



Literacy and Intervention

STAAR MATHEMATICS ASSESSMENT

Academy of MATH[®]

Proven to Raise Achievement for Struggling Students

Grades 2–12



STAAR Mathematics Assessment

Academy of MATH: Correlated to the STAAR Mathematics Assessment in Grades 3-8

Table of Contents

ACADEMY OF MATH	1
STAAR Mathematics Assessment	2
Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 3	3
Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 4	8
Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 5	13
Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 6	18
Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 7	23
Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 8	28

Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 3

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
	Uses place value to communicate about increasingly large whole numbers in verbal and written form, including money.	
3.1A	Use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999. <i>Supporting</i>	Levels 3-5: Number Sense
3.1B	Use place value to compare and order whole numbers through 9,999. <i>Supporting</i>	Level 3: Number Sense
3.1C	Determine the value of a collection of coins and bills. <i>Supporting</i>	Level 3: Measurement
	Uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects.	
3.2C	Use fraction names and symbols to describe fractional parts of whole objects or sets of objects. <i>Readiness</i>	Level 3: Fractions
	Adds and subtracts to solve meaningful problems involving whole numbers.	
3.3A	Model addition and subtraction using pictures, words, and numbers. <i>Supporting</i>	Level 3: Addition, Subtraction, Equations, Graphing
3.3B	Select addition or subtraction and use the operation to solve problems involving whole numbers through 999. <i>Readiness</i>	Level 3: Addition, Subtraction, Equations, Graphing
	Recognizes and solves problems in multiplication and division situations.	
3.4A	Learn and apply multiplication facts through 12 by 12 using [concrete] models [and objects]. <i>Supporting</i>	Levels 3-4: Multiplication
3.4B	Solve and record multiplication problems (up to two digits times one digit). <i>Readiness</i>	Levels 3-4: Multiplication
3.4C	Use models to solve division problems and use number sentences to record the solution. <i>Readiness</i>	Levels 2-3: Division

Estimates to determine reasonable results.		
3.5A	Round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations. <i>Supporting</i>	Level 4: Addition, Subtraction
3.5B	Use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems. <i>Supporting</i>	Level 4: Addition, Subtraction

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
Uses patterns to solve problems.		
3.6A	Identify and extend whole-number and geometric patterns to make predictions and solve problems. <i>Supporting</i>	Level 2: Geometry Level 3: Number Sense, Addition, Subtraction
3.6B	Identify patterns in multiplication facts using [concrete objects,] pictorial models, [or technology]. <i>Supporting</i>	Level 3: Multiplication, Equations
3.6C	Identify patterns in related multiplication and division sentences (fact families) such as $2 \times 3 = 6$, $3 \times 2 = 6$, $6 \div 2 = 3$, $6 \div 3 = 2$. <i>Supporting</i>	Level 3: Equations
Uses lists, tables, and charts to express patterns and relationships.		
3.7A	Generate a table of paired numbers based on a real-life situation such as insects and legs. <i>Supporting</i>	Levels 3-4: Measurement
3.7B	Identify and describe patterns in a table of related number pairs based on a meaningful problem and extend the table. <i>Readiness</i>	Levels 3-4: Graphing

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
Uses formal geometric vocabulary.		
3.8A	Identify, classify, and describe two- and three-dimensional geometric figures by their attributes. The student compares two-dimensional figures,	Level 3: Geometry

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	three-dimensional figures, or both by their attributes using formal geometry vocabulary. <i>Readiness</i>	
	Recognizes congruence and symmetry.	
3.9A	Identify congruent two-dimensional figures. <i>Supporting</i>	Level 3: Geometry
3.9C	Identify lines of symmetry in two-dimensional figures. <i>Supporting</i>	Level 3: Geometry
	Recognizes that a line can be used to represent numbers and fractions and their properties and relationships.	
3.10A	Locate and name points on a number line using whole numbers and fractions, including halves and fourths. <i>Readiness</i>	Level 2: Measurement

