations SPI 0706.2.6	Express the ratio between two quantities as a percent, and a percent as a ratio or fraction.	
Grade Seven Number and Operations SPI 0706.2.7	Use ratios and proportions to solve problems.	Level 8: Number Sense, Geometry
Grade Seven Algebra SPI 0706.3.1	Evaluate algebraic expressions involving rational values for coefficients and/or variables.	Levels 7-8: Equations
Grade Seven Algebra SPI 0706.3.2	Determine whether a relation (represented in various ways) is a function.	
Grade Seven Algebra SPI 0706.3.3	Given a table of inputs x and outputs $f(x)$, identify the function rule and continue the pattern.	
Grade Seven Algebra SPI 0706.3.4	Interpret the slope of a line as a unit rate given the graph of a proportional relationship.	
Grade Seven Algebra SPI 0706.3.5	Represent proportional relationships with equations, tables and graphs.	Levels 6-8: Measurement Level 8: Number Sense
Grade Seven Algebra SPI 0706.3.6	Solve linear equations with rational coefficients symbolically or graphically.	Levels 7-8: Equations
Grade Seven Algebra SPI 0706.3.7	Translate between verbal and symbolic representations of real-world phenomena involving linear equations.	Levels 7-8: Equations
Grade Seven Algebra SPI 0706.3.8	Solve contextual problems involving two-step linear equations.	Levels 7-8: Equations
Grade Seven	Solve linear inequalities in one variable with rational coefficients symbolically or graphically.	

Algebra SPI 0706.3.9		
Grade Seven Geometry and Measurement SPI 0706.4.1	Solve contextual problems involving similar triangles.	Level 8: Geometry
Grade Seven Geometry and Measurement SPI 0706.4.2	Use SSS, SAS, and AA to determine if two triangles are similar.	
Grade Seven Geometry and Measurement SPI 0706.4.3	Apply scale factor to solve problems involving area and volume.	
Grade Seven Data, Probability, & Statistics SPI 0706.5.1	Interpret and employ various graphs and charts to represent data.	Levels 7-8: Graphing
Grade Seven Data, Probability, & Statistics SPI 0706.5.2	Select suitable graph types (such as bar graphs, histograms, line graphs, circle graphs, box-and-whisker plots, and stem-and-leaf plots) and use them to create accurate representations of given data.	Levels 7-8: Graphing
Grade Seven Data, Probability, & Statistics SPI 0706.5.3	Calculate and interpret the mean, median, upper-quartile, lower-quartile, and interquartile range of a set of data.	Level 8: Graphing
Grade Seven Data, Probability, & Statistics SPI 0706.5.4	Use theoretical probability to make predictions.	Levels 7-8: Graphing

Tennessee Math Standard		Lesson in Academy of Math®
Grade Eight Mathematical Processes SPI 0806.1.1	Solve problems involving rate/time/distance (i.e., $d = rt$).	Level 8: Multiplication
Grade Eight Mathematical Processes SPI 0806.1.2	Interpret a qualitative graph representing a contextual situation.	
Grade Eight Mathematical Processes SPI 0806.1.3	Calculates rates involving cost per unit to determine the best buy.	Level 6: Division
Grade Eight Number and Operations SPI 0806.2.1	Order and compare rational and irrational numbers and locate on the number line.	Levels 6-8: Number Sense
Grade Eight	Identify numbers and square roots as rational or irrational.	Levels 7-8: Number Sense

Number and Operations SPI 0806.2.2		
Grade Eight Number and Operations SPI 0806.2.3	Use scientific notation to compute products and quotients.	
Grade Eight Number and Operations SPI 0806.2.4	Solve real-world problems requiring scientific notation.	
Grade Eight Algebra SPI 0806.3.1	Find solutions to systems of two linear equations in two variables.	
Grade Eight Algebra SPI 0806.3.2	Solve the linear equation $f(x) = g(x)$.	
Grade Eight Algebra SPI 0806.3.3	Solve and graph linear inequalities in two variables.	
Grade Eight Algebra SPI 0806.3.4	Translate between various representations of a linear function.	
Grade Eight Algebra SPI 0806.3.5	Determine the slope of a line from an equation, two given points, a table or a graph.	
Grade Eight Algebra SPI 0806.3.6	Analyze the graph of a linear function to find solutions and intercepts.	
Grade Eight Algebra SPI 0806.3.7	Identify, compare and contrast functions as linear or nonlinear.	
Grade Eight Geometry and Measurement SPI 0806.4.1	Use the Pythagorean Theorem to solve contextual problems.	
Grade Eight Geometry and Measurement SPI 0806.4.2	Apply the Pythagorean theorem to find distances between points in the coordinate plane to measure lengths and analyze polygons and polyhedra.	
Grade Eight Geometry and Measurement SPI 0806.4.3	Find measures of the angles formed by parallel lines cut by a transversal.	Levels 7-8: Geometry
Grade Eight Geometry and Measurement	Convert between and within the U.S. Customary System and the metric system.	Level 8: Measurement

SPI 0806.4.4		
Grade Eight Geometry and Measurement SPI 0806.4.5	Identify the intersection of two or more geometric figures in the plane.	
Grade Eight Data, Probability, & Statistics SPI 0806.5.1	Calculate probabilities of events for simple experiments with equally probable outcomes.	Levels 7-8: Graphing
Grade Eight Data, Probability, & Statistics SPI 0806.5.2	Use a variety of methods to compute probabilities for compound events (e.g., multiplication, organized lists, tree diagrams, area models).	Levels 7-8: Graphing
Grade Eight Data, Probability, & Statistics SPI 0806.5.3	Generalize the relationship between two sets of data using scatterplots and lines of best fit.	
Grade Eight Data, Probability, & Statistics SPI 0806.5.4	Recognize misrepresentations of published data in the media.	

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