|  |  |
| --- | --- |
| **Curriculum Management System** | |
| ***PAULSBORO PUBLIC SCHOOLS*** | |
|  | |
| **Math Curriculum Grade 5** | |
| **UPDATED JUNE 2016** | |
| **For adoption by all regular education programs as specified and for adoption or adaptation by all Special Education Programs in accordance with Board of Education Policy.** | **Board Approved: September 2016** |

|  |  |
| --- | --- |
| **Table of Contents** | |
| ***Paulsboro Public Schools Administration and Board of Education*** |  |
| ***Paulsboro Public Schools Mission Statement*** |  |
| ***National and State Standards*** |  |
| ***Scope and Sequence*** |  |
| ***Goals/Essential Questions/Objectives/Instructional Tools/Activities*** |  |
| |  | | --- | |  | | ***Paulsboro Public Schools***  ***Dr. Laurie Bandlow, Superintendent***  ***Board of Education***  Mr. Thomas Ridinger, President Ms. Bonnie Eastlack, Vice President Mrs. Barbara Dunn Mr. Marvin E. Hamilton, Sr. Mr. John Hughes\* Mr. Joseph L. Lisa  Mrs. Lisa L. Lozada-Shaw  Mrs. Lisa Priest Mrs. Irma R. Stevenson Mr. James J. Walter  \* Greenwich Township Board of Education Representative  ***District Administration***  Dr. Lucia Pollino, Director of Curriculum & Assessment  Ms. Jennifer Johnson, Business Administrator/Board Secretary  Mr. John Giovannitti, Director of Special Services  Mr. Paul Bracciante, Principal, grades Pre-K to 2  Mr. Matthew J. Browne, Principal, grades 3-6  ***Curriculum Writing Team*** Mrs. Rebecca Richardson, Curriculum Facilitator |   **Standards for Mathematical Practice**  MP.1 Make sense of problems and persevere in solving them.  MP.2 Reason abstractly and quantitatively.  MP.3 Construct viable arguments & critique the reasoning of others.  MP.4 Model with mathematics.  MP.5 Use appropriate tools strategically.  MP.6 Attend to precision.  MP.7 Look for and make use of structure.  MP.8 Look for and express regularity in repeated reasoning. |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **TOPIC** | **# OF DAYS** | **DATES** | **COMMENTS** | **EMPHASIS** | | 1 – Numeration | 7 | 9/14 – 9/25 | Pretest & Evaluate | Major | | 2 – Add/Sub Whole #’s | 11 | 9/28 – 10/9 | Pretest & Evaluate | Major | | 3 – Multiply Whole #’s | 8 | 10/13 – 10/25 | Complete Entire Topic | Major | | 4 – Division 1 Digit Divisors | 9 | 10/26 – 11/4 | Do Not Complete 4-3 & 4-9 | Major | | 5 – Division 2 Digit Divisors | 11 | 11/9 – 11/25 | Complete Entire Topic, Include 5-3A | Major | | 7 – Mult/Div. Decimals | 14 | 11/30 – 11/17 | Include 7-4A & 7-4B | Major | | 18 – Graphs/Data | 5 | 11/18 – 11/23 | IF TIME ALLOWS BEFORE CHRISTMAS | Supporting | | 9 – Fractions | 12 | 1/4 – 1/22 | Make Fraction Strips | Major | | 10 – Add/Sub Fractions | 12 | 1/25 – 2/12 | Include 10-1A, 10-5A, 10-7A | Major | | 11 – Mult/Div Fractions | 9 | 2/16 – 2/26 | Include 11-2A, 11-3A, 11-4A, 11-5A | Major | | 12 – Perimeter/Area | 8 | 2/29 – 3/9 | Skip 12-6 & 12-7, Area of Circle | Major | | 13 – Solids | 6 | 3/10 – 3/18 | Skip 13-1, 13-2, 13-3. Focus on Volume | Major | | 14 – Measurement | 6 | 3/21 – 4/1 | Complete 14-1, 14-2, 14-3, 14-4, 14-5 | Supporting | | 6 – Variables & Expressions | 11 | 4/4 – 4/18 | Include 6-4A, 6-6A, 6-6B, 6-6C | Additional | | 8 – Shapes | 8 | 4/19 – 4/29 | Include 8-6A, 8-6B | Additional | | 17 – Equations/Graphing | 6 | 5/1 – 5/10 | Include 17-2, 17-3, 17-4A, 17-4B, 17-4C | Additional | | 15 – Solving Equations | 0 | 5/11 – 5/20 | TEACH IF TIME ALLOWS | Additional | | 16 – Ratio/Prop | 0 | 5/23 – 6/3 | TEACH IF TIME ALLOWS | Additional | | 19 – Transformations | 0 | 6/6 – 6/10 | TEACH IF TIME ALLOWS | Additional | | 20 - Probability | 0 | 6/10 – 6/17 | TEACH IS TIME ALLOWS | Additional |   **Pacing Guide** |

|  |
| --- |
|  |

|  |  |
| --- | --- |
| **Scope and Sequence** | |
| **Quarter 1 – Grade \_5\_\_** | |
| **Big Idea #1:**  Write and Interpret numerical expressions (NJ DOE Unit 1)  (EnVision Topic 13)  Big Idea #3:  Perform operations with multi-digit numbers and with decimals to hundredths (NJ DOE Unit 1)  (EnVision Topic 3, 5, 11) | Big Idea #2:  The Place Value System (NJ DE Unit 1)  (EnVision Topic 1, 2, 3, 4, 11) |

|  |  |
| --- | --- |
| **Scope and Sequence** | |
| **Quarter 2 – Grade \_5\_\_** | |
| **Big Idea #1:** Geometric Measurement (NJ DOE Unit 2)  (EnVision Topic 10)  **Big Idea #3:** Use Equivalent Fractions as a Strategy to Add and Subtract Fractions (NJ DOE Unit 2) (EnVision Topic 7, 12) | **Big Idea #2:** Perform Operations with Mulit-Digit Whole Numbers and with Decimals to Hundredths  (NJ Doe Unit 2) (EnVision Topic 3, 11)  **Big Idea #4:** Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions  (NJ DOE Unit 2) (EnVision Topic 8, 9) |

|  |  |
| --- | --- |
| **Scope and Sequence** | |
| **Quarter 3 – Grade \_5\_\_** | |
