



Literacy and Intervention

NEW JERSEY STATE STANDARDS

Academy of MATH[®]

Proven to Raise Achievement for Struggling Students

Grades 2–12



Academy of MATH and the New Jersey Core Curriculum Content Standards for Mathematics

Academy of MATH: LEVEL ONE

Within each skill of level 1, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

4.5A – 1, 2, 3, 4, 5, 6

4.5B – 1, 2, 4

4.5C – 1, 2, 3, 4, 6

4.5D – 1, 2, 3, 4, 5, 6

4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level One in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will introduce the student to the concept of numeration. Key topics include: Numeration terminology and symbols, place values (ones and tens), ordinal numbers, classifying objects, comparing numbers, standard form, expanded form, and identifying patterns.	Grade 2: 4.1.2A – 1, 2, 3, 5 4.1.2C – 1 4.3.2A – 1
Addition – This section will introduce the student to simple addition problems. Key topics include: Addition terminology and symbols, commutative property, comparing, 1-digit addition, how to add groups together, solving addition word problems, and patterns.	Grade 2: 4.1.2B – 1, 3, 4, 6, 7 4.1.2C – 1, 2 4.3.2A – 1 4.3.2C – 2 4.3.2D – 1
Subtraction – This section will introduce the student to simple subtraction problems. Key topics include: Subtraction terminology, comparing, 1-digit subtraction, solving subtraction word problems, and patterns.	Grade 2: 4.1.2B – 1, 3, 4, 6, 7 4.1.2C – 1, 2 4.3.2C – 2
Multiplication – This section will introduce the student to simple multiplication problems. Key topics include: Multiplication terminology and symbols, relating multiplication to repetitive addition, 1-digit multiplication, using the multiplication table, solving multiplication word problems, and patterns.	Grade 2: 4.1.2B – 2, 6, 7
Division – This section will introduce the student to simple division problems. Key topics include: Division terminology and symbols, how to divide into sets, 1-digit division, and identifying secrets to solving division problems.	Grade 2: 4.1.2B – 2, 6, 7
Fractions – This section will introduce the student to the concept of fractions. Key topics include: Fraction related key words, how to name a fraction (halves, thirds, fourths), and solving fraction word problems.	Grade 2: 4.1.2A – 1
Equations – This section will introduce the student to simple equation problems. Key topics include: Equation terminology and symbols, finding the missing number, using the number line, and secrets to solving equation word problems.	Grade 2: 4.1.2B – 1, 4, 6, 7 4.3.2C – 2

Measurement – This section will introduce the student to the concept of measurement. Key topics include: Measurement terminology, temperature, capacity, weight, area, time, money, how to estimate (taller, longer, heavier, wider, and hotter), and solving measurement word problems.	Grade 2: 4.1.2A – 4, 6, 7 4.2.2D – 1, 2, 3, 4 4.2.2E – 2
Geometry – This section will introduce the student to basic geometry figures. Key topics include: Geometry terminology, identifying solids, recognizing parts of a solid, understanding position, geometric patterns, and slide transformations.	Grade 2: 4.2.2A – 1, 2 4.3.2A – 1
Graphs – This section will introduce the student to two types of graphs: bar graphs and pictographs. Key topics include: Graphing terminology and how to interpret data from a graph.	Grade 2: 4.1.2B – 1, 4, 6, 7 4.1.2C – 1, 2

Academy of MATH: LEVEL TWO

Within each skill of level 2, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

- 4.5A – 1, 2, 3, 4, 5, 6
- 4.5B – 1, 2, 4
- 4.5C – 1, 2, 3, 4, 6
- 4.5D – 1, 2, 3, 4, 5, 6
- 4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Two in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, place value (ones, tens, and hundreds), regrouping ones as tens, ordering least to greatest, odd and even numbers, ordinal numbers, sorting and classifying numbers, and patterns.	Grade 2: 4.1.2A – 1, 2, 3, 5 4.3.2A – 1 Grade 3: 4.1.3A – 3
Addition – This section will guide the student through simple addition problems. Key topics include: Addition terminology and symbols, 2-digit addition, regrouping ones as tens, and solving addition word problems.	Grade 2: 4.1.2B – 1, 3, 4, 5 4.3.2C – 2 4.3.2D – 1
Subtraction – This section will guide the student through simple subtraction problems. Key topics include: Subtraction terminology and symbols, 2-digit subtraction, and solving subtraction word problems.	Grade 2: 4.1.2B – 1, 3, 4, 5 4.3.2C – 2
Multiplication – This section will guide the student through simple multiplication problems. Key topics include: Multiplication terminology and symbols, relating multiplication to repetitive addition, 1-digit multiplication, using the multiplication table, and solving simple multiplication word problems.	Grade 3: 4.1.3B – 1, 2, 3, 4, 6, 7 4.3.3D – 1
Division – This section will guide the student through simple division problems. Key topics include: Division terminology and symbols, how to perform simple division, division as repeated subtraction, checking division with multiplication, and solving division word problems.	Grade 3: 4.1.3B – 1, 2, 3, 6, 7