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	Directly compares the attributes of length, area, weight/mass, and capacity, and uses comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass.	
3.11A	Use linear measurement tools to estimate and measure lengths using standard units. <i>Supporting</i>	Level 3: Measurement
3.11B	Use standard units to find the perimeter of a shape. <i>Readiness</i>	Level 3: Measurement
3.11C	Use [concrete and] pictorial models of square units to determine the area of two-dimensional surfaces. <i>Supporting</i>	Level 4: Measurement
	Reads and writes time and measures temperature in degrees Fahrenheit to solve problems.	
3.12A	Use a thermometer to measure temperature. <i>Supporting</i>	Level 3: Measurement
3.12B	Tell and write time shown on analog and digital clocks. <i>Supporting</i>	Level 3: Measurement

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
	Solves problems by collecting, organizing, displaying and interpreting sets of data.	
3.13A	Collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data. <i>Readiness</i>	Levels 3-4: Graphing
3.13B	Interpret information from pictographs and bar graphs. <i>Supporting</i>	Levels 3-4: Graphing
3.13C	Use data to describe events as more likely than, less likely than, or equally as likely as. <i>Supporting</i>	Level 8: Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	Applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	
3.14A	Identify the mathematics in everyday situations.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
3.14B	Solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
3.14C	Select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
3.14D	Use tools such as real objects, manipulatives, and technology to solve problems.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
	Communicates about Grade 3 mathematics using informal language.	
3.15A	Explain and record observations using objects,	Level 3: Number Sense, Addition, Subtraction,

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	words, pictures, numbers, and technology.	Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
3.15B	Relate informal language to mathematical language and symbols.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Uses logical reasoning.		
3.16A	Make generalizations from patterns or sets of examples and nonexamples.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Graphing
3.16B	Justify why an answer is reasonable and explain the solution process.	Level 3: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 4

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
Uses place value to represent whole numbers and decimals.		
4.1A	Use place value to read, write, compare, and order whole numbers through 999,999,999. <i>Supporting</i>	Levels 4-6: Number Sense
4.1B	Use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using [concrete objects and] pictorial models. <i>Readiness</i>	Level 3: Measurement Level 4: Fractions
Describes and compares fractional parts of whole objects or sets of objects.		
4.2A	Use [concrete objects and] pictorial models to generate equivalent fractions. <i>Supporting</i>	Level 4: Fractions
4.2C	Compare and order fractions using [concrete objects and] pictorial models. <i>Supporting</i>	Level 4: Fractions
4.2D	Relate decimals to fractions that name tenths and hundredths using [concrete objects and] pictorial models. <i>Readiness</i>	Level 4: Fractions
Adds and subtracts to solve meaningful problems involving whole numbers and decimals.		
4.3A	Use addition and subtraction to solve problems involving whole numbers. <i>Supporting</i>	Level 4: Addition, Subtraction, Graphing
4.3B	Add and subtract decimals to the hundredths place using [concrete objects and] pictorial models. <i>Supporting</i>	Levels 4-5: Fractions
Multiplies and divides to solve meaningful problems involving whole numbers.		
4.4A	Model factors and products using arrays and area models. <i>Supporting</i>	Level 4: Measurement
4.4B	Represent multiplication and division situations in picture, word, and number form. <i>Supporting</i>	Levels 3-4: Multiplication, Division
4.4C	Recall and apply multiplication facts through 12 x 12. <i>Supporting</i>	Level 3: Multiplication
4.4D	Use multiplication to solve problems (no more than two digits times two digits without technology). <i>Readiness</i>	Levels 3-4: Multiplication

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
4.4E	Use division to solve problems (no more than one-digit divisors and three-digit dividends without technology). <i>Readiness</i>	Level 4: Division
	Estimates to determine reasonable results.	
4.5A	Round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations. <i>Supporting</i>	Level 4: Addition, Subtraction
4.5B	Use strategies including rounding and compatible numbers to estimate solutions to multiplication and division problems. <i>Supporting</i>	Level 4: Multiplication Level 5: Division

