



**Allamuchy Township School District  
Allamuchy, NJ**

**Mathematics  
Grade 4**

**CURRICULUM GUIDE**

**August 28, 2017**

**Mr. Joseph E. Flynn, Superintendent**

**Developed by:  
Alyson Chudley**

**This curriculum may be modified through varying techniques,  
strategies and materials, as per an individual student's  
Individualized Education Plan (IEP).**

**Approved by the Allamuchy Board of Education  
At the regular meeting held on August 28, 2017  
And  
*Aligned with the New Jersey Core Curriculum Content Standards  
And Common Core Content Standards***

**Table of Contents**

<b>Philosophy and Rationale:</b>	<b>Page 3</b>
<b>Mission Statement:</b>	<b>Page 3</b>
<b>Scope and Sequence:</b>	<b>Page 3-4</b>
<b>Units:</b>	<b>Page 5-17</b>
<b>NJ Content Standards:</b>	<b>Page 18</b>
<b>21<sup>st</sup> Century Skills:</b>	<b>Page 18</b>

### **Philosophy and Rationale**

Mathematics in fourth grade provides students with opportunities to strengthen their knowledge, skills, and understanding of place value, the four operations, fractions, and measurement and data. Students learn to identify and manipulate numbers as they build their problem-solving skills by

applying their knowledge to real-world problems. Collaboration with peers and the use of technology allows students to interpret problems in various ways to challenge their thinking about mathematical concepts. Learning and practicing mathematical concepts gives students a range of skills and real-world applications they can use in various aspects of their lives.

### **Mission Statement**

The mission of the Allamuchy Township District, in partnership with the larger community, is to provide a comprehensive, caring program for all of our students which:

- \*Nurtures the unique talents and interests of each individual
- \*Supports social responsibility and a love of learning
- \*Embraces the total development of each student intellectually, morally and physically
- \*Develops confidence, creativity and skills necessary to face the challenges of a technologically advanced and ever-changing society
- \*Promotes a culture of mutual respect with all other community members
- \*Supports the attainment of the New Jersey Core Curriculum Content Standards

The District seeks to exceed objective standards of achievement set by both the State and Federal government and to provide an educational experience beyond the boundaries established by the Core Curriculum Standards.

### **Scope and Sequence**

#### **Unit 1: Numbers and Operations in Base Ten**

- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.
- Use the four operations with whole numbers to solve problems.
- Gain familiarity with factors and multiples.

#### **Unit 2: Operations and Algebraic Thinking**

- Generate and analyze patterns.

#### **Unit 3: Numbers and Operations - Fractions**

- Extend understanding of fraction equivalence and ordering.
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers
- Understand decimal notation for fractions, and compare decimal fractions.

#### **Unit 4: Measurement and Data**

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- Represent and interpret data.
- Geometric measurement: understand concepts of angle and measure angles.

#### **Unit 5: Geometry**

- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

**Stage 1: Desired Results**

Unit 1

Topic: Numbers and Operations in Base Ten

Content Standards

**4.NBT.A.1** Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that  $700 \div 70 = 10$  by applying concepts of place value and division.*

**4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

**4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place.

**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm.

**4.NBT.B.5** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**4.NBT.B.6** Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**4.OA.A.1** Interpret a multiplication equation as a comparison, e.g., interpret  $35 = 5 \times 7$  as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

**4.OA.A.2** Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

**4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

**4.OA.B.4** Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

**4.OA.C.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

### Essential Questions

- How does place value help represent the value of numbers?
- What strategies can be used to add, subtract, multiply, and divide whole numbers?

### Enduring Understandings

- Each place value in a multi-digit whole number is ten times greater than the value of the place to its right.
- Place value knowledge, addition properties, subtraction rules, and estimation are strategies that can be used to add and subtract whole numbers.
- A number of strategies, including models, multiplication properties, division rules, partial products, the Distributive Property, basic facts and patterns, and applying place value knowledge can be used to multiply and divide.
- To divide a number means to separate a whole into equal groups.
- Remainders have meaning, and they must be interpreted to solve a word problem involving division.
- Factors of a number are two numbers that can be multiplied together to equal that number.
- A multiple of a number is the product of that number and another whole number.