Fractions – This section will guide the student through simple fraction problems. Key topics include: Fraction terminology, naming fractions (halves, thirds, fourth, fifths, tenths), comparing and ordering fractions, and solving fraction word problems.	Grade 2: 4.1.2A – 1
Equations – This section will guide the student through simple equation problems. Key topics include: Equation terminology, finding or solving for an unknown number, and solving equation word problems.	Grade 2: 4.1.2B – 1, 4, 6, 7, 8 4.3.2C – 2
Measurement – This section will guide the student through simple measurement problems. Key topics include: Measurement terminology, length, temperature, capacity, weight, time, money, estimating, and solving simple measurement problems including perimeter and area.	Grade 2: 4.1.2A – 4 4.2.2D – 1, 2, 3, 4 4.2.2E – 1, 2 Grade 3: 4.1.3B – 5
Geometry – This section will guide the student through simple geometry problems. Key topics include: Geometry terminology, special polygons, geometric patterns, position (inside and outside), symmetry, similarity, and congruency.	Grade 2: 4.2.2A – 1, 2, 3, 4 4.2.2B – 1 4.3.2A – 1
Graphs – This section will guide the student through simple graph problems. Key topics include: Graphing terms, bar graphs, pictographs, and how to read data from a graph.	Grade 2: 4.1.2B – 1, 4 4.3.2C – 2 4.4.2A – 2

Academy of MATH: LEVEL THREE

Within each skill of level 3, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

- 4.5A – 1, 2, 3, 4, 5, 6
- 4.5B – 1, 2, 4
- 4.5C – 1, 2, 3, 4, 6
- 4.5D – 1, 2, 3, 4, 5, 6
- 4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Three in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, place value (ones, tens, hundreds and thousands), regrouping (ones as tens and tens as hundreds), comparing and ordering numbers, ordinal numbers, patterns, and solving numeration word problems.	Grade 2: 4.1.2A – 1, 2, 3, 5 Grade 3: 4.1.3A – 1, 2, 5, 6 4.3.3A – 1 4.3.3D – 2
Addition – This section will guide the student through different addition problems. Key topics include: Addition terminology and symbols, adding and regrouping 3-digit numbers, patterns, and solving addition word problems.	Grade 2: 4.1.2B – 1, 4 Grade 3: 4.1.3B – 1, 3, 4, 6, 7 4.3.3A – 1 4.3.3C – 2 Grade 4:

