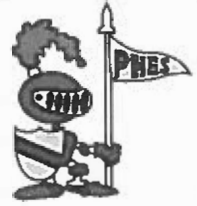




Pearl Haskew Elementary
"Learn Love Serve Lead"



Catherine Coxe: Principal

7001 White Oak Drive

Telephone: 251-221-1850

2016-2017

Irvington, AL 36544

Standard 5.1

- *Instructional Planning Guides*

MOBILE COUNTY PUBLIC SCHOOLS
 DIVISION OF CURRICULUM & INSTRUCTION
 FOURTH GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
 2016-2017: QTR3

Qtr. 3: Weeks 1-3

January 4 – January 25

Grade 4, Unit 7: Decimal Fractions

UNIT OVERVIEW: Comparing decimal fractions and understanding notation

In this unit of study students use their previous work with fractions to represent special fractions in a new way. Students use their understanding of equivalent fractions to begin to use decimal notation. However, it is not the intent at this grade level to connect this notation to the base-ten system. The focus is on solving word problems involving simple fractions or decimals. Work with money can support this work with decimal fractions..

Standards/Objectives

| Mastery Standards | Standards Clarification |
|--|---|
| <p>[4-NF5] 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. (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)</p> <p><i>Example: Express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$</i></p> | <p>Fractions with denominators 10 equivalent to denominators of 100, add/subtract these (partition into 10 equal parts, connect to \$1, 10 cents, 1 cent)</p> |
| <p>[4-NF6] Use decimal notation for fractions with denominators 10 or 100.</p> <p><i>Example: Rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</i></p> | <p>Write fractions with denominators 10 and 100 as decimals</p> |
| <p>[4-NF7] 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.</p> | <p>Compare decimals to hundredths by reasoning about size</p> |
| <p>[4-OA1] Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <ul style="list-style-type: none"> • A multiplicative comparison is a situation in which one quantity is multiplied by a specified number to get another quantity (e.g., "a is n times as much as b"). Students should be able to identify and verbalize which quantity is being multiplied and which number tells how many times. | <p>Readdressed to include multiplication of fractions and apply the understanding of "times as much"</p> |

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Qtr. 3: Weeks 1-3

January 4 – January 25

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Standards/Objectives

| Opportunity for Depth Standards | Standards Clarification |
|---|---|
| <p>[4-NF4] Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p>[4-NF4a] Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. <i>Example: Use a visual fraction model to represent $\frac{5}{4}$ as the product $5 \times \frac{1}{4}$, recording the conclusion by the equation $\frac{5}{4} = 5 \times \frac{1}{4}$.</i></p> <p>[4-NF4b] Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number. <i>Example: Use a visual fraction model to express $3 \times \frac{2}{5}$ as $6 \times \frac{1}{5}$, recognizing this product as $\frac{6}{5}$. (In general, $n \times \frac{a}{b} = \frac{na}{b}$.)</i></p> <p>[4-NF4c] 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. <i>Example: If each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between which two whole numbers does your answer lie?</i></p> | <p>Readdressed to include problem solving Multiply fraction by whole number (connect to unit fraction understanding)</p> |
| <p>[4-NF3d] 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.</p> | <p>Solve word problems with multiplying fractions by whole numbers</p> |

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January 4 – January 25
Grade 4, Unit 7: Decimal Fractions

UNIT OVERVIEW: Comparing decimal fractions and understanding notation

In this unit of study students use their previous work with fractions to represent special fractions in a new way. Students use their understanding of equivalent fractions to begin to use decimal notation. However, it is not the intent at this grade level to connect this notation to the base-ten system. The focus is on solving word problems involving simple fractions or decimals. Work with money can support this work with decimal fractions..

Standards/Objectives

Supporting Standards

Standards Clarification

[4-MD2] 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.

Word problems with distance, time, volume, money (whole, fractions and decimals)

Focus Standards for Mathematical Practice

- 3 Construct viable arguments and critique the reasoning of others.
- 7. Look for and make use of structure.

