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| **Curriculum Management System** | |
| ***PAULSBORO PUBLIC SCHOOLS*** | |
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| **Mathematics Curriculum- Fourth Grade** | |
| **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** |

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| **Paulsboro Public Schools** |
| |  | | --- | | **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 Priest Mrs. Lisa L. Lozada-Shaw 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. Tara Stahl, Curriculum Facilitator |
| **Paulsboro Public Schools** |
| **MissionStatement**  The mission of the Paulsboro School District is to provide each student the educational opportunities to assist in attaining their full potential in a democratic society. Our instructional programs will take place in a responsive, community based school system that fosters respect among all people.Our expectation is that all students will achieve the New Jersey Core Curriculum Content Standards (NJCCCS) at every grade level. |

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| New Jersey State Department of Education  21st Century College and Career Readiness Standards  **The 12 Career Ready Practices**  These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness.  CRP1. Act as a responsible and contributing citizen and employee.  CRP2. Apply appropriate academic and technical skills.  CRP3. Attend to personal health and financial well-being.  CRP4. Communicate clearly and effectively and with reason.  CRP5. Consider the environmental, social and economic impacts of decisions.  CRP6. Demonstrate creativity and innovation.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP9. Model integrity, ethical leadership and effective management.  CRP10. Plan education and career paths aligned to personal goals.  CRP11. Use technology to enhance productivity.  CRP12. Work productively in teams while using cultural global competence.  Reading and Writing Standards   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Reading Unit** | **Reading Standards** | **Writing Unit** | **Writing Standards** | **Speaking & Listening Standards** | **Language Standards** | **Foundational Skills Standards** | | Building a Reading Life | RL.4.1, RL.4.2, RL.4.3, RI.4.1 | Launching Writing Workshop | W.4.3, W.4.4 | SL.4.1, SL.4.4 | L.4.2 | FS.4.3, FS.4.4 | | Following Characters into Meaning | RL.4.1, RL.4.2, RL.4.3, RL.4.4, RL.4.6 | Narrative: The Art of Stories | W.4.3 W.4.4 | SL.4.1, SL.4.4 | L.4.2 | FS.4.3, FS.4.4 | | Nonfiction Reading: Using Text Structure | RI.4.1, RI.4.2, RI.4.3, RI.4.4RI.4.5, RI.4.8 | Information Writing | W.4.2a, W.4.2b, W.4.2e, W.4.5, W.4.7 | SL.4.2, SL.4.6 | L.4.1, L.4.4 | FS.4.3, FS.4.4 | | Nonfiction Reading: Using Text Structure | RI.4.2, RI.4.3, RI.4.4RI.4.5, RI.4.8 | Informational Books | W.4.2, W.4.5, W.4.6, W.4.7 | SL.4.2, SL.4.5, SL.4.6 | L.4.1, L.4.4 | FS.4.3, FS.4.4 | | Nonfiction Research Projects | RI.4.6, RI.4.7 | Opinion: Personal & Persuasive Essays | W.4.1, W.4.4, W.4.6, W.4.7, W.4.8 | SL.4.3, SL.4.5 | L.4.3 | FS.4.3, FS.4.4 | | Historical Fiction Book Clubs | RL.4.5, RL.4.7, RL.4.9, RL.4.10 | Opinion; Personal & Persuasive Essays | W.4.1, W.4.4, W.4.6 | SL.4.1, SL.4.4, SL.4.6 | L.4.4, L.4.5 | FS.4.3, FS.4.4 | | Information Reading: Research in the Content Areas | RI.4.9, RL.4.4.4, RL. 4.10 | Writing About Reading: Nonfiction | W.4.1, W.4.6, W.4.9 | SL.4.2, SL.4.6 | L.4.3, L.4.5 | FS.4.3, FS.4.4 | | Test Preparation | RI.4.2, RL.4.10 | Test Preparation | W.4.1, W.4.10 | SL.4.1 | L.4.6 | FS.4.3, FS.4.4 | | Social Issues Book Clubs | RI.4.4, RI.4.8, RI.4.10 | Writing About Reading: Fiction | W.4.2, W.4.6 | SL.4.2, SL.4.6 | L.4.6 | FS.4.3, FS.4.4 | |
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| **Scope and Sequence** | |
| **Quarter 1 – Grade \_4\_** | |
| **Big Idea:**  **Place Value (NJ DOE Unit 1)**  **(EnVision Topic: 1)** | **Big Idea:**  **Operations with whole numbers (NJ DOE Unit 1)**  **(EnVision Topics: 2, 3, 4, 5, 6, 7, 14)** |

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| **Scope and Sequence** | |
| **Quarter 2 – Grade \_4\_** | |
| **Big Idea:**  **Multi-digit arithmetic (NJ DOE Unit 2)**  **(EnVision Topics: 1, 2, 3, 4, 5, 6, 7, 13, 15)** | **Big Idea:**  **Fraction Equivalence (NJ DOE Unit 2)**  **(EnVision Topics: 8,9,10)** |