| Big Idea #1: Perform Operations with Multi-Digit Whole Numbers and with Decimals to Hundredths (NJ DOE Unit 3) (EnVision Topic 8)  Big Idea #3: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions  (NJ DOE Unit 3) (EnVision Topic 8, 9, 12) | Big Idea #2: Convert Like Measurement Units Within a Given Measurement System (NJ DOE Unit 3) (EnVision Topic 11)  Big Idea #4: Perform Operations with Multi-Digit Whole Numbers and with Decimals to Hundredths (NJ DOE Unit 3) (EnVision Topic 2, 4, 6) |

|  |  |
| --- | --- |
| **Scope and Sequence** | |
| **Quarter 4 – Grade \_5\_\_** | |
| Big Idea #1: Graph Points on the Coordinate Plane to Solve Real- World and Mathematical Problems (NJ DOE Unit 4)  (EnVision Topic 14, 15)  Big Idea #3: Classify Two-Dimensional Figures into Categories Based on their Properties (NJ DOE Unit 4) (EnVision Topic 16) | Big Idea #2: Analyze Patterns and Relationships  (NJ DOE Unit 4) (EnVision Topic 15)  Big Idea #4: Represent and Interpret Data and  Perform Operations with Multi-Digit Whole Numbers and with decimals to hundredths (NJ DOE Unit 4) (EnVision Topic 12) |

|  |  |  |
| --- | --- | --- |
| **QUARTER 1 –  Big Idea #1: Write and Interpret Numerical Expressions**  **Topic: Understand the Place Value System** | | |
| **Standards: Additional Content**  (Identified by PARCC Content Frameworks)   |  |  | | --- | --- | | **5.OA.1** | Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.  (EnVision Topic 13) | | **5.OA.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 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*  (EnVision Topic 13) |   **Career Ready Practices**  **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. | **GOAL** | |
| NJ DOE Unit 1: Students will write and interpret numerical expressions, understand the place value system, and perform operations with multi-digit whole numbers and with decimals to hundredths. | |
| **Essential Questions Assessments** | |
| 1. How can you look for a pattern or structure when evaluating numerical expressions with parentheses, brackets, and braces? 2. Explain the correspondences between expressions represented in word problems or scenarios and numerical expressions. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Evaluate numerical expressions with parentheses, brackets or braces. 2. Write numerical expressions when given a word problem or a scenario in words and use words to interpret numerical expressions. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 1 –  Big Idea #2: The Place Value System**  **Topic: Understand the Place Value System** | | |
| **Standards: Major Content**  (Identified by PARCC Content Frameworks)  **5.NBT.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. (EnVision Topic 1)  **5.NBT.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.  (EnVision Topic 1,3,4,11)  **5.NBT.3** Read, write, and compare decimals to thousandths.  a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).  b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.  (EnVision Topic 1)  **5.NBT.4** Use place value understanding to round decimals to any place.  (EnVision Topic 1,2) | **GOAL** | |
| NJ DOE Unit 1: Students will write and interpret numerical expressions, understand the place value system, and perform operations with multi-digit whole numbers and with decimals to hundredths. | |
| **Essential Questions Assessments** | |
| 1. How can you make sense of the quantities of zeros and the placement of the decimal point in a product for quotient when a number is multiplied or divided by a power of 10? 2. How can you make sense of the relationship of decimals to the thousandths and the quantities they represent? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Explain the “ten times” or 1/10 relationships for place values in multi-digit numbers moving right or left across the places. 2. Recognize and explain patterns of the number of zeros and the placement of the decimal point in a product or quotient when a number is multiplied or divided by powers of 10. 3. Compare decimals to thousandths based on the value of the digits in each place using the symbols >,=,< when presented as base ten numerals, number names, or expanded form. 4. Round a decimal to any place. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 1 –  Big Idea #3: Perform Operations with Multi-Digit Whole Numbers and with Decimals to Hundredths**  **Topic: Understanding the Place Value System** | | |
| **Standards: Major Content**  (Identified by PARCC Content Frameworks)  **5.NBT.5** Fluently multiply multi-digit whole numbers using the standard algorithm.  (EnVision Topic 3,11)  **5.NBT.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.  (EnVision Topic 5,11) | **GOAL** | |