### Knowledge and Skills (SWBAT embedded course proficiencies)

- Identify the place value of digits in multi-digit numbers.
- Read and write multi-digit whole numbers.
- Compare numbers using a number line and place-value chart.
- Order numbers by using a place-value chart and comparing the digit values.
- Estimate numbers by rounding.
- Use the “four-step plan” to solve problems.
- Use addition properties and subtraction rules to add and subtract.
- Use patterns to solve addition and subtraction problems.
- Use mental math to add and subtract.
- Estimate sums and differences of multi-digit numbers.
- Add multi-digit whole numbers.
- Subtract multi-digit whole numbers.
- Subtract multi-digit numbers when some digits are zeros.
- Solve problems by drawing a diagram.
- Solve multi-step word problems using addition and subtraction.
- Understand how multiplication and division are related.
- Relate division and subtraction.
- Use the comparison of two groups as a strategy for multiplying.
- Use comparison to solve problems.
- Use multiplication properties and division rules.
- Use the Associative Property of Multiplication to solve problems.
- Find factors and multiples of whole numbers.
- Check answers for reasonableness.
- Multiply multiples of 10, 100, and 1,000 using basic facts and patterns.
- Estimate products by rounding.
- Explore multiplication using models.
- Explore multiplication using area models and partial products.
- Multiply a two-digit number by a one-digit number.
- Explore multiplication with regrouping using models.
- Use the Distributive Property to multiply.
- Multiply a two-digit number by a one-digit number.
- Multiply a multi-digit number by a one-digit number.
- Determine if a problem needs an estimate or exact answer.
- Multiply multi-digit numbers with zeros by a one-digit number.
- Use properties and algorithms to multiply by tens.
- Estimate products by rounding.

- Explore multiplying by two-digit numbers.
- Multiply two, two-digit numbers.
- Use multiplication to solve multi-step word problems.
- Solve problems by making a table.
- Use basic facts and patterns to divide mentally.
- Estimate quotients using compatible numbers, basic facts, and place value.
- Use place value and models to explore dividing by one-digit numbers.
- Solve problems by making a model.
- Divide with remainders and check using multiplication and addition.
- Interpret what the remainder means in a division problem.
- Determine where to place the first digit when dividing.
- Use the Distributive Property and partial quotients to divide.
- Solve division problems with more than two digits in the dividend.
- Solve division problems that result in quotients that have zeros.
- Solve multi-step word problems using more than one operation.

## **Stage 2: Evidence of Understanding, Learning Objectives and Expectations**

**Benchmarks** (embedded student proficiencies)

**Assessment Methods** (formative, summative, other evidence and/or student self- assessment)

- Teacher observation
- Small-group instruction
- Homework and Independent Practice Pages
- Common Core Quick Check Quizzes
- Am I Ready?
- Check My Progress
- Online Self-Check Quizzes
- Chapter Test
- Standardized Test Practice
- Vocabulary Test
- Oral Assessment
- eAssessment
- Teacher-made assessments and projects
- “Planning a Vacation” unit project, Chapter 2 and Chapter 6 (My Math website)
- “Planning a Bowling Party” unit project, Chapter 3 (My Math website)

## **Stage 3: Learning Plan** (Same for all units)

During this unit, students will be engaged through multiple means of instruction in whole-group, small-group, and partner-learning settings. Students will participate in a variety of types of instructional activities, and various assessment methods will be utilized to check for student understanding and concept mastery. Instruction will be differentiated to meet all students’ needs through written, auditory, visual, and kinesthetic components incorporated into each lesson. Reteach and enrichment worksheets and resources provided through the My Math series will be utilized to ensure that instruction and practice is provided on an appropriate level for each student.

Students will practice the 21st Century Skills of Communication and Collaboration, Critical Thinking and Problem Solving, and Creativity and Innovation, as they collaborate with peers, brainstorm ideas, and explore possible solutions to the problems presented in each lesson. Students will have

opportunities to utilize technology and virtual resources by participating in online games and activities provided by the My Math series. Daily interactive Smart Board lessons with virtual manipulatives incorporate technology into each of the unit's lessons. Students will have the opportunity to watch online videos, which model examples of the unit's concepts. The students are also able to explore online homework help and other resources at home through the My Math website.