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
	Uses patterns in multiplication and division.	
4.6A	Use patterns and relationships to develop strategies to remember basic multiplication and division facts (such as the patterns in related multiplication and division number sentences (fact families) such as $9 \times 9 = 81$ and $81 \div 9 = 9$). <i>Supporting</i>	Level 4: Multiplication, Division, Equations
4.6B	Use patterns to multiply by 10 and 100. <i>Supporting</i>	Levels 3-4: Multiplication
	Uses organizational structures to analyze and describe patterns and relationships.	
4.7A	Describe the relationship between two sets of related data such as ordered pairs in a table. <i>Readiness</i>	Levels 4-5: Graphing

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	Identifies and describes attributes of geometric figures using formal geometric language.	
4.8A	Identify and describe right, acute, and obtuse angles. <i>Supporting</i>	Levels 4-5: Geometry
4.8B	Identify and describe parallel and intersecting	Levels 4-5: Geometry

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	(including perpendicular) lines using [concrete objects and] pictorial models. <i>Supporting</i>	
4.8C	Use essential attributes to define two- and three-dimensional geometric figures. <i>Readiness</i>	Levels 4-5: Geometry
	Connects transformations to congruence and symmetry.	
4.9B	Use translations, reflections, and rotations to verify that two shapes are congruent. <i>Readiness</i>	Level 4: Geometry
4.9C	Use reflections to verify that a shape has symmetry. <i>Supporting</i>	Level 3: Geometry
	Recognizes the connection between numbers and their properties and points on a line.	
4.10A	Locate and name points on a number line using whole numbers; fractions such as halves and fourths, and decimals such as tenths. <i>Readiness</i>	Level 4: Fractions

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	Applies measurement concept. Estimate and measure to solve problems involving length (including perimeter) and area. Uses measurement tools to measure capacity/volume and weight/mass.	
4.11A	Estimate and use measurement tools to determine length (including perimeter), area, capacity, and weight/mass using standard units SI (metric) and customary. <i>Readiness</i>	Level 4: Measurement
4.11B	Perform simple conversions between different units of length, between different units of capacity, and between different units of weight within the customary measurement system. <i>Supporting</i>	Level 4: Measurement
4.11C	Use [concrete] models of standard cubic units to measure volume. <i>Supporting</i>	Level 5: Measurement
4.11D	Estimate volume in cubic units. <i>Supporting</i>	Level 5: Measurement
	Applies measurement concepts. Measures time and temperature (in degrees Fahrenheit and Celsius).	
4.12A	Use a thermometer to measure temperature and	Level 4: Measurement

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	changes in temperature. <i>Supporting</i>	
4.12B	Use tools such as a clock with gears or a stopwatch to solve problems involving elapsed time. <i>Supporting</i>	Levels 3-4: Measurement

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
	Solves problems by collecting, organizing, displaying and interpreting sets of data.	
4.13A	Use [concrete objects or] pictures to make generalizations about determining all possible combinations of a given set of data or of objects in a problem situation. <i>Supporting</i>	Levels 7-8: Graphing
4.13B	Interpret bar graphs. <i>Readiness</i>	Level 4: Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	Applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	
4.14A	Identify the mathematics in everyday situations.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
4.14B	Solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
4.14C	Select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
4.14D	Use tools such as real objects, manipulatives, and technology to solve problems.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Communicates about Grade 4 mathematics using informal language.		
4.15A	Explain and record observations using objects, words, pictures, numbers, and technology.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
4.15B	Relate informal language to mathematical language and symbols.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Geometry
Uses logical reasoning.		
4.16A	Make generalizations from patterns or sets of examples and nonexamples.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
4.16B	Justify why an answer is reasonable and explain the solution process.	Level 4: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 5