| NJ DOE Unit 1: Students will write and interpret numerical expressions, understand the place value system, and perform operations with multi-digit whole numbers and with decimals to hundredths. | |
| **Essential Questions Assessments** | |
| 1. Justify and explain conclusions made about place value relationships in multi-digit numbers. 2. Explain and justify conclusions (in the form of equations, arrays, and models) made about dividing 4-digit dividends and 2-digit divisors. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Use the standard algorithm to multiply 3-digit whole numbers by 1-digit whole numbers. 2. Calculate whole number quotients with 4-digit dividends and 2-digit divisors and explain answers with equations, rectangular arrays, and area models. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 2 –  Big Idea #1: Geometric Measurement**  **Topic: Understand Volume and Operations on Fractions** | | |
| **Standards: Major Content**  (Identified by PARCC Content Frameworks)  **5.MD.3** Recognize volume as an attribute of solid figures and understand concepts of volume measurement.  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.  b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.  (EnVision Topic 10)  **5.MD.4** Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft and improvised units.  (EnVision Topic 10)  **5.MD.5** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.  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 it would be found 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.  b. Apply the formula V= l x w x h and V= B x 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.  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.  (EnVision Topic 10)  **Career Ready Practices**  **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. | **GOAL** | |
| NJ DOE Unit 2: Students will understand concepts of volume, perform operations with multi-digit whole numbers and with decimals to hundredths, use equivalent fractions as a strategy to add and subtract fractions, and apply and extend previous understandings of multiplication and division. | |
| **Essential Questions Assessments** | |
| 1. Choose the appropriate cubic unit based on the figures attributes. 2. Explain and justify conclusions made about volume 3. Explain precisely how both volume formulas relate to counting cubes in one layer and multiplying the value by the number of layer. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Understand and measure volume by counting the total number of same size cubic units required to fill a figure without gaps or overlaps.  2. Know a cube with a side length of 1 unit is called a “unit cube” and can be used to measure volume. Choose an appropriate cubic unit based on the attributes of the 3-dimensional figure you are measuring.  3. Show that the volume of a right rectangular prism found by counting all the unit cubes is the same as the formulas V = l × w × h or V = B × h.  4. Explain how both volume formulas relate to counting the cubes in one layer and multiplying that value by the number of layers (height).  5. Find the volume of a composite solid figure composed of two non-overlapping right rectangular prisms.  6. Apply formulas to solve real world and mathematical problems involving volumes of right rectangular prisms and composites of same. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
|  |  |  |
| **QUARTER 2 –  Big Idea #2: Perform Operations with Multi-Digit Whole Numbers and with Decimals to Hundredths**  **Topic: Understanding Volume and Operations on Fractions** | | |
| **Standards: Major Content**  **(Identified by PARCC Content Frameworks)**  **5.NBT.5** Fluently multiply multi-digit whole numbers using the standard algorithm.  (EnVision Topic 3,11)  **Career Ready Practices**  **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. | **GOAL** | |
| NJ DOE Unit 2: Students will understand concepts of volume, perform operations with multi-digit whole numbers and with decimals to hundredths, use equivalent fractions as a strategy to add and subtract fractions, and apply and extend previous understandings of multiplication and division. | |
| **Essential Questions Assessments** | |
| 1. Look for and discern a pattern when using the standard algorithm to multiply multi-digit whole numbers | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Fluently multiply multi-digit whole numbers using the standard algorithm. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 2 –  Big Idea #3: Use Equivalent Fractions as a Strategy to Add and Subtract Fractions**  **Topic: Understanding Volume and Operations on Fractions** | | |
| **Standards: Major Content**  **(Identified by PARCC Content Frameworks)**  **5.NF.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, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)  (EnVision Topic 7)  **5.NF.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 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.  (EnVision Topic 7,12) | **GOAL** | |