**Time Allotment:** September-January

**Resources** (Same for all units)

- McGraw Hill My Math
- Student workbooks
- Interactive SmartBoard lessons
- Reteach and Enrich worksheets
- Online math games and videos
- Teacher-made/acquired worksheets and activities

## **Stage 1: Desired Results**

### **Unit 2**

**Topic:** Operations and Algebraic Thinking

### **Content Standards**

**4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

**4.OA.C.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting*

*number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

### Essential Questions

- How are patterns used in mathematics?

### Enduring Understandings

- A pattern is a list of numbers, symbols, or figures that follow a rule.
- Patterns can be used to extend a sequence, solve a problem, or make predictions about numbers.

### Knowledge and Skills (SWBAT embedded course proficiencies)

- Describe nonnumeric growing and repeating patterns.
- Identify, describe, and extend numeric patterns.
- Extend patterns and write observations about the pattern.
- Look for a pattern to solve problems.
- Find and use rules to write addition and subtraction equations.
- Find and use rules to write multiplication and division equations.
- Use the order of operations to solve problems.
- Explore equations with two operations.
- Use tables to recognize and write equations with two operations.

### **Stage 2: Evidence of Understanding, Learning Objectives and Expectations**

#### Benchmarks (embedded student proficiencies)

#### Assessment Methods (formative, summative, other evidence and/or student self- assessment)

- Teacher observation
- Small-group instruction
- Homework and Independent Practice Pages
- Common Core Quick Check Quizzes
- Am I Ready?
- Check My Progress
- Online Self-Check Quizzes
- Chapter Test
- Standardized Test Practice
- Vocabulary Test
- Oral Assessment
- eAssessment
- Teacher-made assessments and projects
- “IMPACT Project: Create a Function Machine Game,” Chapter 7 (My Math website)

**Time Allotment:** February

## **Stage 1: Desired Results**

### **Unit 3**

Topic: Numbers and Operations - Fractions

### **Content Standards**

**4.NF.A.1** Explain why a fraction  $a/b$  is equivalent to a fraction  $(n \times a)/(n \times b)$  by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

**4.NF.A.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as  $1/2$ . Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.

**4.NF.B.3** Understand a fraction  $a/b$  with  $a > 1$  as a sum of fractions  $1/b$ .

**4.NF.B.3.A** Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

**4.NF.B.3.B** Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:*  $3/8 = 1/8 + 1/8 + 1/8$ ;  $3/8 = 1/8 + 2/8$ ;  $2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$ .

**4.NF.B.3.C** Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

**4.NF.B.3.D** Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

**4.NF.B.4** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

**4.NF.B.4.A** Understand a fraction  $a/b$  as a multiple of  $1/b$ . *For example, use a visual fraction model to represent  $5/4$  as the product  $5 \times (1/4)$ , recording the conclusion by the equation  $5/4 = 5 \times (1/4)$ .*

**4.NF.B.4.B** Understand a multiple of  $a/b$  as a multiple of  $1/b$ , and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express  $3 \times (2/5)$  as  $6 \times (1/5)$ , recognizing this product as  $6/5$ . (In general,  $n \times (a/b) = (n \times a)/b$ .)*

**4.NF.B.4.C** Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat  $3/8$  of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

**4.NF.C.5** Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.<sup>2</sup> *For example, express  $3/10$  as  $30/100$ , and add  $3/10 + 4/100 = 34/100$ .*

**4.NF.C.6** Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite  $0.62$  as  $62/100$ ; describe a length as  $0.62$  meters; locate  $0.62$  on a number line diagram.*

**4.NF.C.7** Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual model.

**4.OA.B.4** Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

### Essential Questions

- How can different fractions name the same amount?
- How are fractions and decimals related?

### Enduring Understandings

- A prime number has exactly two factors, one and itself. A composite number has more than two factors.
- Equivalent fractions are fractions that have the same value.
- A fraction is in simplest form when its numerator and denominator share no common factors other than one.
- When fractions have the same denominator, the fraction with the greatest numerator has the greatest value. When fractions have the same numerator, the fraction with the smallest denominator has the smallest value.
- A benchmark fraction, such as  $\frac{1}{2}$ , can be used to compare fractions.
- Mixed numbers and improper fractions represent values greater than one whole.
- To add or subtract like fractions, they must refer to parts of the same whole.
- Mixed numbers can be added or subtracted by making them into equivalent improper fractions.
- Repeated addition of unit fractions is a strategy that can be used to multiply a fraction by a whole number.
- A fraction with a denominator of ten or one hundred can be represented as a decimal.
- Place value models can be used to compare and add decimals and fractions.

### Knowledge and Skills (SWBAT embedded course proficiencies)

- Find factors and multiples of whole numbers.
- Determine if a number is prime or composite.
- Explore equivalent fractions.
- Find equivalent fractions.
- Write a fraction in simplest form.
- Compare and order fractions.
- Use benchmark fractions to compare and order numbers.
- Use logical reasoning to solve problems.
- Represent mixed numbers by decomposing them into a sum of whole numbers and unit fractions.
- Write mixed numbers and improper fractions.
- Use models to add like fractions.
- Add like fractions.
- Use models to subtract like fractions.
- Subtract like fractions.
- Work backward to solve problems.
- Add mixed numbers.
- Subtract mixed numbers.
- Use models to multiply fractions.
- Multiply fractions by whole numbers.
- Explore using place-value charts and grids to model decimals.
- Model and describe tenths as part of the base-ten system.
- Model and describe hundredths as part of the base-ten system.
- Explore using grids and number lines to model the relationship between decimals and fractions.
- Identify, read, and write tenths and hundredths as decimals and as fractions.
- Use place value and equivalent fractions to add two fractions with respective denominators 10 and 100.

- Compare and order decimals to hundredths by reasoning about their size.
- Find extra or missing information when solving problems.

**Stage 2: Evidence of Understanding, Learning Objectives and Expectations**  
Benchmarks (embedded student proficiencies)

Assessment Methods (formative, summative, other evidence and/or student self- assessment)

- Teacher observation
- Small-group instruction
- Homework and Independent Practice Pages
- Common Core Quick Check Quizzes
- Am I Ready?
- Check My Progress
- Online Self-Check Quizzes
- Chapter Test
- Standardized Test Practice
- Vocabulary Test
- Oral Assessment
- eAssessment
- Teacher-made assessments and projects
- “Representing Survey Data” unit project, Chapter 8 (My Math website)
- “IMPACT Project: Spending \$100,” Chapter 10 (My Math website)

**Time Allotment:** March-April

**Stage 1: Desired Results**

Unit 4

Topic: Measurement and Data

Content Standards

**4.MD.A.1** Know relative sizes of measurement units within one system of units including km, m, cm, mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*

**4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

**4.MD.A.3** Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

**4.MD.B.4** Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

### Essential Questions

- How can conversion of measurements help me solve real-world problems?
- Why is it important to measure perimeter and area?

### Enduring Understandings

- Different customary and metric units must be used to measure length, capacity, mass, weight, and time.
- Converting measurements can help make the meaning of a measurement easier to understand.
- Perimeter refers to the distance around the outside of a figure, and it is found by adding the lengths of all sides of a figure.
- Area refers to the space inside of a figure, and it is found by multiplying the figure's length times its width.
- Two rectangles can have the same perimeter but different areas, and vice versa.

### Knowledge and Skills (SWBAT embedded course proficiencies)

- Estimate and measure length using customary units.
- Convert customary units of length.
- Estimate and measure customary capacities.
- Convert customary units of capacity.
- Estimate and measure customary units of weight.
- Convert customary units of weight.
- Convert units of time.
- Display measurement data in a line plot.
- Solve problems involving measurement with customary units.
- Solve problems using the "guess, check, and revise" strategy.
- Estimate and measure lengths within the metric system.
- Estimate and measure metric capacities.
- Estimate and measure mass and learn the difference between weight and mass.
- Make an organized list to solve problems.
- Convert metric units.
- Solve problems involving measurement with metric units.
- Find the perimeter of a figure.
- Use the strategy, "solve a simpler problem" to solve real-world problems.
- Explore the area of a figure.
- Find the area of rectangles and squares.
- Relate area to perimeter.

### **Stage 2: Evidence of Understanding, Learning Objectives and Expectations**

#### Benchmarks (embedded student proficiencies)

#### Assessment Methods (formative, summative, other evidence and/or student self- assessment)

- Teacher observation
- Small-group instruction
- Homework and Independent Practice Pages
- Common Core Quick Check Quizzes
- Am I Ready?
- Check My Progress
- Online Self-Check Quizzes
- Chapter Test
- Standardized Test Practice
- Vocabulary Test
- Oral Assessment
- eAssessment
- Teacher-made assessments and projects
- “Make a Perfect-Day Timeline” unit project, Chapter 11 (My Math website)
- “Sandbox Builder” unit project, Chapter 11 (My Math website)

**Time Allotment:** May

## **Stage 1: Desired Results**

### **Unit 5**

**Topic:** Geometry

### **Content Standards**

**4.G.A.1.** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

**4.G.A.2.** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

**4.G.A.3.** Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

**4.MD.C.5** Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

**4.MD.C.5.A** An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through  $\frac{1}{360}$  of a circle is called a “one-degree angle,” and can be used to measure angles.

**4.MD.C.5.B** An angle that turns through  $n$  one-degree angles is said to have an angle measure of  $n$  degrees.

**4. MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

**4. MD.C.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

### Essential Questions

- How are different ideas about geometry connected?

### Enduring Understandings

- A shape's attributes can be used to classify it.
- A shape has a line of symmetry if a line can be drawn that separates the shape into two congruent parts.
- A protractor can be used to measure angles and classify them as obtuse, acute, or right.

### Knowledge and Skills (SWBAT embedded course proficiencies)

- Draw points, lines, line segments, and rays and identify these in two-dimensional figures.
- Draw parallel, intersecting, and perpendicular lines and identify these in two-dimensional figures.
- Understand concepts of angles and angle measurement.
- Use concepts of angle measurement to classify angles.
- Use a protractor to measure angles to the nearest degree.
- Use a protractor to draw angles of a specified measure.
- Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical situations.
- Classify triangles based on angle measure and describe triangles using their attributes.
- Classify quadrilaterals using their attributes.
- Identify figures with line symmetry and draw lines of symmetry.
- Solve problems by making a model.

## **Stage 2: Evidence of Understanding, Learning Objectives and Expectations**

### Benchmarks (embedded student proficiencies)

### Assessment Methods (formative, summative, other evidence and/or student self- assessment)

- Teacher observation
- Small-group instruction
- Homework and Independent Practice Pages
- Common Core Quick Check Quizzes
- Am I Ready?
- Check My Progress
- Online Self-Check Quizzes
- Chapter Test
- Standardized Test Practice

- Vocabulary Test
- Oral Assessment
- eAssessment
- Teacher-made assessments and projects
- “Pentomino Puzzle” unit project, Chapter 13 (My Math website)

**Time Allotment:** June

### **New Jersey Core Curriculum and Common Core Content Standards**

<http://www.state.nj.us/education/cccs/>

#### **Integration of 21<sup>st</sup> Century Theme(s)**

The following websites are sources for the following 21<sup>st</sup> Century Themes and Skills:

<http://www.nj.gov/education/code/current/title6a/chap8.pdf>

<http://www.p21.org/about-us/p21-framework> .

<http://www.state.nj.us/education/cccs/standards/9/index.html>

#### **21st Century Interdisciplinary Themes (into core subjects)**

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

#### **Learning and Innovation Skills**

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication and Collaboration

#### **Information, Media and Technology Skills**

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

## **Life and Career Skills**

- **Flexibility and Adaptability**
- **Initiative and Self-Direction**
- **Social and Cross-Cultural Skills**
- **Productivity and Accountability**
- **Leadership and Responsibility**

## **Integration of Digital Tools**

- **Classroom computers/laptops/Chromebooks**
- **Technology Lab**
- **Voice amplification device**
- **Other software programs**