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
Uses place value to represent whole numbers and decimals.		
5.1A	Use place value to read, write, compare, and order whole numbers through 999,999,999,999. <i>Supporting</i>	Levels 5-6: Number Sense
5.1B	Use place value to read, write, compare, and order decimals through the thousandths place. <i>Supporting</i>	Levels 5-6: Fractions
Uses fractions in problem-solving situations.		
5.2A	Generate a fraction equivalent to a given fraction such as $\frac{1}{2}$ and $\frac{3}{6}$ or $\frac{4}{12}$ and $\frac{1}{3}$. <i>Readiness</i>	Levels 4-5: Fractions
5.2B	Generate a mixed number equivalent to a given improper fraction or generate an improper fraction equivalent to a given mixed number. <i>Supporting</i>	Level 5: Fractions
5.2C	Compare two fractional quantities in problem-solving situations using a variety of method, including common denominators. <i>Readiness</i>	Level 5: Fractions
5.2D	Use models to relate decimals to fractions that name tenths, hundredths, and thousandths. <i>Supporting</i>	Level 4: Fractions
Adds, subtracts, multiples, and divides to solve meaningful problems.		
5.3A	Use addition and subtraction to solve problems involving whole numbers and decimals. <i>Readiness</i>	Level 5: Fractions
5.3B	Use multiplication to solve problems involving whole numbers (no more than three digits times two digits without technology). <i>Readiness</i>	Level 4: Multiplication
5.3C	Use division to solve problems involving whole numbers (no more than two-digit divisors and three-digit dividends without technology), including interpreting the remainder within a given context. <i>Readiness</i>	Level 5: Division

5.3D	Identify common factors of a set of whole numbers. <i>Supporting</i>	Level 5: Fractions Level 6: Multiplication
5.3E	Model situation using addition and/or subtraction involving fractions with like denominators using [concrete objects,] pictures, words, and numbers. <i>Supporting</i>	Level 5: Fractions
Estimates to determine reasonable results.		
5.4A	Use strategies, including rounding and compatible numbers to estimate solutions to addition, subtraction, multiplication, and division problems. <i>Supporting</i>	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
Makes generalizations based on observed patterns and relationships.		
5.5A	Describe the relationship between sets of data in graphic organizers such as lists, tables, charts, and diagrams. <i>Readiness</i>	Levels 5-6: Graphing
5.5B	Identify prime and composite numbers using [concrete objects,] pictorial models, and patterns in factor pairs. <i>Supporting</i>	Level 5: Multiplication
Describes relationships mathematically.		
5.6A	Select from and use diagrams and equations such as $y = 5 + 3$ to represent meaningful problem situations. <i>Supporting</i>	Level 4: Equations

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
Generates geometric definitions using critical attributes.		
5.7A	Identify essential attributes including parallel, perpendicular, and congruent parts of two- and three-dimensional geometric figures. <i>Supporting</i>	Levels 4-5: Geometry
Models transformations.		
5.8A	Sketch the results of translations, rotations, and	Level 7: Geometry

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	reflections on a Quadrant I coordinate grid. <i>Readiness</i>	
5.8B	Identify the transformation that generates one figure from the other when given two congruent figures on a Quadrant I coordinate grid. <i>Supporting</i>	Level 7: Geometry
	Recognizes the connection between ordered pairs of numbers and locations of points on a plane.	
5.9A	Locate and name points on a coordinate grid using ordered pairs of whole numbers. <i>Supporting</i>	Level 5: Graphing

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	Applies measurement concepts involving length (including perimeter), area, capacity/volume, and weight/mass to solve problems.	
5.10A	Perform simple conversions within the same measurement system (SI (metric) or customary). <i>Supporting</i>	Level 5: Measurement
5.10B	Connect models for perimeter, area, and volume with their respective formulas. <i>Supporting</i>	Level 5: Measurement
5.10C	Select and use appropriate units and formulas to measure length, perimeter, area, and volume. <i>Readiness</i>	Level 5: Measurement
	Applies measurement concepts. Measures time and temperature (in degrees Fahrenheit and Celsius).	
5.11A	Solve problem involving changes in temperature. <i>Supporting</i>	Level 4: Measurement
5.11B	Solve problems involving elapsed time. <i>Supporting</i>	Levels 4-5: Measurement

