



Alloway Township School

Home of the Tigers

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Grade 5 Unit 3 — Dates: 12/18/2024 - 3/7/2025

Rationale for Unit 3 Expectations

Unit 3 focuses on fraction ideas and introduces a number of fractions concepts. Learners first use what they know about multiplication and division of whole numbers while they work with multiplying and dividing with decimal numbers. Learners then extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Building on their grade 3 work with area, they find the area of a rectangle with fractional side lengths by using concrete tools (tiling areas with unit squares) of the appropriate unit fraction side lengths. They show that the area is the same as would be found by multiplying the side lengths and represent fraction products as rectangular areas.

Learners continue to explore multiplication and division with fractions. They interpret multiplication as scaling and compare the size of the product to the size of the factors. They come to understand and explain that multiplying a given factor by a number greater than 1 leads to a product that is greater than the given factor. Learners solve real world problems involving multiplication of fractions and represent problems using visual fraction models and equations. To conclude this unit, learners are introduced to a new interpretation of fraction. They interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). They solve word problems involving division of whole numbers that lead to answers in fraction form. Learners then extend these previous understandings of division to divide unit fractions by whole numbers and to divide whole numbers by unit fractions.

Unit 3 Description & Expectations

Days of Instruction: 44 days (iReady sessions, Math In Action, Unit Reviews, Unit Assessments, Built In Extra Days, Prerequisites)

Unit Completion Date: 3/7

Unit Topics/Themes: Decimal and Fraction Operations (Multiplication and Division)

[Topic: Lesson 15 - Multiply a Decimal by a Whole Number](#)

[Topic: Lesson 16 - Multiply Decimals](#)

[Topic: Lesson 17 - Divide Decimals](#)

[Topic: Mid-Unit Review & Assessment](#)

[Topic: Lesson 18 - Fractions as Division](#)

[Topic: Lesson 19 - Understand Multiplication by a Fraction](#)

[Topic: Lesson 20 - Multiply Fractions to Find Area](#)

[Topic: Lesson 21 - Understand Multiplication as Scaling](#)

[Topic: Lesson 22 - Multiply Fractions in Word Problems](#)

[Topic: Lesson 23 - Understand Division with Unit Fractions](#)

[Topic: Lesson 24 - Divide Unit Fractions in Word Problems](#)

[Topic: Lesson - Math in Action](#)

[Topic: End of Unit Review and Assessment](#)

Whole Group Instruction		Differentiation: Teacher Table	Differentiation: Independent Practice/Small Group Center
Guidelines			
30-45 minutes of daily instruction using Core Resources		30-45 minutes of daily differentiation	
Number Sense Making Routines: (5-10 minutes daily) Number sense is built through experiences. Vary your sense making routines based on the needs of your classroom. They may be a whole group activity, but they also may be done as a small group depending upon the need. Example areas of focus: Verbal Counting, Object Counting, Cardinality, Subitizing, Spatial Relationships, One/Two More & Less, Benchmark Numbers, Part-Part-Whole, Magnitude, etc. Core Resource for Whole Group Instruction: Ready Classroom Math (30-45 minutes daily)		Number of groups to meet with each day: two When planning for differentiation, it is important to first think about what each student needs. You may have different focuses for different groups of students. Below are suggestions to consider when planning for small group	Activities should be aligned to specific skills & standards addressed during whole group instruction and practice of fluency standards.

Ready Classroom Math design & expectations:

- **Understand Lessons** - Focus on developing conceptual understanding and help students connect new concepts to familiar ones as they learn new skills and strategies.
- **Strategy Lessons** - Focus on helping students persevere in solving problems, discuss solution strategies, and compare multiple representations through the *Try-Discuss-Connect* routine. Strategy Lessons are taught over multiple days (usually 3-5 days) and consist of different sessions.
 - **Explore Session(s)** follow the *Try-Discuss-Connect Routine* and draw on students' prior knowledge and make connections to new concepts.
 - **Develop Session(s)** develop strategies and understanding through problem solving and discourse.
 - **Refine Session(s)** are when students work independently with a partner, while the teacher monitors performance and differentiates instruction.
- **Math in Action Lessons (Grades 2-6)** - Feature open-ended problems with many points of entry and more than one possible solution. In Math in Action Lessons students apply strategies and build procedural fluency.