**MOBILE COUNTY PUBLIC SCHOOLS
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FOURTH GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2016-2017: QTR3
Resources Qtr. 3 Unit 7**

Engage New York

<https://www.engageny.org/resource/grade-4-mathematics-module-3>

- Module 3, Topic A, B, D, G, H

<https://www.engageny.org/resource/grade-4-mathematics-module-7>

- Module 7, Topic A, B

Georgia

<https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th-Math-Unit-5.pdf>

- Unit 5

Howard County

<https://grade4commoncoremath.wikispaces.com/Assessing+4.NF.4> Tasks 4-8

<https://grade4commoncoremath.wikispaces.com/Assessing+4.NF.5> Tasks 1-6

<https://grade4commoncoremath.wikispaces.com/Assessing+4.NF.6> Tasks 1-7

Illustrative Math

<https://www.illustrativemathematics.org/content-standards/4/NF/C/5>

<https://www.illustrativemathematics.org/content-standards/4/NF/C/7/tasks/182> Using Place Value

<https://www.illustrativemathematics.org/content-standards/4/MD/B/4/tasks/1039> Button Diameter; Line Diagram

Math in Focus

- Chapter 6 & 7

MOBILE COUNTY PUBLIC SCHOOLS
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| Qtr. 2: Weeks 4-6 January 26 – February 24 (15 days) Grade 4, Unit 8: Multiplication and Division With Larger Numbers | |
|--|--|
| UNIT OVERVIEW: Multiplication and division strategies with larger numbers In this unit students continue using computational and problem-solving strategies, with a focus on building conceptual understanding of multiplication of larger numbers and division with remainders. Area and perimeter of rectangles provide on context for developing such understanding. | |
| Standards/Objectives | |
| Mastery Standards | Standards Clarification |
| [4-OA2] 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. • This standard calls for students to translate comparative situations into equations with an unknown and solve. | Multiply/divide word problems, examine role of factors in different situations – all problem types – WHOLE NUMBERS ONLY ; examine remainders in different types |
| [4-OA3] 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. • The focus in this standard is to have students use and discuss various strategies to solve multi-step problems with whole numbers. It refers to estimation strategies, including using compatible numbers (numbers that sum to 10 or 100) or rounding. | Multi-step problems with whole numbers (include rounding) – 3 steps, easy/medium +/- and easy multiplication/division |
| [4-NBT4] Fluently add and subtract multi-digit whole numbers using the standard algorithm. • This standard refers to fluency, which means accuracy, efficiency (using a reasonable amount of steps and time), and flexibility (using a variety strategies such as the distributive property). | Continue to include for practice through word problems. Begin using algorithm without visuals when ready. |

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 2016-2017: QTR3

Qtr. 2: Weeks 4-6

January 26 – February 24 (15 days)

Grade 4, Unit 8: Multiplication and Division With Larger Numbers

UNIT OVERVIEW: Multiplication and division strategies with larger numbers

In this unit students continue using computational and problem-solving strategies, with a focus on building conceptual understanding of multiplication of larger numbers and division with remainders. Area and perimeter of rectangles provide on context for developing such understanding.

Standards/Objectives

| Opportunity for Depth Standards | Standards Clarification |
|---|--|
| <p>[4-NBT5] 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.</p> <ul style="list-style-type: none"> This standard calls for students to multiply numbers using a variety of strategies. Multiple strategies enable students to develop fluency with multiplication and transfer that understanding to division. Use of the standard algorithm for multiplication is an expectation in the 5th grade. | <p>Multiply 2 digits by 2 digits (using open area arrays, groups of, partial products)</p> |
| <p>[4-NBT6] 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.</p> <ul style="list-style-type: none"> Multi-digit division requires working with remainders. In preparation for working with remainders, students can compute sums of a product and a number, such as $4 \times 8 + 3$. In multi-digit division, students will need to find the greatest multiple less than a given number. For example, when dividing by 6, the greatest multiple of 6 less than 50 is $6 \times 8 = 48$. Students can think of these "greatest multiples" in terms of putting objects into groups. | <p>Divide 2, 3, and 4 digits by 1 digit (connect to multiplication): types – number of groups, size of group, examine remainders</p> |
| Continued (Not New) | Standards Clarification |
| <p>[4-OA4] 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.</p> | <p>Factor pairs/prime/composite; examine all numbers through 100</p> |
| Focus Standards for Mathematical Practice | |
| 1 Make sense of problems and persevere in solving them. | |
| 2 Reason abstractly and quantitatively. | |
| 8. Look for and express regularity in repeated reasoning. | |

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Resources Qtr. 3 Unit 8

Engage New York

<https://www.engageny.org/resource/grade-4-mathematics-module-2>

- Module 2

<https://www.engageny.org/resource/grade-4-mathematics-module-3>

- Module 3

Georgia

<https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th-Math-Unit-2.pdf>

- *At the Circus, School store, Sensible Rounding, Compatible Numbers, Brain Only*