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
	Describes and predicts the results of a probability experiment.	
5.12A	Use fractions to describe the results of an experiment. <i>Supporting</i>	Levels 7-8: Graphing
5.12C	List all possible outcomes of a probability experiment such as tossing a coin. <i>Supporting</i>	Levels 7-8: Graphing
	Solves problems by collecting, organizing, displaying and interpreting sets of data.	
5.13A	Use tables of related number pairs to make line graphs. <i>Supporting</i>	Levels 5-6: Graphing
5.13B	Describe characteristics of data presented in tables and graphs including median, mode, and range. <i>Readiness</i>	Level 8: Graphing
5.13C	Graph a given set of data using an appropriate graphical representation such as a picture or line graph. <i>Supporting</i>	Levels 5-6: Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	Applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	
5.14A	Identify the mathematics in everyday situations.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
5.14B	Solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
5.14C	Select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
5.14D	Use tools such as real objects, manipulatives, and technology to solve problems.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Communicates about Grade 5 mathematics using informal language.		
5.15A	Explain and record observations using objects, words, pictures, numbers, and technology.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
5.15B	Relate informal language to mathematical language and symbols.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Uses logical reasoning.		
5.16A	Make generalizations from patterns or sets of examples and nonexamples.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Geometry
5.16B	Justify why an answer is reasonable and explain the solution process.	Level 5: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 6

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
	Represents and uses rational numbers in a variety of equivalent forms.	
6.1A	Compare and order non-negative rational numbers. <i>Supporting</i>	Levels 6-7: Fractions
6.1B	Generate equivalent forms of rational numbers including whole numbers, fractions, and decimals. <i>Readiness</i>	Levels 6-7: Fractions
6.1C	Use integers to represent real-life situations. <i>Supporting</i>	Levels 7-8: Number Sense, Addition Level 8: Subtraction
6.1E	Identify factors of a positive integer, common factors, and the greatest common factor of a set of positive integers. <i>Supporting</i>	Level 6: Multiplication
6.1F	Identify multiples of a positive integer and common multiples and the least common multiple of a set of positive integers. <i>Supporting</i>	Level 6: Multiplication
	Adds, subtracts, multiples, and divides to solve problems and justify solutions.	
6.2A	Model addition and subtraction situations involving fractions with [objects,] pictures, words, and numbers. <i>Supporting</i>	Level 6: Fractions
6.2B	Use addition and subtraction to solve problems involving fractions and decimals. <i>Readiness</i>	Level 6: Fractions
6.2C	Use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates. <i>Readiness</i>	Level 8: Number Sense
6.2D	Estimate and round to approximate reasonable results and to solve problems where exact answers are not required. <i>Supporting</i>	Levels 6-7: Number Sense, Addition, Subtraction, Multiplication Level 7: Division
6.2E	Use order of operations to simplify whole number expressions (without exponents) in problem solving situations. <i>Readiness</i>	Levels 6-7: Equations

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
Solves problems involving direct proportional relationships.		
6.3A	Use ratios to describe proportional situations. <i>Supporting</i>	Level 6: Measurement Level 8: Number Sense
6.3B	Represent ratios and percents with [concrete] models, fractions, and decimals. <i>Supporting</i>	Level 6: Graphing Level 8: Graphing
6.3C	Use ratios to make predictions in proportional situations. <i>Readiness</i>	Level 6: Measurement
Uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.		
6.4A	Use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area. <i>Readiness</i>	Level 6: Measurement
6.4B	Use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc. <i>Supporting</i>	Level 6: Measurement
Uses letters to represent an unknown in an equation.		
6.5A	Formulate equations from problem situations described by linear relationships. <i>Readiness</i>	Levels 7-8: Equations

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
Uses geometric vocabulary to describe angles, polygons, and circles.		
6.6A	Use angle measurements to classify angles as acute, obtuse, or right. <i>Supporting</i>	Levels 5-6: Geometry
6.6B	Identify relationships involving angles in triangles and quadrilaterals. <i>Supporting</i>	Level 6: Geometry
6.6C	Describe the relationship between radius, diameter, and circumference of a circle. <i>Readiness</i>	Level 5: Geometry
Uses coordinate geometry to identify location in two dimensions.		
6.7A	Locate and name points on a coordinate plane	Level 5: Graphing

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	using ordered pairs of non-negative rational numbers. <i>Supporting</i>	

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	Solves application problems involving estimation and measurement of length, area, time, temperature, volume, weight, and angles.	
6.8A	Estimate measurements (including circumference) and evaluate reasonableness of results. <i>Supporting</i>	Levels 5-6: Measurement
6.8B	Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight. <i>Readiness</i>	Levels 6-7: Measurement
6.8C	Measure angles. <i>Supporting</i>	Level 6: Geometry
6.8D	Convert measure within the same measurement system (customary and metric) based on relationships between units. <i>Supporting</i>	Level 6: Measurement