| NJ DOE Unit 2: Students will understand concepts of volume, perform operations with multi-digit whole numbers and with decimals to hundredths, use equivalent fractions as a strategy to add and subtract fractions, and apply and extend previous understandings of multiplication and division. | |
| **Essential Questions Assessments** | |
| 1. Explain fraction quotients, including mixed numbers. 2. How do you consider and use available tools, such as diagrams and drawings, when solving addition or subtraction word problems involving fractions with unlike denominators? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Add and subtract fractions (including mixed numbers) with unlike denominators by replacing the given fractions with equivalent fractions having like denominators. 2. Solve word problems involving adding or subtracting fractions including unlike denominators, and determine if the answer to the word problem is reasonable, using estimations with benchmark fractions. 3. Interpret a fraction as a division of the numerator by the denominator; solve word problems where division of whole numbers leads to fractional or mixed number answers. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 2 –  Big Idea #4: Apply and Extend Previous Understandings of Multiplication and Division**  **to Multiply and Divide Fractions**  **Topic: Understanding Volume and Operations on Fractions** | | |
| **Standards: Major Content**  **(Identified by PARCC Content Frameworks)**  **5.NF.3** Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving the 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 3/4 as the result of dividing 3 by 4, noting that 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 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?  (EnVision Topic 9)  **5.NF.4a** Interpret the product (a/b) x q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a x q ÷ b. For example, use a visual fraction model to show (2/3) x 4 = 8/3 and create a story context for this equation. Do the same with (2/3) x (4/5) = 8/15. (In general (a/b) x (c/d) = ac/bd.)  (EnVision Topic 8)  **5.NF.4b** 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 it would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.  (EnVision Topic 8) | **GOAL** | |
| NJ DOE Unit 2: Students will understand concepts of volume, perform operations with multi-digit whole numbers and with decimals to hundredths, use equivalent fractions as a strategy to add and subtract fractions, and apply and extend previous understandings of multiplication and division. | |
| **Essential Questions Assessments** | |
| 1. Explain correspondences between equations involving multiplication of fractions by whole numbers. 2. How can you create a coherent representation of multiplication of fractions by whole numbers, and understand their quantities and the quotients quantities? 3. Analyze the factors and products of multiplication problems by separating them into cases. 4. Communicate and explain how a product is related to the magnitude of the factors. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Multiply fractions by whole numbers and draw visual models or create story contexts. Interpret the product (a/b) x q as a parts of a whole partitioned into b equal parts added q times. In general, if q is a fraction c/d, then (a/b) x (c/d) = a(1/b) × c(1/d) = ac × (1/b)(1/d) = ac(1/bd) = ac/bd. 2. Find the area of a rectangle with fractional side lengths by tiling unit squares and multiplying side lengths. 3. Explain how a product is related to the magnitude of the factors. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 3 –  Big Idea #1: Perform Operations with Multi-Digit Whole Numbers**  **Topic: More Operations on Fractions** | | |
| **Standards: Major Content**  **(Identified by PARCC Content Frameworks)**  **5.NF.5a** Interpret multiplication as scaling (resizing) by 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.  (EnVision Topic 8)  **5.NF.5b** Interpret multiplication as scaling (resizing) by 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 as a familiar case); explaining why multiplying a given number less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n x a)/(n x b) to the effect of multiplying a/b by 1.  (EnVision Topic 8) | **GOAL** | |
| NJ DOE Unit 3: Students will apply and extend previous understandings of multiplication and division, understand the place value system, perform operations with multi-digit whole numbers and with decimals to hundredths, and convert like measurement units within a given measurement system. | |
| **Essential Questions Assessments** | |