	4.1.4B – 4
Subtraction – This section will guide the student through different subtraction problems. Key topics include: Subtraction terminology and symbols, 3-digit subtraction, patterns, and solving subtraction word problems.	Grade 2: 4.1.2B – 1, 4 Grade 3: 4.1.3B – 1, 3, 4, 6, 7 4.3.3A – 1 4.3.3C – 2 Grade 4: 4.1.4B – 4
Multiplication – This section will guide the student through different multiplication problems. Key topics include: Multiplication terminology and symbols, multiplication as repeated addition, multiplication facts, solving multiplication word problems, and using the multiplication table.	Grade 3: 4.1.3B – 1, 2, 3, 4, 6, 7 4.3.3D – 1
Division – This section will guide the student through different division problems. Key topics include: Division terminology and symbols, division operation, division as repeated subtraction, division – multiplication relations, and solving division word problems.	Grade 3: 4.1.3B – 1, 2, 3, 6, 7
Fractions – This section will guide the student through different fraction problems. Key topics include: Fraction terminology and symbols, fractions, comparing and ordering fractions, mixed numbers, decimal tenths, comparing and ordering decimals, adding and subtracting decimals, and solving fraction word problems.	Grade 3: 4.1.3A – 1, 4 4.1.3B – 6, 7
Equations – This section will guide the student through different equation problems. Key topics include: Equation terminology and symbols, finding or solving for an unknown number, and solving equation word problems.	Grade 3: 4.1.3B – 1, 3, 6, 7 4.3.3C – 2
Measurement – This section will guide the student through different measurement problems. Key topics include: Measurement terminology and symbols, length, perimeter, temperature, capacity, weight, time, money, and solving measurement word problems.	Grade 3: 4.1.3B – 1, 3, 5, 6, 7 4.2.3D – 1, 2, 3 4.2.3E – 2
Geometry – This section will guide the student through different geometry problems. Key topics include: Geometry terminology, angles, congruency, lines, symmetry, composite figures, 3-dimensional solids, polygons and circles.	Grade 2: 4.2.2B - 2 Grade 3: 4.2.3A – 1, 2, 3, 4
Graphs – This section will guide the student through different graph problems. Key topics include: Graphing terms, tallied data, bar graphs, coordinate graphs, and creating and reading graphs.	Grade 2: 4.2.2C - 1 Grade 3: 4.1.3B – 1, 3, 6, 7 4.2.3B – 1 4.2.3C – 1 4.3.3C – 1, 2 4.4.3A – 2

Academy of MATH: LEVEL FOUR

Within each skill of level 4, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

4.5A – 1, 2, 3, 4, 5, 6

4.5B – 1, 2, 4

4.5C – 1, 2, 3, 4, 6

4.5D – 1, 2, 3, 4, 5, 6

4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Four in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, place value to ten thousands, expanded and standard forms of numerals, rounding, commutative and associative properties of addition and multiplication, and solving numeration word problems.	Grade 3: 4.1.3A – 1 Grade 4: 4.1.4A – 1, 2, 3, 4, 6 4.1.4C – 2, 3, 4 4.3.4A – 1 4.3.4D – 1, 2
Addition – This section will guide the student through different addition problems. Key topics include: Addition terminology and symbols, adding and regrouping 5-digit numbers, estimating and solving addition word problems.	Grade 3: 4.1.3C – 2, 3, 4 Grade 4: 4.1.4B – 1, 3, 7, 8 4.1.4C – 2, 3, 4 4.3.4A – 1
Subtraction – This section will guide the student through different subtraction problems. Key topics include: Subtraction terminology and symbols, subtraction and regrouping, 5-digit subtraction, estimating and solving subtraction word problems.	Grade 3: 4.1.3C – 2, 3, 4 Grade 4: 4.1.4B – 1, 3, 7, 8 4.1.4C – 2, 3, 4 4.3.4A – 1
Multiplication – This section will guide the student through different multiplication problems. Key topics include: Multiplication terminology and symbols, multiplication by 2-digit numbers, multiplying by multiples of 100, solving multiplication word problems, and using the multiplication table.	Grade 4: 4.1.4B – 1, 2, 3, 4, 7, 8 4.3.4D – 1
Division – This section will guide the student through different division problems. Key topics include: Division terminology and symbols, dividing by multiples of tens, and solving division word problems.	Grade 4: 4.1.4B – 1, 2, 3, 4, 7, 8
Fractions – This section will guide the student through different fraction problems. Key topics include: Fraction terminology and symbols, equivalent fractions, decimal tenths, adding and subtracting decimals, and solving fraction word problems.	Grade 3: 4.1.3A – 1, 4 Grade 4: 4.1.4A – 1, 5 4.1.4B – 1, 5, 7, 8, 9
Equations – This section will guide the student through different equation problems. Key topics include: Equation terminology and symbols, identifying expressions and equations, order of operations, commutative and associative properties of addition and multiplication, solving for an	Grade 4: 4.1.4B – 1, 3, 7, 8, 10 4.3.4C – 2