Howard County

<https://grade4commoncoremath.wikispaces.com/Assessing+4.NBT.5> Tasks 1, 3, 4, 6, 8

<https://grade4commoncoremath.wikispaces.com/Assessing+4.NBT.6> Tasks 2-4

Illustrative Math

<https://www.illustrativemathematics.org/content-standards/4/OA/A/3> Multistep problems

Math in Focus

- Chapter 3

MOBILE COUNTY PUBLIC SCHOOLS
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 FOURTH GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
 2016-2017: QTR3

Qtr. 3: Weeks 7-9
 February 16 – March 16 (16 days)
 Grade 4, Unit 9: Measurement

UNIT OVERVIEW: Introducing Measurement Conversions

In this unit students build a conceptual understanding of the relative sizes of units of measure within a single system of measurement. Measurement conversions are using multiplicative comparison.

Standards/Objectives

Mastery Standards

[4-OA1] Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

- A multiplicative comparison is a situation in which one quantity is multiplied by a specified number to get another quantity (e.g., "a is n times as much as b"). Students should be able to identify and verbalize which quantity is being multiplied and which number tells how many times.

Standards Clarification

Multiplicative comparison applied in 4.MD.1

Opportunity for Depth Standards

[4-MD1] Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; and 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.

Examples: Know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36)

- Students need to understand customary units and the metric system. Students see more everyday examples of customary units. They still need hands-on experiences with the metric system. To convert from one unit to another unit, either multiply or divide. To change from a greater unit to a lesser unit (i.e. foot to inches), multiply. To change from a smaller unit to a larger unit, divide. Metric System is based on multiples of ten, when you increase the measure, multiply by ten and as the measure decreases divide by 10. Essential vocabulary for this standard includes: customary units, metric system, inch, feet, yard, ounce, ton, second, minute, hour, day, week, month, year, millimeter, centimeter, meter, gram, kilogram, milliliter, and liter

Standards Clarification

Multiplicative comparison with measurement: students need ample opportunities to become familiar with these new units of measure and explore the patterns and relationships in conversion tables that they create. They make statements such as, if one foot is 12 inches, then 3 feet has to be 36 inches because there are 3 groups of 12.

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 February 16 – March 16 (16 days)
 Grade 4, Unit 9: Measurement

UNIT OVERVIEW: Introducing Measurement Conversions

In this unit students build a conceptual understanding of the relative sizes of units of measure within a single system of measurement. Measurement conversions are using multiplicative comparison.

Standards/Objectives

| | |
|--|---|
| <p>[4-MD3] Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. <i>Example: Find the width of a rectangular room given the area of the flooring and the length by viewing the area formula as a multiplication equation with an unknown factor.</i></p> <p>• Students learn to apply understandings and formulas to the solution of real-world and mathematical problems.</p> | <p>Apply area/perimeter formula in real-life situations</p> |
|--|---|

Supporting Standards

Standards Clarification

| | |
|---|---|
| <p>[4-MD2] 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.</p> | <p>Word problems with distance, time, volume, money (whole numbers, fractions and decimals)</p> |
|---|---|

Additional Standards

Standards Clarification

| | |
|---|-----------------------------------|
| <p>[4-OA5] 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. Patterns involving numbers either repeat or grow. Patterns and rules are related. A pattern is a sequence that repeats the same process over and over. A rule dictates what that process will look like. Students investigate different patterns to find rules, identify features in the patterns, and justify the reason for those features.</p> | <p>Number patterns for a rule</p> |
|---|-----------------------------------|

Continued (Not New)

Standards Clarification

| | |
|---|--|
| <p>[4-NBT1] 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. <i>Example: Recognize that $700 \div 70 = 10$ by applying concepts of place value and division.</i></p> | <p>Continue for reinforcement and review</p> |
| <p>[4-NBT2] 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.</p> | <p>Continue for reinforcement and review</p> |
| <p>[4-NBT3] Use place value understanding to round multi-digit whole numbers to any place.</p> | <p>Continue for reinforcement and review</p> |

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2016-2017: QTR3

Qtr. 3: Weeks 7-9

February 16 – March 16 (16 days)

Grade 4, Unit 9: Measurement

UNIT OVERVIEW: Introducing Measurement Conversions

In this unit students build a conceptual understanding of the relative sizes of units of measure within a single system of measurement. Measurement conversions are using multiplicative comparison.