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| **Scope and Sequence** | |
| **Quarter 3 – Grade \_4\_** | |
| **Big Idea:**  **Building Fractions (NJ DOE Unit 3)**  **(EnVision Topics: 1, 8, 9, 10)** | **Big Idea**  **Decimal notations (NJ DOE Unit 3)**  **(EnVision Topics: 1, 11,12)** |

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| **Scope and Sequence** | |
| **Quarter 4 – Grade \_4\_** | |
| **Big Idea:**  **Geometry (NJ DOE Unit 4)**  **(EnVision Topics: 15,16)** | **Big Idea:**  **Measurement (NJ DOE Unit 4)**  **(EnVision Topics: 13, 14, 15)** |

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| **QUARTER 1 –  Big Idea: Place Value**  **Topic: Understanding place value with multi-digit whole numbers** | | |
| **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.  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.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Students will generalize, read, write, and recognize place value understanding for multi-digit whole numbers. | |
| **Essential Questions Assessments** | |
| 1. How do we round multi-digit whole numbers up to one million to any place? 2. How do we compare two multi-digit whole numbers (up to one million) using >, =, and < for numbers presented as base ten numerals, number names, and/or in expanded form? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Estimation processes allow multi-digit numbers to be represented various ways because multiple representations of whole numbers exist. 2. A quantitative relationship exists between the digits in place value positions of a multi-digit numbers and a quantitative relationship exists between the digits in place value positions of a multi-digit number. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.OA.B Identifying Multiples](https://www.illustrativemathematics.org/content-standards/4/OA/B/tasks/959)  [4.OA.B Numbers in a Multiplication Table](https://www.illustrativemathematics.org/content-standards/4/OA/B/tasks/1493)  [4.OA.C.5 Double Plus One](https://www.illustrativemathematics.org/content-standards/4/OA/C/5/tasks/487)  [4.MD.A.1 Who is the tallest?](https://www.illustrativemathematics.org/content-standards/4/MD/A/1/tasks/1508) |
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| **QUARTER 1 –  Big Idea: Operations with whole numbers**  **Topic: Understanding all operations involving whole numbers** | | |
| **Standards:**  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  4.OA.A.1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 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.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.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Students will be able to use learned concepts for all four operations with whole numbers to solve problems including measurement and conversions. | |
| **Essential Questions Assessments** | |
| 1. How do we write multiplication equations from word problems? 2. What are strategies used to multiply and divide to solve word problems involving multiplicative comparisons? 3. What strategies allow you to generate a number or shape pattern that follows a rule? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Multiplication equations represent comparisons and patterns contain features that are not explicitly stated in the rule defining the numerical pattern. 2. Whole numbers are a multiple of each of its factors. 3. Prime numbers do not have factors other than 1 and the number itself. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.OA.A.2 Comparing Money Raised](https://www.illustrativemathematics.org/content-standards/4/OA/A/2/tasks/263)  [4.NBT.A.1 Thousands and Millions of Fourth Graders](https://www.illustrativemathematics.org/content-standards/4/NBT/A/1/tasks/1808)  [4.NBT.A.2 Ordering 4-digit numbers](https://www.illustrativemathematics.org/content-standards/4/NBT/A/2/tasks/459)  [4.NBT.A.3 Rounding on the Number Line](https://www.illustrativemathematics.org/content-standards/4/NBT/A/3/tasks/1683) |
| **QUARTER 2 –  Big Idea: Multi-Digit Arithmetic**  **Topic: Understand using the four operations to perform multi-digit arithmetic** | | |
| **Standards:**  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.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.MD.A.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Students will be able to use various strategies to solve all four operations of solving multi-digit arithmetic while making sense of multi-step problems. | |