unknown variable, related equations, and solving equation word problems.	
Measurement – This section will guide the student through different measurement problems. Key topics include: Measurement terminology and symbols, measuring units, equivalent units and relationships, length and distance, perimeter, area, time, weight, capacity, temperature, money, comparing and estimating measurement, and solving measurement word problems.	<p>Grade 4: 4.1.4A – 7 4.1.4B – 1, 3, 6, 7, 8 4.2.4C – 2 4.2.4D – 1, 2, 3, 4, 5 4.2.4E – 1, 2</p> <p>Grade 5: 4.1.5A – 2</p> <p>Grade 6: 4.1.6A – 2</p>
Geometry – This section will guide the student through different geometry problems. Key topics include: Geometry terminology and symbols, parallel and perpendicular lines, transformations (slides, flips and turns), nets, types of quadrilaterals, similarity and types of angles.	<p>Grade 3: 4.2.3B – 1</p> <p>Grade 4: 4.2.4A – 1, 2, 3, 4 4.2.4B – 2</p> <p>Grade 5: 4.2.5A – 3</p> <p>Grade 6: 4.2.6A – 8</p>
Graphs – This section will guide the student through different graphing problems. Key topics include: Graphing terms, tabulated data, creating and reading graphs, and solving word problems using graphs.	<p>Grade 4: 4.1.4B – 1, 3, 7, 8 4.3.4C – 2 4.4.4A – 2</p>

Academy of MATH: LEVEL FIVE

Within each skill of level 5, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

- 4.5A – 1, 2, 3, 4, 5, 6
- 4.5B – 1, 2, 4
- 4.5C – 1, 2, 3, 4, 6
- 4.5D – 1, 2, 3, 4, 5, 6
- 4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Five in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, place value to hundred thousands, comparing and ordering numbers, rounding, commutative and associative properties of addition and multiplication, patterns, and solving word problems.	<p>Grade 3: 4.1.3A – 1</p> <p>Grade 4: 4.1.4A – 1</p> <p>Grade 5: 4.1.5A – 3, 6 4.1.5B – 4, 5, 6 4.1.5C – 1, 2, 3 4.3.5A – 1</p>

<p>Addition – This section will guide the student through different addition problems. Key topics include: Addition terminology and symbols, rounding, adding and regrouping 6-digit numbers, estimating sums, and solving word problems.</p>	<p>Grade 5: 4.1.5B – 1, 4, 5, 6 4.1.5C – 1, 2, 3 4.3.5A – 1</p>
<p>Subtraction – This section will guide the student through different subtraction problems. Key topics include: Subtraction terminology and symbols, estimating differences, 6-digit subtraction, and solving word problems.</p>	<p>Grade 5: 4.1.5B – 1, 4, 5, 6 4.1.5C – 1, 2, 3 4.3.5A – 1</p>
<p>Multiplication – This section will guide the student through different multiplication problems. Key topics include: Multiplication terminology and symbols, multiplication properties, multiplication by 3-digit numbers, multiplying by multiples of 1,000, distributive properties of multiplication, prime and composite numbers, multiples and factors, estimating products, solving word problems, and using the multiplication table.</p>	<p>Grade 4: 4.1.4C – 2, 3, 4</p> <p>Grade 5: 4.1.5A – 5 4.1.5B – 1, 4, 5, 6 4.1.5C – 1, 2, 3 4.4.5C – 2</p>
<p>Division – This section will guide the student through different division problems. Key topics include: Division terminology and symbols, finding averages, estimating quotients, and solving word problems.</p>	<p>Grade 4: 4.1.4C – 2, 3, 4</p> <p>Grade 5: 4.1.5B – 1, 3, 4, 5, 6 4.1.5C – 1, 2, 3</p> <p>Grade 6: 4.1.6B – 3</p>
<p>Fractions – This section will guide the student through different fraction problems. Key topics include: Fraction terminology, adding and subtracting mixed numbers, factors, multiples, adding and subtracting decimal hundredths, multiplying fractions, and solving fraction word problems.</p>	<p>Grade 3: 4.1.3A – 4</p> <p>Grade 4: 4.1.4A – 1 4.1.4C – 2, 3, 4</p> <p>Grade 5: 4.1.5A – 1, 4, 5 4.1.5B – 1, 2, 4, 5, 6 4.1.5C – 1, 2, 3</p>
<p>Equations – This section will guide the student through different equation problems. Key topics include: Equation terminology and symbols, order of operations, expressions, variables, proportions, solving for an unknown, and solving equation word problems.</p>	<p>Grade 5: 4.1.5B – 1, 2, 4, 5, 6 4.3.5C – 1 4.3.5D – 1</p>
<p>Measurement – This section will guide the student through different measurement problems. Key topics include: Measurement terminology and symbols, perimeter, area, capacity, volume, weight, the 24-hour clock, scale drawings, estimates, and solving measurement word problems.</p>	<p>Grade 5: 4.1.5B – 1, 4, 5, 6 4.2.5D – 1, 2 4.2.5E – 2, 3</p>
<p>Geometry – This section will guide the student through different geometry problems. Key topics include: Geometry terminology, lines, angles, solids – pyramids and prisms, types of polygons, types of triangles, types of quadrilaterals, circles, and transformations.</p>	<p>Grade 5: 4.2.5A – 1, 2 4.2.5B – 1</p> <p>Grade 6: 4.2.6B – 1</p>
<p>Graphs – This section will guide the student through different graphing problems. Key topics include: Graphing terms, coordinate graphs, reading and constructing line graphs, and reading and constructing circle graphs.</p>	<p>Grade 4: 4.2.4C – 1</p> <p>Grade 5:</p>