| 1. Explain why multiplying a given number by a fraction greater than one results in a product greater than the given number. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Compare the size of a product to the size of one of its factors. 2. Explain how a product is related to the magnitude of the factors. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 3 –  Big Idea #2: Convert Like Measurement Units Within a Given Measurement System**  **Topic: More Operations on Fractions** | | |
| **Standards: Supporting Content**  **(Identified by PARCC Content Frameworks)**  **5.MD.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.  (EnVision Topic 11) | **GOAL** | |
| NJ DOE Unit 3: Students will apply and extend previous understandings of multiplication and division, understand the place value system, perform operations with multi-digit whole numbers and with decimals to hundredths, and convert like measurement units within a given measurement system. | |
| **Essential Questions Assessments** | |
| 1. Explain quantities and their relationships when adding, subtracting, multiplying, or dividing by decimals to the hundredths. 2. Explain quantities when converting measurements within a system. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Convert standard measurement units within the same system (e.g., centimeters to meters) to solve multi-step problems). | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 3 –  Big Idea #3: Apply and Extend Previous Understandings of Multiplication and Division**  **to Multiply and Divide Fractions**  **Topic: More Operations on Fractions** | | |
| **Standards: Major Content**  **(Identified by PARCC Content Frameworks)**  **5.NF.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.  (EnVision Topic 8,12)  **5.NF.7a** Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3.  (EnVision Topic 9)  **5.NF.7b** Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x (1/5) = 4.  (EnVision Topic 9)  **5.NF.7c** 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 ½ pound of chocolate equally? How many 1/3 cup servings are in 2 cups of raisins?  (EnVision Topic 9,12) | **GOAL** | |
| NJ DOE Unit 3: Students will apply and extend previous understandings of multiplication and division, understand the place value system, perform operations with multi-digit whole numbers and with decimals to hundredths, and convert like measurement units within a given measurement system. | |
| **Essential Questions Assessments** | |
| 1. Understand and make sense of the quantities and relationships when dividing unit fractions by whole numbers. 2. Use quantitative reasoning to create a coherent representation and understand the quantities when dividing whole numbers by unit fractions. 3. Apply previously learned concepts about division of unit fractions and whole numbers to solve real world problems. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Solve real world problems involving multiplication of fractions (including mixed numbers), using visual fraction models or equations to represent the problem. 2. Divide a unit fraction by a non-zero whole number and interpret by creating a story context or visual fraction model. 3. Divide a whole number by a unit fraction and interpret by creating a story context or visual fraction model. 4. Solve real world problems involving division of unit fractions by whole numbers or whole numbers by unit fractions. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 3 –  Big Idea #4: Perform Operations with Multi-Digit Whole Numbers and with Decials to Hundredths**  **Topic: More Operations on Fractions** | | |
| **Standards: Major Content**  **(Identified by PARCC Content Frameworks)**  **5.NBT.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, subtraction, multiplication, and division.  (EnVision Topic 2,4,6)  **Career Ready Practices**  **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. | **GOAL** | |
| NJ DOE Unit 3: Students will apply and extend previous understandings of multiplication and division, understand the place value system, perform operations with multi-digit whole numbers and with decimals to hundredths, and convert like measurement units within a given measurement system. | |
| **Essential Questions Assessments** | |
| 1. How can u se concrete objects or pictures to add, subtract, multiply, and divide decimals to the hundredths place? 2. Apply the properties of operations to add, subtract, multiply, and divide decimals 3. Explain patterns when adding, subtracting, multiplying, or dividing decimals. | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. 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, subtraction, multiplication, and division. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 4 –  Big Idea #1: Graph Points on the Coordinate Plane to Solve Real-World and Mathemtical Problems**  **Topic: Coordinate Geometry and Classifying Figures** | | |