| **Essential Questions Assessments** | |
| 1. How can we fluently add and subtract multi-digit whole numbers using the standard algorithm? 2. What strategies are used to multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers? 3. How can we divide a whole number of up to four-digits by a one-digit divisor? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Add multi-digit whole numbers using the standard algorithm with accuracy and efficiency.  2. Subtract multi-digit whole numbers using the standard algorithm with accuracy and efficiency.  3 .Multiply a whole number of up to four digits by a one-digit whole number using strategies based on place values. Multiply two two-digit numbers using strategies based on place value.  4.Represent these operations with equations, rectangular arrays, and area models and explain the calculation by referring to the model | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.NBT.B To regroup or not to regroup](https://www.illustrativemathematics.org/content-standards/4/NBT/B/tasks/1189)  [4.NBT.B.6 mental Division Strategy](https://www.illustrativemathematics.org/content-standards/4/NBT/B/6/tasks/1774)  [4.OA.A.3, 4.MD.A.3 Karl's Garden](https://www.illustrativemathematics.org/content-standards/4/OA/A/3/tasks/876) |
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| **QUARTER 2 –  Big Idea: Fraction Equivalence**  **Topic: Understanding of fraction equivalence, ordering, and building of unit fractions.** | | |
| **Standards:**  4.NF.A.1. Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *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.3a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.  4.NF.B.3b. 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.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Use various models to recognize and generate equivalent fractions and compare. | |
| **Essential Questions Assessments** | |
| 1. How do we recognize and generate equivalent fractions and explain why they are equivalent using visual fraction models? 2. What strategies allow us tocompare two fractions with different numerators or different denominators, recording the comparisons with >, =, or <, and justifying the conclusions? 3. How do we decompose a fraction into a sum of fractions with the same denominator in more than one way and record the decomposition as an equation? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Equivalent fractions are the same size while the number and size of the parts differ.  2. Explain, using visual fraction models, why two fractions are equivalent.  3. Generate equivalent fractions, using fraction *a*/*b* as equivalent to fraction because fractions may only be compared when the two fractions refer to the same whole.  4. Create common denominators in order to compare two fractions, common numerators in order to compare two fractions, compare two fractions with different numerators and different denominators by comparing to a benchmark fraction. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.NF.A.1 Explaining Fraction Equivalence with Pictures](https://www.illustrativemathematics.org/content-standards/4/NF/A/1/tasks/743)  [4.NF.A.1 Fractions and Rectangles](https://www.illustrativemathematics.org/content-standards/4/NF/A/1/tasks/881)  [4.NF.A.2 Comparing Fractions Using Benchmarks Game](https://www.illustrativemathematics.org/content-standards/4/NF/A/2/tasks/2109)  [4.NF.A.2 Doubling Numerators and Denominators](https://www.illustrativemathematics.org/content-standards/4/NF/A/2/tasks/183)  [4.NF.B.3a Comparing Sums of Unit Fractions](https://www.illustrativemathematics.org/content-standards/4/NF/B/3/tasks/831)  [4.NF.B.3b making 22 Seventeenths in Different Ways](https://www.illustrativemathematics.org/content-standards/4/NF/B/3/tasks/837) |
| **QUARTER 3–  Big Idea: Building Fractions**  **Topic: Build, represent, and interpret data from unit fractions.** | | |
| **Standards:**  4.NF.B.3. Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.  4.NF.B.3c. 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.3d. 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.MD.B.4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.  4.NF.B.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.  4.NF.B.4a. Understand a fraction *a*/*b* as a multiple of 1/*b*.  4.F.4.B.4b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number.  4.NF.4.B.4c. 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.  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.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Students will build, understand, represent, and interpret data from unit fractions. | |