4.1.5B – 1, 4, 5, 6
 4.3.5C – 1
 4.4.5A – 2

Academy of MATH: LEVEL SIX

Within each skill of level 6, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

4.5A – 1, 2, 3, 4, 5, 6
 4.5B – 1, 2, 4
 4.5C – 1, 2, 3, 4, 6
 4.5D – 1, 2, 3, 4, 5, 6
 4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Six in the Academy of MATH cover these New Jersey Math Standards
<p>Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, place value, rounding, odd and even numbers, and solving word problems.</p>	<p>Grade 4: 4.1.4A – 1</p> <p>Grade 5: 4.1.5A – 3, 6 4.1.5B – 4, 5, 6 4.1.5C – 1, 2, 3 4.3.5A – 1</p> <p>Grade 6: 4.1.6A – 3, 8 4.3.6A – 1</p>
<p>Addition – This section will guide the student through different addition problems. Key topics include: Addition terminology and symbols, adding and regrouping 7-digit numbers, estimating sums, and solving addition word problems.</p>	<p>Grade 6: 4.1.6B – 1, 4, 6 4.1.6C – 1, 2, 3</p>
<p>Subtraction – This section will guide the student through different subtraction problems. Key topics include: Subtraction terminology and symbols, 7-digit subtraction, estimating differences, and solving word problems.</p>	<p>Grade 6: 4.1.6B – 1, 4, 6 4.1.6C – 1, 2, 3</p>
<p>Multiplication – This section will guide the student through different multiplication problems. Key topics include: Multiplication terminology and symbols, multiplication by 3-digit numbers, distributive properties of multiplication, multiples and LCM, factors and GCF, prime numbers, solving word problems, and using the multiplication table.</p>	<p>Grade 6: 4.1.6A – 7 4.1.6B – 1, 4, 6 4.1.6C – 1, 2, 3 4.3.6D – 2 4.4.6C – 2</p>
<p>Division – This section will guide the student through different division problems. Key topics include: Division terminology and symbols, dividing by multiples of 100, short division, finding averages, and solving word problems.</p>	<p>Grade 6: 4.1.6B – 1, 4, 6</p>
<p>Fractions – This section will guide the student through different fraction problems. Key topics include: Fraction terminology, operations with fractions, decimal thousandths, and percents, and solving word problems.</p>	<p>Grade 6: 4.1.6A – 1, 5, 6 4.1.6B – 1, 2, 4, 6</p>
<p>Equations – This section will guide the student through</p>	<p>Grade 6:</p>

different equation problems. Key topics include: Equation terminology and symbols, expressions, variables, solving equations, substitution, and solving equation word problems.	4.1.6B – 1, 4, 6, 7, 8 4.3.6C – 1 4.3.6D – 1, 3
Measurement – This section will guide the student through different measurement problems. Key topics include: Measurement terminology and symbols, perimeter, circumference, area, volume, capacity, weight, time, comparing and estimating measurements, and solving measurement word problems.	Grade 6: 4.1.6A – 4 4.1.6B – 1, 4, 6 4.2.6D – 1, 3 4.2.6E – 2, 3, 4
Geometry – This section will guide the student through different geometry problems. Key topics include: Geometry terminology, lines, angles, interior angles of polygons, triangles, quadrilaterals, and tiling and tessellation.	Grade 4: 4.2.4B – 1 Grade 5: 4.2.5A – 1 Grade 6: 4.1.6B – 1, 4, 6 4.2.6A – 1, 2, 5
Graphs – This section will guide the student through different graphing problems. Key topics include: Graphing terms, coordinate graphs, reading line graphs, pictographs and tally sheets, and constructing line and circle graphs.	Grade 6: 4.1.6B – 1, 4, 6 4.3.6C – 1 4.3.6D – 1 4.4.6A – 2