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
	Uses experimental and theoretical probability to make predictions.	
6.9A	Construct sample spaces using lists and tree diagrams. <i>Supporting</i>	Levels 7-8: Graphing
6.9B	Find the probabilities of a simple event and its complement and describe the relationship between the two. <i>Supporting</i>	Levels 7-8: Graphing
	Uses statistical representations to analyze data.	
6.10A	Select and use and appropriate representation for presenting and displaying different graphical representations of the same data including line plot, line graph, bar graph, and stem and leaf plot. <i>Supporting</i>	Levels 6-8: Graphing

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
6.10B	Identify mean (using [concrete object and] pictorial models), median, mode, and range of a set of data. <i>Supporting</i>	Level 6: Division Level 8: Graphing
6.10C	Sketch circle graphs to display data. <i>Supporting</i>	Level 6: Graphing
6.10D	Solve problems by collecting, organizing, displaying, and interpreting data. <i>Readiness</i>	Levels 6-7: Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	Applies Grade 6 mathematics to solve problems connected to everyday experiences, investigation in other disciplines, and activities in and outside of school.	
6.11A	Identify and apply mathematics to everyday experiences, to activities in and outside of school, with disciplines, and with other mathematical topics.	Levels 6: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
6.11B	Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	Levels 6: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
6.11C	Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Levels 6: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
6.11D	Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.	Levels 6: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
	Communicates about Grade 6 mathematics through informal and mathematical language, representations, and models.	
6.12A	Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical,	Levels 6: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations,

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	numerical, physical, or algebraic mathematical models.	Measurement, Geometry, Graphing
Uses logical reasoning to make conjectures and verify conclusions.		
6.13A	Make conjectures from patterns or sets of examples and nonexamples.	Level 6: Number Sense, Geometry
6.13B	Validate his/her conclusions using mathematical properties and relationships.	Levels 6: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 7

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
	Demonstrate an understanding of numbers, operations, and quantitative reasoning.	
7.1A	Compare and order integers and positive rational numbers. <i>Supporting</i>	Level 7: Number Sense, Fractions
7.1B	Convert between fractions, decimals, whole numbers, and percents mentally, on paper, [or with a calculator]. <i>Readiness</i>	Levels 7-8: Fractions
7.1C	Represent squares and square roots using geometric models. <i>Supporting</i>	Level 7: Number Sense, Measurement
	Adds, subtracts, multiplies, or divides to solve problems and justify solutions.	
7.2A	Represent multiplication and division situations involving fractions and decimals with models, including [concrete objects,] pictures, words, and numbers. <i>Supporting</i>	Levels 7-8: Fractions
7.2B	Use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals. <i>Readiness</i>	Levels 6-8: Fractions
7.2C	Use models, such as [concrete objects,] pictorial models, and number lines, to add, subtract, multiply, and divide integers and connect the actions to algorithms. <i>Supporting</i>	Levels 7-8: Number Sense, Addition Level 8: Subtraction, Multiplication, Division
7.2D	Use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio. <i>Supporting</i>	Levels 7-8: Division
7.2E	Simplify numerical expressions involving order of operations and exponents. <i>Supporting</i>	Level 8: Equations
7.2F	Select and use appropriate operations to solve problems and justify the selections. <i>Readiness</i>	Levels 7-8: Addition, Subtraction, Multiplication, Division, Fractions, Equations
7.2G	Determine the reasonableness of a solution to a problem. <i>Supporting</i>	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
	Solves problems involving direct proportional relationships.	
7.3A	Estimate and find solutions to application problems involving percent. <i>Readiness</i>	Levels 6-7: Fractions, Graphing
7.3B	Estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units. <i>Readiness</i>	Level 8: Number Sense, Division, Geometry
	Represents a relationship in numerical, geometric, verbal, and symbolic form.	
7.4A	Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, and scaling. <i>Supporting</i>	Levels 7-8: Measurement
7.4B	Graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, and scaling. <i>Supporting</i>	Levels 7-8: Measurement
	Uses equations to solve problems.	
7.5A	Use [concrete and] pictorial models to solve equations and use symbols to record the actions. <i>Supporting</i>	Levels 7-8: Equations
7.5B	Formulate problem situations when given a simple equation and formulate an equation when given a problem situation. <i>Readiness</i>	Level 7: Equations