| **Essential Questions Assessments** | |
| 1. How do we add and subtract mixed numbers with like denominators? 2. What strategies allow us to take a line plot to display a data set in measurements in fractions of a unit? 3. How do we multiply a fraction by a whole number using visual fraction models and equations? 4. What strategies are used to write two fractions with respective denominators of 10 and 100? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Some fractions can be decomposed and addition/subtraction of fractions are joining/separating parts referring to the same whole.  2. Any fraction *a*/*b* as a multiple of fraction 1/*b,* any multiple of fraction *a/b* is also a multiple of fraction 1*/b* represent *a/b* as a x (1*/b*) using a visual fraction model.  3. Represent *n × (a/b) as (n × a)/b* in a visual fraction model, multiply a fraction by a whole number.  4. Solve real world problems by multiplying a fraction by a whole number, using visual fraction models and equations to represent the problem.  5. Add two fractions with respective denominators of 10 and 100 using equivalent fractions. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.NF.B.3c Cynthia's Perfect Punch](https://www.illustrativemathematics.org/content-standards/4/NF/B/3/tasks/874)  [4.NF.B.3c Peaches](https://www.illustrativemathematics.org/content-standards/4/NF/B/3/tasks/968)  [4.MD.B.4 Button Diameters](https://www.illustrativemathematics.org/content-standards/4/MD/B/4/tasks/1039)  [4.NF.B.4 Extending Multiplication From Whole Numbers to Fractions](https://www.illustrativemathematics.org/content-standards/4/NF/B/4/tasks/2076)  [4.NF.B.4c Sugar in six cans of soda](https://www.illustrativemathematics.org/content-standards/4/NF/B/4/tasks/857) |
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| **QUARTER 3 –  Big Idea: Decimal notations**  **Topic: Understand and Compare Decimals** | | |
| **Standards:**  4.NF.C.6. Use decimal notation for fractions with denominators 10 or 100.  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.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.NBT.B.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Students will solve and understand decimal notations for fractions involving measurement and comparison. | |
| **Essential Questions Assessments** | |
| 1. How do we write fractions having denominators of 10 or 100? 2. How do we compare two decimals to hundredths by reasoning about their size, demonstrating that comparisons are valid only when the two decimals refer to the same whole? 3. What strategies allow us to solve word problems involving simple fractions or decimals that incorporate measurement comparisons of like units? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Relationships between place value (decimals) and fraction will be incorporated by being able to  write a decimal as a fraction that has a denominator of 10 or 100, represent a decimal using a model.  2. Compare two decimals to hundredths by reasoning about their size.  3. Explain 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. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)    [4.NF.C.5 Adding Tenths and Hundredths](https://www.illustrativemathematics.org/content-standards/4/NF/C/5/tasks/153)  [4.NF.C.6 Dimes and Pennies](https://www.illustrativemathematics.org/content-standards/4/NF/C/6/tasks/152)  [4.NF.C.6 Expanded Fractions and Decimals](https://www.illustrativemathematics.org/content-standards/4/NF/C/6/tasks/145)  [4.NF.C.7 Using Place Value](https://www.illustrativemathematics.org/content-standards/4/NF/C/7/tasks/182)  [4.MD.A.2 Margie Buys Apples](https://www.illustrativemathematics.org/content-standards/4/MD/A/2/tasks/873) |
| **QUARTER 4 –  Big Idea: Geometry**  **Topic: Understand concepts of the angles and angle measurements** | | |
| **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.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Students will draw and identify lines and angles while classifying shapes by properties of their lines and angles. | |