Academy of MATH: LEVEL SEVEN

Within each skill of level 7, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

- 4.5A – 1, 2, 3, 4, 5, 6
- 4.5B – 1, 2, 4
- 4.5C – 1, 2, 3, 4, 6
- 4.5D – 1, 2, 3, 4, 5, 6
- 4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Seven in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, integers, adding integers, place value and expanded form, rounding and estimating, comparing expressions, exponential numbers, and square roots.	Grade 6: 4.1.6A – 1, 5 Grade 7: 4.1.7A – 1, 2, 4 4.1.7B – 1, 2 4.3.7D – 1
Addition – This section will guide the student through different addition problems. Key topics include: Addition terminology and symbols, estimating sums, adding integers, adding with millions, ten millions and hundred millions, grouping and ordering, and solving addition word problems.	Grade 6: 4.1.6A – 1 Grade 7: 4.1.7A – 4 4.1.7B – 1 4.3.7D – 4
Subtraction – This section will guide the student through different subtraction problems. Key topics include:	Grade 7: 4.1.7A – 4

Subtraction terminology and symbols, estimating differences, grouping and ordering, subtracting with millions, ten millions and hundred millions, and solving word problems.	4.1.7B – 1 4.3.7D - 4
Multiplication – This section will guide the student through different multiplication problems. Key topics include: Multiplication terminology and symbols, factors, multiples, relationship between multiples and factors, multiplication by powers of ten, solving word problems, and using the multiplication table.	Grade 7: 4.1.7B – 1 4.3.7D - 4
Division – This section will guide the student through different division problems. Key topics include: Division terminology and symbols, estimating, dividing by powers of 10, calculating averages, factors, finding the greatest common factor, and solving word problems.	Grade 7: 4.1.7B – 1 4.3.7D - 4
Fractions – This section will guide the student through different fraction problems. Key topics include: Fraction terminology, equivalent fractions, comparing and ordering fractions, improper and mixed fractions, multiplying fractions, reciprocals, dividing fractions, fractions and decimals, terminating and repeating decimals, percents, operations with decimals, rounding decimals, multiplying and dividing by powers of ten, and solving word problems.	Grade 7: 4.1.7A – 1, 3, 5, 6 4.1.7B – 1 4.1.7C – 1 4.3.7D – 4
Equations – This section will guide the student through different equation problems. Key topics include: Equation terminology and symbols, order of operation, simplifying expressions, using expressions with variables, using equations with variables, translating expressions, solving equations, and solving equation word problems.	Grade 7: 4.1.7B – 1, 3 4.3.7C – 2 4.3.7D – 2, 3, 4
Measurement – This section will guide the student through different measurement problems. Key topics include: Measurement terminology and symbols, calculating perimeter and area of irregular figures, volume, capacity, weight, area conversions, and imperial and metric conversions.	Grade 7: 4.1.7B – 1 4.2.7D – 1 4.2.7E – 1 4.3.7D – 4
Geometry – This section will guide the student through different geometry problems. Key topics include: Geometry terminology, types of angles, intersecting lines, perpendicular and parallel lines, polygons, triangles, quadrilaterals, congruent figures, motion geometry, rotational symmetry, and tiling patterns.	Grade 5: 4.2.5A – 4 Grade 6: 4.2.6A – 4 Grade 7: 4.2.7A – 1, 3
Graphs – This section will guide the student through different graphing problems. Key topics include: Graphing terms, tally charts, line graphs, pictographs, bar graphs, broken-line graphs and histograms.	Grade 7: 4.1.7A – 1, 3 4.1.7B – 1 4.3.7C – 1 4.3.7D - 4

Academy of MATH: LEVEL EIGHT

Within each skill of level 8, students will use mathematical processes involving problem solving, communication, connections, reasoning, and representation.