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	Compares and classifies two- and three-dimensional figures using geometric vocabulary and properties.	
7.6A	Use angle measurements to classify pairs of angles as complementary or supplementary. <i>Supporting</i>	Level 8: Geometry
7.6B	Use properties to classify triangles and quadrilaterals. <i>Supporting</i>	Levels 6-8: Geometry

7.6C	Use properties to classify three-dimensional figures, including pyramids, cones, prisms, and cylinders. <i>Supporting</i>	Level 6: Geometry
7.6D	Use critical attributes to define similarity. <i>Readiness</i>	Level 8: Geometry
Uses coordinate geometry to describe location on a plane.		
7.7A	Locate and name points on a coordinate plane using ordered pairs of integers. <i>Supporting</i>	Level 8: Graphing
7.7B	Graph reflections across the horizontal or vertical axis and graph translations on a coordinate plane. <i>Readiness</i>	Levels 7-8: Graphing

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
Demonstrate an understanding of the concepts and uses of measurement.		
7.9A	Estimate measurements and solve application problems involving length (including perimeter and circumference) and area of polygons and other shapes. <i>Readiness</i>	Levels 7-8: Measurement
7.9B	Connect models for volume of prisms (triangular and rectangular) and cylinders to formulas of prisms (triangular and rectangular) and cylinders. <i>Supporting</i>	Levels 7-8: Measurement
7.9C	Estimate measurements and solve application problems involving volume of prisms (rectangular and triangular) and cylinders. <i>Readiness</i>	Levels 7-8: Measurement

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
Recognizes that a physical or mathematical model (including geometric) can be used to describe the experimental and theoretical probability of real-life events.		
7.10A	Construct sample spaces for simple or composite experiments. <i>Supporting</i>	Levels 7-8: Graphing

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
7.10B	Find the probability of independent events. <i>Supporting</i>	Levels 7-8: Graphing
Understands that the way a set of data is displayed influences its interpretation.		
7.11A	Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plot, line graph, bar graph, stem and leaf plot, circle graph, and Venn diagrams, and justify the selection. <i>Supporting</i>	Levels 7-8: Graphing
7.11B	Make inferences and convincing arguments based on an analysis of given or collected data. <i>Readiness</i>	Levels 7-8: Graphing
Uses measures of central tendency and variability to describe a set of data.		
7.12A	Describe a set of data using mean, median, mode, and range. <i>Supporting</i>	Level 8

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
Applies Grade 7 mathematics to solve problems connected to everyday experiences, investigation in other disciplines, and activities in and outside of school.		
7.13A	Identify and apply mathematics to everyday experiences, to activities in and outside of school, with disciplines, and with other mathematical topics.	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
7.13B	Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
7.13C	Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
7.13D	Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Communicates about Grade 7 mathematics through informal and mathematical language, representations, and models.		
7.14A	Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Uses logical reasoning to make conjectures and verify conclusions.		
7.15A	Make conjectures from patterns or sets of examples and nonexamples.	Level 7: Geometry
7.15B	Validate his/her conclusions using mathematical properties and relationships.	Level 7: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing

Academy of MATH: Correlated to STAAR Mathematics Assessment in Grade 8

STAAR REFERENCE	NUMBERS, OPERATIONS, AND QUANTITATIVE REASONING	ACADEMY OF MATH
	Understands that different forms of numbers are appropriate for different situations.	
8.1A	Compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals. <i>Readiness</i>	Levels 7-8: Number Sense, Fractions
8.1B	Select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships. <i>Supporting</i>	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
	Selects and uses appropriate operations to solve problems and justify solutions.	
8.2A	Select appropriate operations to solve problems involving rational numbers and justify the selections. <i>Supporting</i>	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
8.2B	Use appropriate operations to solve problems involving rational numbers in problem situations. <i>Readiness</i>	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
8.2C	Evaluate a solution for reasonableness. <i>Supporting</i>	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
8.2D	Use multiplication by a given constant factor (including unit rate) to represent and solve problems involving proportional relationships including conversions between measurement systems. <i>Supporting</i>	Level 8: Multiplication