Try - Discuss - Connect Routine is primarily used in Explore and Develop Sessions in Ready Math. Each Step in this routine will have expected Language Routines, Teacher Moves and Conversation Tips. *Language Routines* are predictable, repeatable formats that help students process word problems and communicate their growing understanding. *Teacher Moves* are powerful facilitation techniques to guide conversations in which students talk with each other rather than responding to the teacher. *Conversation Tips* are specific hints that show students what it means to engage in academic discourse. The six tips show students what it means to participate in academic discourse: listening attentively, explaining ideas, justifying, building on the ideas of others, disagreeing respectfully and

differentiated instruction.

Gifted Students: When planning for students who are gifted, consider differentiating the content, process or product.

Tier I Remedial Groups: When planning for remedial work (additional work on grade level concepts), identify your Essential Understandings, Objectives, Standards, skills being taught, and Learner Outcomes, then, anticipate the most common unique needs and common misconceptions.

Doing this will help you to plan effectively, and form groups based on daily exit tickets and Ready Unit Prerequisite Report. Support students using scaffolding and/or additional practice for grade level concepts and skills.

Tier II or Tier III Remedial Groups: When planning your grade level instruction for students that are in Tier II or Tier III considerations of each individual students' Math Intervention Plan need to be taken. Interventions and

making connections.

- **Try It** - The teacher displays the *Start* question to draw on prior knowledge to the day's session. The teacher guides students in making sense of the problem, and to slow down to recognize and understand important information in the problem before beginning to solve. Teacher displays the problem and uses:

- *Language Routines* - Three Reads, Co-Crafted Questions, Notice/Wonder and Say It Another Way
- *Teacher Moves* - Turn & Talk and Individual Think Time (*Typically 10 seconds to 2 minutes*)

Students apply what they have learned while making sense of the problem to represent the situation using a Part-Part-Whole model and begin solving.

- **Discuss It** - Students work in pairs to share their thinking - even incomplete thinking. Students should analyze their representations and strategies while using sentence frames when appropriate. The teacher strategically selects and sequences students' representations and strategies based upon the learning goal of the lesson. While circulating the teacher should use:

- *Language Routines* - Compare & Contrast and Collect & Display
- *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs (*Repeat, Rework, Rephrase, Record*)

Selected students present and explain their solution methods and listen to critiques of others. The teacher facilitates the discussion and the class looks at highlighted strategies in the *Picture It* and *Model It* sections.

- **Connect It** - The teacher and students connect representations and strategies using a combination of individual work time and partner and whole-class discourse. Carefully selected questions lead students to recognize important mathematical ideas that were initially presented in the **Try It** problem. The teacher should use:

- *Language Routines* - Collect & Display and Compare & Connect

number sense relationships should be leveraged to support students with grade level content (bridging foundational concepts to support students' work at grade level content). Resources should be aligned to core content instructional resources (ie, Tools for Instruction, Fluency Skills & Practice pages, Prerequisite Lessons, Reteach Activities, Vocabulary pages, etc.), while a direct explicit connection between intervention strategies and grade level content is built.

○ <i>Teacher Moves</i> - Turn & Talk, Individual Think Time and Four Rs Closing: (2-5 minutes daily) The closure should be directly related to the goal of the lesson. Formal closure to lessons may consist of synthesizing information learned during the lesson that relates to the objective. For example, students could share with the class something new that they learned that day (the question should be detailed and related to the goal/objective), complete an exit ticket (related to the goal/objective), reflect on what challenged them (related to the goal/objective), etc.		
Whole Group Instruction	Differentiation: Teacher Table	Differentiation: Independent Practice/Small Group Center
Unit Resources		
● Suggested Pacing Guide ● Ready Unit Flow and Progression Video ● Ready Math Background: Models, Progressions, and Teaching Tips ● Ready Interactive Tutorials ● Ready Unit Self Reflection ● Ready Unit Review ● Ready Discourse Cards/Cube ● Ready Digital Math Tools ● Silent Hand Signals ● Georgia Frameworks (K-5) ● Howard County, MD: ○ Gr 5 ● Achieve the Core Coherence Map ● Illustrative Mathematics ● Mindset Mathematics (Gr 3-6) by Jo Boaler	● Scheduling Small Groups and Rotations ● CFAs ● RCM Fluency Practice Pages ● RCM Prerequisite Lessons ● RCM Tools for Instruction Lessons ● RCM Discourse Bookmarks ● K-5 Math Teaching Resources (no direct links to free documents!) ● Virtual Manipulatives: ○ Brainiaccamp- counters, base ten blocks, number	● Scheduling Small Groups and Rotations ● RCM Unit Game ● RCM Literacy Connections Activities ● RCM Discourse Bookmarks ● K-5 Math Teaching Resources (no direct links to free documents!) ● Howard County, MD: ○ Gr 5

● You Cubed ● San Francisco Unified School District (SFUSD) ○ Gr 5 ● Three Act Tasks: ○ Ms. Castillo's Math (K-5) ○ Graham Fletcher (K-6) ○ Robert Kaplinsky (K-6) ○ Jon Orr (Gr 3-6) ○ Kyle Pearce (Gr 3-6) ● Sense Making Routines: ○ Subitizing Slides (Steve Wyborney) ○ Estimation 180 (Andrew Stadel) ○ Esti-Mysteries (Steve Wyborney) ○ Even More Esti-Mysteries (Steve Wyborney) ○ Estimation Clipboard (Steve Wyborney) ○ Which One Doesn't Belong (Christopher Danielson) ○ Math Visuals (Berkley Everett) ○ Would You Rather...? (John Stevens) ○ Numberless Word Problems (Brian Bushart) ○ Number Talk Images (Tracey Zager & Pierre Tranche) ○ Daily Routines to Jumpstart Math Class (Curriculum Shared Drive) ○ Clothesline Math (Dan Kaufmann) ○ Math Spy (Dan Kaufmann) ○ Same or Different (Brian Bushart) ○ Same But Different (Sue Looney) ○ Splat (Steve Wyborney) ○ Open Middle (Robert Kaplinsky)	line, 100s chart, graphs, fractions, measurement ○ TheMathLearningCenter - ten frames, counters, time, number line, math rack, geoboards ○ SplatSquare-InteractiveHundredsChart ○ Number Line ○ virtual Rekenrek ○ Dreambox Teacher Tools	
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Whole Group Instruction	Differentiation: Teacher Table	Differentiation: Independent Practice/Small Group Center
Assessments		
● Ready Unit Assessments ● Ready Lesson Quizzes ● Ready - Math In Action ● CFAs ● Exit Tickets	● Daily log of small group instruction ● Anecdotal Notes ● Grade Level Math Interview ● CFAs ● RCM Fluency Practice Pages ● RCM Prerequisite Lessons ● RCM Tools for Instruction Lessons ● Exit Tickets ● Achieve the Core Coherence Map ● Illustrative Mathematics	Examples of accountability measures: Recording sheets, Fluency Practice Pages, exit tickets, rubrics, reflections, etc.
Whole Group Instruction	Differentiation: Teacher Table	Differentiation: Independent Practice/Small Group Center
Standards		
5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. <i>*BENCHMARKED Unit 2</i> 5.NF.B.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction	In addition to Whole Group Standards, you may choose to focus on grade level fluency standards or other priority standards listed below: **Unit 3 Center Focuses: 5.NBT.B.5 With accuracy and efficiency multiply multi-digit whole numbers using the standard algorithm.	

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?* 🌱

* Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.

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

* Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.

a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)*

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

5.NF.B.5 Interpret multiplication as scaling (resizing), by:

* Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.

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

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

5.NF.B.6 Solve real world problems involving multiplication of fractions and mixed

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

numbers, e.g., by using visual fraction models or equations to represent the problem.

5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

* Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.

- Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.*
- Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.*
- 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 $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?* 🌱

Unit 3 Math Pacing Guide

Topic: Lesson 15 - Multiply a Decimal by a Whole Number, Lesson 16 - Multiply Decimals, Lesson 17 - Divide Decimals		
Student Learning Standard(s):	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 and subtraction; relate the strategy to a written method and explain the reasoning used.
Math Practices: (add 7 & 8 as needed)	• MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and 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. reasoning. • MP.8 Look for and express regularity in repeated	
Days: 15 12/18 - 1/22 (3 extra days for review/prerequisite)	Focus: (Major Content)	Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills		
Objective:	We are learning to: Lesson 15 • Estimate products of whole numbers and decimals to hundredths. • Multiply decimals to hundredths by whole numbers. • Explain the reasoning used to multiply decimals to hundredths by whole numbers. Lesson 16 • Estimate products of decimals, including identifying whether the product is greater than or less than one of its factors. • Multiply decimals to hundredths, with products to thousandths. • Explain the reasoning used to multiply decimals. Lesson 17 • Divide decimals to hundredths. • Explain the reasoning used to divide decimals to hundredths.	
Essential Question(s):	How does my knowledge of basic operations help me solve problems? What makes a strategy both effective and efficient?	

Core Resources	
Core Whole Group Resources	Core Formative Assessment

Ready Classroom Math Lessons Lesson 15 Session 1: Model It WB pgs Session 2: Try It, Picture It, and Model It WB pgs Session 3: Apply It ques 1-3 Lesson 16 Session 1 - Try It and Connect It WB pgs Session 2 - Try It, Model It, and Connect It WB pgs Session 3 - Try It, Picture It, and Model It WB pgs Session 4 - Apply It Ques 1-3 Lesson 17 Session 1 - Try It and Connect It WB pgs Session 2 - Try It, Picture It, Model It, and Connect It WB pgs Session 3 - Try It, Picture It, and Model It WB pgs Session 4 - Try It, Picture It, and Model It WB pgs Session 5 - Apply It Ques 1-3 Materials: base-ten blocks, hundredths grids, number lines, money, grid paper	- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs	
Additional Leveled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools RCM Lesson 15 -Session 1: Additional Practice WB pgs	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: Lesson 17 - Divide Decimals -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) ● Enough Money	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework (Unit 3 - Multiplying and Dividing Decimals) - Exit Tickets ● Howard County (Assessment Tab)

-Session 2: Connect It, Apply It, Additional Practice WB pgs, Fluency and Skills WS

-Session 3: Apply It ques 4-6

Lesson 16

-Session 1 - Additional Practice WB pgs

-Session 2 - Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS

-Session 3 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS

-Session 4 - Apply It Questions 4-6

Lesson 17

-Session 1 - Additional Practice WB pgs

-Session 2 - Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS

-Session 3 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS

-Session 4 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS

-Session 5 - Apply It Questions 4-6

-3 Act Task: [How Much Money Coinstar](#)

-3 Act Task: [Hanging By a Hair](#)

-3 Act Task: [Straighten Up](#)

-3 Act Task: [Filling the Tank](#)

-3 Act Task: [Gassed](#)

Virtual Math Manipulatives

- [Brainingcamp](#)

- Candy Bars
- School Supplies

- [Howard County Printable Center Activities](#) (Independent Work Tab)

Unable to provide Direct Links to the Below Activities

-[K-5 Math Teaching Resources](#)

- Multiplying Decimals
- Word Problems: Decimals (Multiplication)

• Base ten blocks (decimals) • Number line • Model using hundreds grid • Base ten blocks • Base ten blocks • Decimal x Decimal Models • Base-10 Blocks for Multiplication		
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Decimal	Dividend	Divisor
Estimate	Factor	Place value
Product	Quotient	Variable

Topic: Mid-Unit Assessment	
Days: 2	Review Date: 1/23 Mid-Unit Assessment Date: 1/24

Scoring Submission in LinkIt:

Data Review Date:

Topic: Lesson 18 - Fractions as Division

**Student Learning
Standard(s):**

5.NF.B.3

Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $3/4$ 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?* 🌱

* Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.

**Math Practices:
(add 7 & 8 as needed)**

- MP.1 Make sense of the problem and persevere in solving them.
- MP.2 Reason abstractly and quantitatively.
- MP.3 Construct viable arguments and 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.

Days: 4
1/27 MOY iReady

Focus: (Major Content)

Benchmarked Standard: N
Fluency Standard: N

1/28 - 1/30			
Critical Knowledge & Skills			
Objective:		We are learning to: • Use visual fraction models to represent a fraction as division. • Solve word problems involving division of whole numbers in which the quotient is a fraction or mixed number. • Understand a fraction as a way to represent division where the numerator is divided by the denominator. <i>Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.</i>	
Essential Question(s):		How does my knowledge of basic operations help me solve problems?	

Core Resources		
Core Whole Group Resources	Core Formative Assessment	
Ready Classroom Math Lessons Lesson 18 Session 1: Try It and Connect It WB pgs Session 2: Try It, Picture It, Model It and Connect It WB pgs Session 3: Apply It ques 1-3 Materials: fraction strips, fraction circles, number lines, fraction models	- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs	
Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources	-iReady Individual Path -iReady Teacher Assigned Lessons	-RCM Prerequisite Lessons -RCM Tools for Instruction

-Interactive Tools -Session 1: Additional Practice WB pgs -Session 2: Additional Practice WB pgs, Fluency and Skills WS -Session 3: Apply It ques 4-6 -3 Act Task: Not Enough Eggs -3 Act Task: Ho Ho Ho <u>Virtual Math Manipulatives</u> • Fraction Wall (strips) • Fraction Bars • Fraction Circles	-RCM Interactive Practice: Fractions as Division -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) • Lunch Bunch • Give Me a Break • M&Ms for Everyone • Pizza Party • Super Bowl Cheesy Pretzel Poppers - Howard County Printable Center Activities (Independent Work Tab) • Tape Diagrams: Division and Fractions • Fractions From Division Problems <u>Unable to provide Direct Links to the Below Activities</u> -K-5 Math Teaching Resources • Interpret Fractions as Division	-RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework • Sharing Candy Bars - Illustrative Math Tasks - Exit Tickets • Howard County (Assessment Tab)
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Denominator Quotient	Fraction Remainder	Numerator Apple Fractions by Jerry Pallotta Fraction Action by Loreen Leedy Fraction Fun by David A. Adler Fractions = Trouble! by Claudia Mills (chapter 1) The Hershey’s Chocolate Fractions Book by Jerry Pallotta Picture Pie by Ed Emberley Piece = Part = Portion: Fractions = Decimals = Percents by Scott Gifford Pizza Counting by Christina Dobson

Topic: Lesson 19 - Understand Multiplication by a Fraction			
Student Learning Standard(s):	5.NF.B.4a	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.) *Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.	
Math Practices: (add 7 & 8 as needed)	• MP.1 Make sense of the problem and persevere in solving them. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.5 Use appropriate tools strategically. • MP.2 Reason abstractly and quantitatively. • MP.4 Model with Mathematics. • MP.6 Attend to precision. • MP.8 Look for and express regularity in repeated reasoning.		
Days: 3 1/31 - 2/4	Focus: (Major Content)		Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills			
Objective:	We are learning to: • Understand what multiplying by a fraction means. • Use visual fraction models to multiply a whole number by a fraction. • Use visual fraction models to multiply a fraction by a fraction. Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.		
Essential Question(s):	How does my knowledge of basic operations help me solve problems? What makes a strategy both effective and efficient? How do mathematical models/representations shape our understanding of mathematics?		