Standards/Objectives

Focus Standards for Mathematical Practice

2 Reason abstractly and quantitatively

6 Attend to precision

7 Look for and make use of structure.

**MOBILE COUNTY PUBLIC SCHOOLS
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FOURTH GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
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Resources Qtr. 3 Unit 9

Engage New York

<https://www.engageny.org/resource/grade-4-mathematics-module-5>

- Module 5, Topics B & G

Georgia

https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th_Math-Unit-7.pdf

- Unit 7, pages 20-137

Howard County

<https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.MD.1> Tasks 1-6

<https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.MD.2> Tasks 1-6

<https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.MD.3> Tasks 1-3

<https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.OA.5> Tasks 1-6

Illustrative Math

<https://www.illustrativemathematics.org/content-standards/4/MD/A/1/tasks/1508> Who is the Tallest?

<https://www.illustrativemathematics.org/content-standards/4/MD/A/2/tasks/873> Margie Buys Apples

<https://www.illustrativemathematics.org/content-standards/4/MD/A/3/tasks/876> Karl's Garden

Math in Focus

- Chapter 12, Area and Perimeter

References

**Engage New York
Georgia Standards
North Carolina
Howard County
Louisiana Believes
Illustrative Math
Math in Focus**

**Mobile County Public School System—Division of Curriculum & Curriculum
Instructional Planning Guide
Fifth Grade
Preface**

Fifth grade classroom teachers and literacy coaches have prepared the following documents. Each weeks' instructional planning guide is two pages long and includes the College and Career Readiness Standards (CCRS) to be taught for reading, language arts, speaking and listening, writing, science, and social studies.

Each child should receive instruction on all of the identified grade-specific CCR Standards and, at the same time, receive instruction based upon his/her instructional reading level. While the teacher's focus must be on the implementation of the CCR standards identified for each quarter, these represent the minimum requirements. Teachers have the flexibility to introduce any skill concept strategy that occurs naturally, as children read and write. Teachers will use their knowledge about what children require developmentally to become well-rounded readers who can make sense of text. A variety of trade books, poems, and other appropriate print materials must be used for planning and instruction.

READING: The following reading strategies should be taught within the reading curriculum, as well as other content areas, throughout the school year:

- Adjusting reading rate
- Rereading
- Self-monitoring
- Skimming/Scanning
- Summarizing
- Asking questions
- Making inference
- Making Connections
- Visualizing
- Drawing conclusions
- Reading on

VOCABULARY: General academic vocabulary and domain-specific vocabulary are essential to addressing the CCR Standards. Reading Standard 4 and Language Standards 4, 5, and 6 specifically focus on determining the meaning of words and phrases. Academic vocabulary (Tier II words) are often used across content areas (e.g., persist, analyze, engage). Domain-specific vocabulary (Tier III words) are relatively low frequency, content specific words that appear in textbooks and other instructional materials (e.g., isotope, nebula, fossil). For additional information on Tier II words, refer to pages R40-R43 in the Instructional Routine Handbook, ARI Explicit Vocabulary Lessons, and Bringing Words to Life by Beck, Kucan, & McKeown.

HANDWRITING: Cursive handwriting should be taught daily and evaluated using the D'Nealian model located in the MCPSS Curriculum Guide (rubrics included). **NOTE:** The most important modeling is the teacher's cursive handwriting on charts, white boards, Smart Boards, etc.

LANGUAGE, GRAMMAR, MECHANICS, SPELLING: Grammar, mechanics, and spelling should be integrated with the daily reading and writing instruction.

WRITING: Students should write *daily* with frequent teacher modeling. Writing should occur in ALL content areas.

SCIENCE: Science pacing for the 2016-2017 school year will be based upon feeder and transfer patterns, not AMSTI rotations as have been in the past. Schools are broken up into either Rotation A or Rotation B. The list of schools by rotation is posted under the K - 12 Science section of the Academic Affairs page in Microsoft 365. The order of pacing for each standard for Rotation A and Rotation B is also placed in the Instructional Pacing Guides. If you are an AMSTI school, or have certified AMSTI teachers, the kits will come to you according to grade level and your rotation schedule. The AMSTI kit schedule is also posted on the K-12 Science section of the Academic affairs page Please feel free to contact Stephanie LeGrone (K-12 Science Supervisor) or Amber Smalley (Science and Social Studies Elementary Resource Teacher) for any questions.