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
	Identifies proportional or non-proportional linear relationships in problem situations and solves problems.	
8.3B	Estimate and find solutions to application problems involving percents and other proportional	Level 8: Number Sense, Division, Fractions, Geometry

STAAR REFERENCE	PATTERNS, RELATIONSHIPS, AND ALGEBRAIC REASONING	ACADEMY OF MATH
	relationships such as similarity and rates. <i>Readiness</i>	
	Makes connections among various representations of a numerical relationship.	
8.4A	Generate a different representation of data given another representation of data (such as a table, graph, equation, or verbal description). <i>Readiness</i>	Level 8: Equations
	Uses graphs, tables, and algebraic representations to make predictions and solve problems.	
8.5A	Predict, find, and justify solutions to application problems using appropriate tables, graphs, and algebraic equations. <i>Readiness</i>	Level 8: Equations, Graphing

STAAR REFERENCE	GEOMETRY AND SPATIAL REASONING	ACADEMY OF MATH
	Uses transformational geometry to develop spatial sense.	
8.6B	Graph dilations, reflections, and translations on a coordinate plane. <i>Supporting</i>	Level 8: Geometry
	Uses geometry to model and describe the physical world.	
8.7D	Locate and name points on a coordinate plane using ordered pairs of rational numbers. <i>Supporting</i>	Level 8: Graphing

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	Uses procedures to determine measures of three-dimensional figures.	
8.8A	Find lateral and total surface area of prisms, pyramids, and cylinders using [concrete] models and nets (two-dimensional models). <i>Supporting</i>	Level 8: Measurement
8.8B	Connect models of prisms, cylinders, pyramids, spheres, and cones to formulas for volume of these objects. <i>Supporting</i>	Level 8: Measurement
8.8C	Estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume. <i>Readiness</i>	Level 8: Measurement

STAAR REFERENCE	MEASUREMENT	ACADEMY OF MATH
	Uses indirect measurement to solve problems.	
8.9B	Use proportional relationships in similar two-dimensional figures or similar three-dimensional figures to find missing measurements. <i>Readiness</i>	Level 8: Geometry

STAAR REFERENCE	PROBABILITY AND STATISTICS	ACADEMY OF MATH
	Applies concepts of theoretical and experimental probability to make predictions.	
8.11A	Find the probabilities of dependent and independent events. <i>Readiness</i>	Levels 7-8: Graphing
	Uses statistical procedures to describe data.	
8.12A	Use variability (range, including interquartile range (IQR)) and select the appropriate measure of central tendency to describe a set of data and justify the choice for a particular situation. <i>Supporting</i>	Level 8: Graphing
8.12C	Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plots, line graphs, stem and leaf plots, circle graphs, bar graphs, box and whisker plots, histograms, and Venn diagrams, with and without the use of technology. <i>Supporting</i>	Levels 7-8: Graphing

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	Applies Grade 8 mathematics to solve problems connected to everyday experiences, investigation in other disciplines, and activities in and outside of school.	
8.14A	Identify and apply mathematics to everyday experiences, to activities in and outside of school, with disciplines, and with other mathematical topics.	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
8.14B	Use a problem-solving model that incorporates	Level 8: Number Sense, Addition, Subtraction,

STAAR REFERENCE	UNDERLYING PROCESSES AND MATHEMATICAL TOOLS	ACADEMY OF MATH
	understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
8.14C	Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
8.14D	Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Communicates about Grade 8 mathematics through informal and mathematical language, representations, and models.		
8.15A	Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing
Uses logical reasoning to make conjectures and verify conclusions.		
8.16A	Make conjectures from patterns or sets of examples and nonexamples.	Level 8: Number Sense, Geometry
8.16B	Validate his/her conclusions using mathematical properties and relationships.	Level 8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Geometry, Graphing