4.5A – 1, 2, 3, 4, 5, 6

4.5B – 1, 2, 4

4.5C – 1, 2, 3, 4, 6

4.5D – 1, 2, 3, 4, 5, 6

4.5E – 1, 2

Academy of MATH Instructional Focus	Students that complete Level Eight in the Academy of MATH cover these New Jersey Math Standards
Numeration – This section will guide the student through different numeration problems. Key topics include: Numeration terminology and symbols, integers, adding integers, place value of decimal numbers, rounding a decimal number, ratios and proportions, patterns, exponential numbers, and square roots.	Grade 6: 4.1.6A – 4 Grade 7: 4.1.7A – 3 Grade 8: 4.1.8A – 1, 2, 3, 4 4.1.8B – 1, 2, 3, 4
Addition – This section will guide the student through different addition problems. Key topics include: Addition terminology and symbols, adding with millions, ten millions, and hundred millions, adding integers, and solving addition word problems.	Grade 8: 4.1.8A – 4 4.1.8B – 1 4.3.8D - 5
Subtraction – This section will guide the student through different subtraction problems. Key topics include: Subtraction terminology and symbols, 9-digit subtraction, inverse operations, subtracting integers, and grouping and ordering.	Grade 7: 4.1.7B – 1 Grade 8: 4.1.8A – 4 4.1.8B – 1 4.3.8D - 5
Multiplication – This section will guide the student through different multiplication problems. Key topics include: Multiplication terminology, prime factorization of composite numbers, multiplying integers, checking a product, divisibility test for nine, estimating the product, and using the multiplication table.	Grade 7: 4.1.7B – 1 Grade 8: 4.1.8B – 1 4.3.8A – 1 4.3.8D - 5
Division – This section will guide the student through different division problems. Key topics include: Division terminology and symbols, divisibility test for 2, 3, 5, 9, and 10, estimating quotients, calculating averages, and dividing integers.	Grade 8: 4.1.8B – 1 4.3.8D - 5
Fractions – This section will guide the student through different fraction problems. Key topics include: Fraction terminology, expressing fractions in lowest terms, multiplying and dividing fractions, expressing common fractions as decimal fractions, terminating and repeating decimals, converting decimal fractions to common fractions, converting decimal fractions and common fractions to percent, dividing decimals, and solving problems with percent.	Grade 8: 4.1.8A – 1, 3, 5, 6 4.1.8B – 1 4.3.8D - 5

<p>Equations – This section will guide the student through different equation problems. Key topics include: terminology and symbols, order of operations, variables, expressions, equations, using expressions and equations with variables, translating expressions, solving equations, formulas, and solving word problems.</p>	<p>Grade 8: 4.1.8B – 1, 2, 5 4.3.8C – 2 4.3.8D – 2, 4, 5</p>
<p>Measurement – This section will guide the student through different measurement problems. Key topics include: Measurement terminology and symbols, calculating perimeter, area of irregular figures, surface area, and volume, measuring capacity, volume of capacity, units of mass, and conversion between the imperial and the metric system.</p>	<p>Grade 6: 4.2.6E – 3</p> <p>Grade 7: 4.2.7D – 1 4.2.7E – 1</p> <p>Grade 8: 4.1.8B – 1 4.2.8D – 1, 2 4.2.8E – 1, 3 4.3.8D – 5</p>
<p>Geometry – This section will guide the student through different geometry problems. Key topics include: Geometry terminology, intersecting lines, perpendicular and parallel lines, angles, triangles, congruence, similarity, transformations, and rotational symmetry.</p>	<p>Grade 6: 4.2.6A – 3</p> <p>Grade 7: 4.2.7A – 2 4.2.7C – 2</p> <p>Grade 8: 4.1.8A – 3 4.2.8A – 1, 3, 4, 5 4.2.8B – 1 4.2.8C – 2</p>
<p>Graphs – This section will guide the student through different graphing problems. Key topics include: Graphing terms, interpreting circle graphs, the coordinate system, and statistical analysis of data.</p>	<p>Grade 7: 4.2.7C – 1</p> <p>Grade 8: 4.1.8A – 1, 3 4.1.8B – 1, 4 4.2.8C – 1 4.3.8C – 1 4.3.8D – 5 4.4.8A – 1</p>

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