| **Standards: Additional Content**  **(Identified by PARCC Content Frameworks)**  **5.G.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).  (EnVision Topic 14)  **5.G.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.  (EnVision Topic 14, 15) | **GOAL** | |
| NJ DOE Unit 4: Students will graph points on the coordinate plane to solve real-world and mathematical problems, analyze patterns and relationships, classify two dimensional figures into categories based on their properties, and represent and interpret data. | |
| **Essential Questions Assessments** | |
| 1. Draw diagrams of important features, graph points from a dataset in order to solve problems involving the information in the graphs and diagrams 2. Use reason to graph data, and be able to make plausible arguments based on the line plots. 3. How can you apply previously learned concepts to solve real world problems involving graphing points on the coordinate plane? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Define a coordinate system, with the intersection of the lines (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 (coordinates). 2. Graph points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 4 –  Big Idea #2: Analyze Patterns and Relationships**  **Topic: Coordinate Geometry and Classifying Figures** | | |
| **Standards: Additional Content**  **(Identified by PARCC Content Frameworks)**  **5.OA.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.  (EnVision Topic 15) | **GOAL** | |
| NJ DOE Unit 4: Students will graph points on the coordinate plane to solve real-world and mathematical problems, analyze patterns and relationships, classify two dimensional figures into categories based on their properties, and represent and interpret data. | |
| **Essential Questions Assessments** | |
| 1. Analyze givens, constraints, and relationships when generating numeric patterns based on two given rules. 2. Make conjectures, and build a logical progression of statements about number patterns given two predetermined rules | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Identify apparent relationships between corresponding terms. 2. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 4 –  Big Idea #3: Classify Two-Dimensional Figures into Categories Based on their Properties**  **Topic: Classifying Geometry and Classifying Figures** | | |
| **Standards: Additional Content**  **(Identified by PARCC Content Frameworks)**  **5.G.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.  (EnVision Topic 16)  **5.G.4** Classify two-dimensional figures in a hierarchy based on properties.  (EnVision Topic 16) | **GOAL** | |
| NJ DOE Unit 4: Students will graph points on the coordinate plane to solve real-world and mathematical problems, analyze patterns and relationships, classify two dimensional figures into categories based on their properties, and represent and interpret data. | |
| **Essential Questions Assessments** | |
| 1. Exhibit how to use different properties of objects in order to identify and categorize attributes of two-dimensional shapes. 2. Exhibit how to use different properties of objects in order to classify two-dimensional shapes based on properties 3. Classify two-dimensional figures based on their properties | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Identify attributes of a two-dimensional shape based on attributes of the groups and categories in which the shape belongs. 2. Classify two- dimensional figures in a hierarchy based on properties. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |
| **QUARTER 4 –  Big Idea #4: Represent and Interpret Data**  **Topic: Coordinate Geometry and Classifying Figures** | | |
|  |  | |
| **Standards: Supporting Content**  **(Identified by PARCC Content Frameworks)**  **5.MD.2** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 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.  (EnVision Topic 12) | **GOAL** | |
| NJ DOE Unit 4: Students will graph points on the coordinate plane to solve real-world and mathematical problems, analyze patterns and relationships, classify two dimensional figures into categories based on their properties, and represent and interpret data. | |
| **Essential Questions Assessments** | |
| 1. How can you solve problems involving information presented in line plots? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, polling, individual white boards  **Summative**:  diagnostic test, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). 2. Use operations on fractions for this grade to solve problems involving information presented in line plots. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey |