

# Red Bank Charter School

## Grade 5 Mathematics Curriculum

Recommended Pacing Guide	
Unit 1: Number and Operations in Base Ten	40 Days
Unit 2: Number and Operations – Fractions	60 Days
Unit 3: Operations and Algebraic Thinking	45 Days
Unit 4: Measurement and Data	20 Days
Unit 5: Geometry	15 Days

Suggested Accommodations For All Units
<p><b>English Language Learners:</b></p> <ul style="list-style-type: none"><li>● Pair ELL student with student who speaks English and understands/ able to communicate with student's native language</li><li>● Simplify content</li><li>● Google Translator</li><li>● Multi - language word wall</li><li>● Provide extended time</li><li>● Speak clearly and slowly, avoid slang and idiomatic expressions</li></ul>
<p><b>Special Education/504 Plans/Students with Disabilities:</b></p> <ul style="list-style-type: none"><li>● Follow specific students accommodations and modifications as listed in individual student IEP or 504 plan</li></ul>
<p><b>Gifted and Talented:</b></p> <ul style="list-style-type: none"><li>● Provide appropriate challenges for a wide ranging skills and development.</li><li>● Participate in inquiry and project-based learning units of study.</li><li>● Provide options, alternatives and choices to differentiate and broaden the curriculum</li></ul>
<p><b>Students at Risk of Failure:</b></p> <ul style="list-style-type: none"><li>● Students Motivation<ul style="list-style-type: none"><li>○ Interest</li><li>○ Build confidence</li><li>○ Independence</li><li>○ Enjoyment</li></ul></li></ul>
<p><b>Economically Disadvantaged:</b></p>

- Build a safe and nurturing atmosphere
- Providing needed academic resources (paper, pencils, computer time,)
- Be flexible with assignments

**Culturally Diverse:**

- Involve families in student learning
- Provide immediate praise and feedback
- Respect cultural traditions
- Provided students with necessary academic resources and materials
- Provide visuals

**Unit 1: Number and Operations in Base Ten**

**Duration: 40 Days**

**Standards/Learning Targets**

**New Jersey Student Learning Focus Standards: Understand the place value system.**

**NJSLS.MATH.CONTENT.5.NBT.A.1**

- Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and  $1/10$  of what it represents in the place to its left.

**NJSLS.MATH.CONTENT.5.NBT.A.2**

- Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

**NJSLS.MATH.CONTENT.5.NBT.A.3**

- Read, write, and compare decimals to thousandths.

**NJSLS.MATH.CONTENT.5.NBT.A.3.A**

- Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g.,  $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .

**NJSLS.MATH.CONTENT.5.NBT.A.3.B**

- Compare two decimals to thousandths based on meanings of the digits in each place, using  $<$ ,  $=$ , and  $>$  symbols to record the results of comparisons.

**NJSLS.MATH.CONTENT.5.NBT.A.4**

- Use place value understanding to round decimals to any place.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.

**NJSLS.MATH.CONTENT.5.NBT.B.5**

- Fluently multiply multi-digit whole numbers using the standard algorithm.

**NJSLS.MATH.CONTENT.5.NBT.B.6**

- Find whole-number quotients of whole numbers with up to four-digit dividends and two-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.

**NJSLS.MATH.CONTENT.5.NBT.B.7**

- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- Relate the strategy to a written method and explain the reasoning used.

**Primary Interdisciplinary Connections:**

**Literacy Connection**

- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- L.4.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening

**Science Connection**

- 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

**Projects**

- Coupons project
- Interpreting a menu project
- Thanksgiving Dinner Project
- Converting measurements (Elf or Giant) Project
- Road Trip Project
- Animal measurement Project
- Coordinate Plane Map Project

**Technology Standards:**

- 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems
- 8.1.5.A.3 Use a graphic organizer to organize information about problems or issues.
- 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains 1 Adopted 10.1.14 the analysis of the data.
- 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities

## 21st Century Themes/Career Readiness:

### Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

### Personal Financial Literacy

- 9.1.8.A.2 Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.
- 9.1.8.B.7 Construct a budget to save for long-term, short-term, and charitable goals.
- 9.1.8.D.1 Determine how saving contributes to financial well-being.

### Career Awareness Exploration and Preparation

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

## Evidence of Student Learning

### Formative Tasks:

- Teacher Observation
- Teacher Checklist
- Verbal question & answer
- Self-evaluation of performance and progress

### Alternative Assessments:

- End of unit project

### Summative Assessments:

- Student participation
- Rubric score
- Performance Test

### Benchmark Assessments:

- Baseline SGO
- Mid-year SGO
- End of year SGO

## Knowledge & Skills

### Enduring Understandings:

- Numbers can be represented in multiple ways.
- The same operations can be applied in problem situations that seem quite different from another.
- Being able to compute fluently means making smart choices about which tools to use and when to use them.
- Knowing the reasonableness of an answer comes from using good number sense and estimation strategies.

### Essential Questions:

- What makes an estimate reasonable?
- What makes an answer exact?
- What makes a strategy both effective and efficient?
- What makes a solution optimal?

## Core Instructional & Supplemental Materials

**Suggested Activities/Resources:**

- Vocabulary Cards
- Activities
- Blackline Masters
- Math Musicals
- Virtual Manipulatives
- Interactive Explorations
- Digit Examples
- Skills Trainer
- Flashcards
- STEAM videos
- Game Library
- Multi-language glossary
- Graphic organizers Math
- Tool Paper
- Dry Erase Boards Smart
- Notebook
- Khan Academy
- IXL

**Varied Levels of Text/Resources:**

- Big Ideas Math Modeling Real Life - Teacher Resources
- <https://www.bigideasmath.com/BIM/login>
- Big Ideas Math Manipulative Kit
- Student Edition
- Teaching Edition
- Family Letters
- Warm-Ups
- Extra Practice
- Reteach
- Enrichment and Extension
- Prerequisite Skills Practice
- Pre and Post Course Assessments
- Course Benchmark Assessments
- Chapter Assessments

**Unit 2: Number and Operations - Fractions****Duration: 60 Days****Standards/Learning Targets**

**New Jersey Student Learning Focus Standards: Use equivalent fractions as a strategy to add and subtract fractions.**

**NJSLS.MATH.CONTENT.5.NF.A.1**

- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**NJSLS.MATH.CONTENT.5.NF.A.2**

- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem.
- Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .
- Apply and extend previous understandings of multiplication and division.

**NJSLS.MATH.CONTENT.5.NF.B.3**

- Interpret a fraction as division of the numerator by the denominator ( $\frac{a}{b} = a \div b$ ).
- Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret  $\frac{3}{4}$  as the result of dividing 3 by 4, noting that  $\frac{3}{4}$  multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size  $\frac{3}{4}$ . If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

**NJSLS.MATH.CONTENT.5.NF.B.4**

- Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

**NJSLS.MATH.CONTENT.5.NF.B.4.A**

- Interpret the product  $(\frac{a}{b}) \times q$  as a part of a partition of  $q$  into  $b$  equal parts; equivalently, as the result of a sequence of operations  $a \times q \div b$ . For example, use a visual fraction model to show

$(\frac{2}{3}) \times 4 = \frac{8}{3}$ , and create a story context for this equation. Do the same with  $(\frac{2}{3}) \times (\frac{4}{5}) = \frac{8}{15}$ .  
(In general,  $(\frac{a}{b}) \times (\frac{c}{d}) = \frac{ac}{bd}$ .)

#### **NJSLS.MATH.CONTENT.5.NF.B.4.B**

- Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths.
- Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

#### **NJSLS.MATH.CONTENT.5.NF.B.5**

- Interpret multiplication as scaling (resizing), by:

#### **NJSLS.MATH.CONTENT.5.NF.B.5.A**

- Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

#### **NJSLS.MATH.CONTENT.5.NF.B.5.B**

- Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence  $\frac{a}{b} = (\frac{n \times a}{n \times b})$  to the effect of multiplying  $\frac{a}{b}$  by 1.

#### **NJSLS.MATH.CONTENT.5.NF.B.6**

- Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

#### **NJSLS.MATH.CONTENT.5.NF.B.7**

- Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.1 NJSLS.MATH.CONTENT.5.NF.B.7.A Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for  $(\frac{1}{3}) \div 4$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $(\frac{1}{3}) \div 4 = \frac{1}{12}$  because  $(\frac{1}{12}) \times 4 = \frac{1}{3}$ .

#### **NJSLS.MATH.CONTENT.5.NF.B.7.B**

- Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (\frac{1}{5})$ , and use a visual fraction model to show the quotient.
- Use the relationship between multiplication and division to explain that  $4 \div (\frac{1}{5}) = 20$  because  $20 \times (\frac{1}{5}) = 4$ .

#### **NJSLS.MATH.CONTENT.5.NF.B.7.C**



- Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share  $\frac{1}{2}$  lb of chocolate equally? How many  $\frac{1}{3}$ -cup servings are in 2 cups of raisins?

**Primary Interdisciplinary Connections:**

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**Science Connection**

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**Projects**

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- Converting measurements (Elf or Giant) Project
- Road Trip Project

**Technology Standards:**

- 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems
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**Evidence of Student Learning****Formative Tasks:**

- Teacher Observation
- Teacher Checklist
- Verbal question & answer
- Self-evaluation of performance and progress

**Alternative Assessments:**

- End of unit project

**Summative Assessments:**

- Student participation
- Rubric score
- Performance Test

**Benchmark Assessments:**

- Baseline SGO
- Mid-year SGO
- End of year SGO

**Knowledge & Skills****Enduring Understandings:**

- Change is fundamental to understanding functions.
- Numbers or objects that repeat in predictable ways can be described or generalized.
- An operation can be “undone” by its inverse.
- Rules of arithmetic and algebra can be used together with notions of equivalence to transform equations and inequalities so solutions can be found.

**Essential Questions:**

- How can change be described Mathematically?
- How are patterns of change related to the behavior of functions?
- How do mathematical models/representations shape our understanding of mathematics?

**Core Instructional & Supplemental Materials****Suggested Activities/Resources:****Varied Levels of Text/Resources:**

- Vocabulary Cards
- Activities
- Blackline Masters
- Math Musicals Virtual
- Manipulatives
- Interactive Explorations
- Digit Examples
- Skills Trainer
- Flashcards
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- Chapter Assessments

**Unit 3: Operations and Algebraic Thinking****Duration: 45 Days****Standards/Learning Targets****New Jersey Student Learning Focus Standards: Write and interpret numerical expressions.****NJSLS.MATH.CONTENT.5.OA.A.1**

- Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

**NJSLS.MATH.CONTENT.5.OA.A.2**

- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as  $2 \times (8 + 7)$ .
- Recognize that  $3 \times (18932 + 921)$  is three times as large as  $18932 + 921$ , without having to calculate the indicated sum or product. Analyze patterns and relationships.

**NJSLS.MATH.CONTENT.5.OA.B.3**

- Generate two numerical patterns using two given rules.
- Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

**Primary Interdisciplinary Connections:****Literacy Connection**

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**Science Connection**

- 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

### **Projects**

Calendar Project  
 Couponing project  
 Interpreting a menu project  
 Thanksgiving Dinner Project  
 Converting measurements (Elf or Giant) Project  
 Road Trip Project  
 Animal measurement Project  
 Coordinate Plane Map Project

### **Technology Standards:**

- 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems
- 8.1.5.A.3 Use a graphic organizer to organize information about problems or issues.
- 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains 1Adopted 10.1.14 the analysis of the data.
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### **21st Century Themes/Career Readiness:**

#### **Career Ready Practices**

- CRP1. Act as a responsible and contributing citizen and employee.
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#### **Personal Financial Literacy**

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#### **Career Awareness Exploration and Preparation**

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

### **Evidence of Student Learning**

<b>Formative Tasks:</b> <ul style="list-style-type: none"> <li>● Teacher Observation</li> <li>● Teacher Checklist</li> <li>● Verbal question &amp; answer</li> <li>● Self-evaluation of performance and progress</li> </ul>	<b>Alternative Assessments:</b> <ul style="list-style-type: none"> <li>● End of unit project</li> </ul>
<b>Summative Assessments:</b> <ul style="list-style-type: none"> <li>● Student participation</li> <li>● Rubric score</li> <li>● Performance Test</li> </ul>	<b>Benchmark Assessments:</b> <ul style="list-style-type: none"> <li>● Baseline SGO</li> <li>● Mid-year SGO</li> <li>● End of year SGO</li> </ul>
<b>Knowledge &amp; Skills</b>	
<b>Enduring Understandings:</b> <ul style="list-style-type: none"> <li>● Change is fundamental to understanding functions.</li> <li>● Numbers or objects that repeat in predictable ways can be described or generalized.</li> <li>● An operation can be “undone” by its inverse.</li> <li>● Rules of arithmetic and algebra can be used together with notions of equivalence to transform equations and inequalities so solutions can be found.</li> </ul>	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>● How can change be described mathematically?</li> <li>● How are patterns of change related to the behavior of functions?</li> <li>● How do mathematical models/representations shape our understanding of mathematics?</li> </ul>
<b>Core Instructional &amp; Supplemental Materials</b>	
<b>Suggested Activities/Resources:</b> <ul style="list-style-type: none"> <li>● Vocabulary Cards</li> <li>● Activities Blackline</li> <li>● Masters Math</li> <li>● Musicals</li> <li>● Virtual Manipulatives</li> <li>● Interactive Explorations</li> <li>● Digit Examples</li> <li>● Skills Trainer</li> <li>● Flashcards</li> <li>● STEAM videos</li> <li>● Game Library</li> <li>● Multi-language glossary</li> <li>● Graphic organizers Math</li> <li>● Tool Paper</li> <li>● Dry Erase Boards Smart</li> <li>● Notebook</li> <li>● Khan Academy</li> <li>● IXL</li> </ul>	<b>Varied Levels of Text/Resources:</b> <ul style="list-style-type: none"> <li>● Big Ideas Math Modeling Real Life - Teacher Resources</li> <li>● <a href="https://www.bigideasmath.com/BIM/login">https://www.bigideasmath.com/BIM/login</a></li> <li>● Big Ideas Math Manipulative Kit</li> <li>● Student Edition</li> <li>● Teaching Edition</li> <li>● Family Letters</li> <li>● Warm-Ups</li> <li>● Extra Practice</li> <li>● Reteach</li> <li>● Enrichment and Extension</li> <li>● Prerequisite Skills Practice</li> <li>● Pre and Post Course Assessments</li> <li>● Course Benchmark Assessments</li> <li>● Chapter Assessments</li> </ul>