| **Essential Questions Assessments** | |
| 1. How do we draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures? 2. How do we classify two-dimensional figures based on the presence or absence of parallel/perpendicular lines, or the presence or absence of angles of a particular size? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Draw: points, lines, line segments and rays, angles (right, acute, obtuse), perpendicular and parallel lines, distinguish between lines, line segments, and rays.  2. Identify points, lines, line segment, rays, right angles, acute angles, obtuse angles, perpendicular lines and parallel lines in two-dimensional figures, and how angles are formed by two rays sharing a common endpoint and result from the rotation of one ray around the endpoint. | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.G.A.1 The Geometry of Letters](https://www.illustrativemathematics.org/content-standards/4/G/A/1/tasks/1263)  [4.G.A.1 What's the Point?](https://www.illustrativemathematics.org/content-standards/4/G/A/1/tasks/1272)  [4.G.A.2 Are these right?](https://www.illustrativemathematics.org/content-standards/4/G/A/2/tasks/1273)  [4.G.A.2 Defining Attributes of Rectangles and Parallelograms](https://www.illustrativemathematics.org/content-standards/4/G/A/2/tasks/1275)  [4.G.A.3 Finding Lines of Symmetry](https://www.illustrativemathematics.org/content-standards/4/G/A/3/tasks/676)  [4.G.A.3 Lines of symmetry for triangles](https://www.illustrativemathematics.org/content-standards/4/G/A/3/tasks/1058) |
| **QUARTER 4 –  Big Idea: Measurement**  **Topic: Finding equivalence in units of measure** | | |
| **Standards:**  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.5a. 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 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles.  4.MD.C.5b. 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.  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.  RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  [SL.4.1](http://www.corestandards.org/ELA-Literacy/SL/8/1/). Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.  W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.  **Career Ready Practices:**  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity. | **GOAL** | |
| Use appropriate tools to solve measures of angles and multi-step problems in various forms. | |
| **Essential Questions Assessments** | |
| 1. How do we explain angles as geometric shapes formed by two rays sharing a common endpoint? 2. What strategies are used to solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems using a symbol for an unknown angle measure? | **Formative**:  questioning, discussion, exit slip, graphic organizers, self -assessment, individual white boards, math tools/games  **Summative**:  daily common core review, quick check, multiple-choice topic test, free-response topic test, performance assessment, cumulative test, benchmark test |
| **Enduring Understanding Resources** | |
| 1. Identify how angle measures may be added; when an angle is decomposed into non-overlapping parts, the angle measure of the whole (original angle) is the sum of the angle measures of the parts.  2. Solve multi-step word problems involving any of the four operations and solve multi-step word problems involving interpretation (in context) of a remainder.  3. Write equations to represent multi-step word problems, using a letter to represent the unknown quantity and explain why an answer is reasonable by using mental computation and estimation strategies to determine whether an answer is reasonable | EnVision Math Series 2.0, Pearson, 2016  Student manipulatives  Pearson Success Net (online tools)  Math Instructional Coach  Compass Learning Odyssey  Technology:  [www.coolmath4kids.com](http://www.coolmath4kids.com)  [www.aplusmath.com](http://www.aplusmath.com)  [www.aaamath.com](http://www.aaamath.com)  [www.kidsnumbers.com](http://www.kidsnumbers.com)  [4.MD.C.6, 4.MD.C.7, 4.G.A.1 Measuring Angles](https://www.illustrativemathematics.org/content-standards/4/MD/C/6/tasks/909)  [4.MD.C.7, 4.G.A.2 Finding an unknown angle](https://www.illustrativemathematics.org/content-standards/4/MD/C/7/tasks/1168)  [4.OA.A.3 Carnival Tickets](https://www.illustrativemathematics.org/content-standards/4/OA/A/3/tasks/1289) |
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