**Unit 4: Measurement and Data****Duration: 20 Days****Standards/Learning Targets****New Jersey Student Learning Focus Standards: Convert like measurement units within a given measurement system.****NJSLS.MATH.CONTENT.5.MD.A.1**

- Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
- Represent and interpret data.

**NJSLS.MATH.CONTENT.5.MD.B.2**

- Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ).
- Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.
- Geometric measurement: understand concepts of volume.

**NJSLS.MATH.CONTENT.5.MD.C.3**

- Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

**NJSLS.MATH.CONTENT.5.MD.C.3.A**

- A cube with side length 1 unit, called a “unit cube” is said to have “one cubic unit” of volume, and can be used to measure volume.

**NJSLS.MATH.CONTENT.5.MD.C.3.B**

- A solid figure that can be packed without gaps or overlaps using  $n$  unit cubes is said to have a volume of  $n$  cubic units.

**NJSLS.MATH.CONTENT.5.MD.C.4**

- Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non- standard units.

**NJSLS.MATH.CONTENT.5.MD.C.5**

- Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

**NJSLS.MATH.CONTENT.5.MD.C.5.A**

- Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base.
- Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

**NJSLS.MATH.CONTENT.5.MD.C.5.B**

- Apply the formulas  $V = l \times w \times h$  and  $V = B \times h$  for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

**NJSLS.MATH.CONTENT.5.MD.C.5.C**

- Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

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Animal measurement Project  
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**Technology Standards:**

- 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
- 8.1.5.A.3 Use a graphic organizer to organize information about problems or issues.
- 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains 1 Adopted 10.1.14 the analysis of the data.
- 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities.

**21st Century Themes/Career Readiness:**

**Career Ready Practices**

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them

**Personal Financial Literacy**

- 9.1.8.A.2 Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.
- 9.1.8.B.7 Construct a budget to save for long-term, short-term, and charitable goals.
- 9.1.8.D.1 Determine how saving contributes to financial well-being.

**Career Awareness Exploration and Preparation**

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

**Evidence of Student Learning**

**Formative Tasks:**

- Teacher Observation
- Teacher Checklist
- Verbal question & answer
- Self-evaluation of performance and progress

**Alternative Assessments:**

- End of unit project

**Summative Assessments:**

- Student participation
- Rubric score
- Performance Test

**Benchmark Assessments:**

- Baseline SGO
- Mid-year SGO
- End of year SGO

**Knowledge & Skills**

**Enduring Understandings:**

- Linear measure, area, and volume are fundamentally different but may be related to one another in ways that permit calculation of one given the other.

**Essential Questions:**

- How are measurement and counting related?
- How does what we measure affect how we measure?
- How can space be defined through numbers/measurement?

**Core Instructional & Supplemental Materials****Suggested Activities/Resources:**

- Vocabulary Cards
- Activities
- Blackline Masters
- Math Musicals
- Virtual Manipulatives
- Interactive Explorations
- Digit Examples
- Skills Trainer
- Flashcards
- STEAM videos
- Game Library
- Multi-language glossary
- Graphic organizers Math
- Tool Paper
- Dry Erase Boards Smart
- Notebook
- Khan Academy
- IXL

**Varied Levels of Text/Resources:**

- Big Ideas Math Modeling Real Life - Teacher Resources
- <https://www.bigideasmath.com/BIM/login>
- Big Ideas Math Manipulative Kit
- Student Edition
- Teaching Edition
- Family Letters
- Warm-Ups
- Extra Practice
- Reteach
- Enrichment and Extension
- Prerequisite Skills Practice
- Pre and Post Course Assessments
- Course Benchmark Assessments
- Chapter Assessments

**Unit 5: Geometry****Duration: 15 Days****Standards/Learning Targets**

**New Jersey Student Learning Focus Standards: Graph points on the coordinate plane to solve real-world and mathematical problems.**

**NJSLS.MATH.CONTENT.5.G.A.1**

- Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.
- Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

**NJSLS.MATH.CONTENT.5.G.A.2**

- Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the Situation.
- Classify two-dimensional figures into categories based on their properties.

**NJSLS.MATH.CONTENT.5.G.B.3**

- Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

**NJSLS.MATH.CONTENT.5.G.B.4**

- Classify two-dimensional figures in a hierarchy based on properties.

**Primary Interdisciplinary Connections:****Literacy Connection**

- NJLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of

the subject under investigation.

- L.4.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

### **Science Connection**

- 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

### **Projects**

Coupons project  
Interpreting a menu project  
Thanksgiving Dinner Project  
Converting measurements (Elf or Giant) Project  
Road Trip Project  
Animal measurement Project  
Coordinate Plane Map Project

### **Technology Standards:**

- 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
- 8.1.5.A.3 Use a graphic organizer to organize information about problems or issues.
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### **21st Century Themes/Career Readiness:**

#### **Career Ready Practices**

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#### **Personal Financial Literacy**

- 9.1.8.A.2 Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.
- 9.1.8.B.7 Construct a budget to save for long-term, short-term, and charitable goals.
- 9.1.8.D.1 Determine how saving contributes to financial well-being. Career Awareness Exploration and Preparation
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

<b>Evidence of Student Learning</b>	
<b>Formative Tasks:</b> <ul style="list-style-type: none"> <li>● Teacher Observation</li> <li>● Teacher Checklist</li> <li>● Verbal question &amp; answer</li> <li>● Self-evaluation of performance and progress</li> </ul>	<b>Alternative Assessments:</b> <ul style="list-style-type: none"> <li>● End of unit project</li> </ul>
<b>Summative Assessments:</b> <ul style="list-style-type: none"> <li>● Student participation</li> <li>● Rubric score</li> <li>● Performance Test</li> </ul>	<b>Benchmark Assessments:</b> <ul style="list-style-type: none"> <li>● Baseline SGO</li> <li>● Mid-year SGO</li> <li>● End of year SGO</li> </ul>
<b>Knowledge &amp; Skills</b>	
<b>Enduring Understandings:</b> <ul style="list-style-type: none"> <li>● Two- and three-dimensional objects can be described, classified, and analyzed by their attributes.</li> <li>● An object in a plane or in space can be oriented in an infinite number of ways while maintaining its size or shape.</li> <li>● An object's location on a plane or in space can be described quantitatively.</li> <li>● Linear measure, area, and volume are fundamentally different but may be related to one another in ways that permit calculation of one given the other.</li> </ul>	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>● Why do we compare contrast and classify objects?</li> <li>● How do decomposing and recomposing shapes help us build our understanding of mathematics?</li> <li>● How can transformations be described mathematically?</li> </ul>
<b>Core Instructional &amp; Supplemental Materials</b>	
<b>Suggested Activities/Resources:</b> <ul style="list-style-type: none"> <li>● Vocabulary Cards</li> <li>● Activities</li> <li>● Blackline Masters</li> <li>● Math Musicals</li> <li>● Virtual Manipulatives</li> <li>● Interactive Explorations</li> <li>● Digit Examples</li> <li>● Skills Trainer</li> <li>● Flashcards</li> <li>● STEAM videos</li> <li>● Game Library</li> </ul>	<b>Varied Levels of Text/Resources:</b> <ul style="list-style-type: none"> <li>● Big Ideas Math Modeling Real Life - Teacher Resources</li> <li>● <a href="https://www.bigideasmath.com/BIM/login">https://www.bigideasmath.com/BIM/login</a></li> <li>● Big Ideas Math Manipulative Kit</li> <li>● Student Edition</li> <li>● Teaching Edition</li> <li>● Family Letters</li> <li>● Warm-Ups</li> <li>● Extra Practice</li> <li>● Reteach</li> </ul>

- Multi-language glossary
- Graphic organizers Math
- Tool Paper
- Dry Erase
- Khan Academy
- IXL

- Enrichment and Extension
- Prerequisite Skills Practice
- Pre and Post Course Assessments
- Course Benchmark Assessments
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