Core Resources		
Core Whole Group Resources	Core Formative Assessment	
Ready Classroom Math Lessons Lesson 19 Session 1: Model It WB pgs Session 2: Model It and Connect It WB pgs Session 3: Apply It ques 1-3 Materials: Fraction models, Number lines, grid models, colored pencils	- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs	
Additional Leveled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools RCM -Session 1: Additional Practice WB pgs -Session 2: Additional Practice WB pgs, Fluency and Skills WS -Session 3: Apply It ques 4-5 <u>Virtual Math Manipulatives</u> • Models	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: Understand Multiplication by a Fraction -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) • Multiply a Whole Number by a Fraction: ○ Cherry Sharing ○ Over Baked ○ Bakery Fractions ○ Counting License Plates ○ Money Well Spent ○ Fuel Tanks • Multiply a Fraction by a Fraction: ○ Brownies ○ New Puppy Food - Howard County Printable Center Activities (Independent Work Tab)	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework - Illustrative Math Tasks - Exit Tickets • Howard County (Assessment Tab)

	● Fraction FeastPreview the document ● Using Rectangles to Multiply Fractions ● Satisfaction ● Multiplying a Fraction by a Whole Number with Problems ● Multiplying Fractions by Whole Numbers Unable to provide Direct Links to the Below Activities -K-5 Math Teaching Resources ● Multiply Unit Fractions by Non-Unit Fractions ● Find a Fractional Part of a Group (v. 1)	
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Denominator Product	Factor Unit Fraction	Apple Fractions by Jerry Pallotta Fraction Action by Loreen Leedy Fraction Fun by David A. Adler Fractions = Trouble! by Claudia Mills (chapter 1) The Hershey's Chocolate Fractions Book by Jerry Pallotta Picture Pie by Ed Emberley Piece = Part = Portion: Fractions = Decimals = Percents by Scott Gifford Pizza Counting by Christina Dobson

Topic: Lesson 20 - Multiply Fractions to Find Area			
Student Learning Standard(s):	5.NF.B.4b	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by fraction. b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. *Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.	
Math Practices: (add 7 & 8 as needed)	• MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and 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.		
Days: 4 2/5 - 2/10		Focus: (Major Content)	Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills			
Objective:	We are learning to: • Find the area of rectangles with fractional side lengths by tiling the area with rectangles with side lengths that are unit fractions. • Find the area of rectangles with fractional side lengths by multiplying side lengths. • Show that the number of same-size rectangles that tile a rectangle with fractional side lengths is the same as the product of the side lengths. <i>Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.</i>		
Essential Question(s):	How does my knowledge of basic operations help me solve problems? What makes a strategy both effective and efficient?		

	How do mathematical models/representations shape our understanding of mathematics?
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Core Resources		
Core Whole Group Resources	Core Formative Assessment	
Ready Classroom Math Lessons Lesson 20 Session 1 - Try It and Connect It WB pgs Session 2 - Try It, Picture It, Model It WB pgs Session 3 - Try It, Picture It, Model It WB pgs Session 4 - Apply It Ques 1-3 Materials: grid paper, models, geoboards	- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs	
Additional Leveled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools RCM -Session 1 - Additional Practice WB pgs -Session 2 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS -Session 3 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS -Session 4 - Apply It Questions 4-6	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: Multiply Fractions to Find Area -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) ● Area Rugs ● Cut Paper Problem ● Measuring TV Screens - Howard County Printable Center Activities (Independent Work Tab) ● Fraction FeastPreview the document ● Using Rectangles to Multiply Fractions	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework - Illustrative Math Tasks - Exit Tickets ● Howard County (Assessment Tab)

<u>Virtual Math Manipulatives</u> • Models	• Satisfraction • Multiplying a Fraction by a Whole Number with Problems • Multiplying Fractions by Whole Numbers <u>Unable to provide Direct Links to the Below Activities</u> <u>-K-5 Math Teaching Resources</u> • Multiply Unit Fractions by Non-Unit Fractions • Find a Fractional Part of a Group (v. 1)	
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Area	Factor	Product
Unit Fraction	Formula	Fraction Action by Loreen Leedy Fraction Fun by David A. Adler <i>Fractions = Trouble!</i> by Claudia Mills The Hershey's Chocolate Fractions Book by Jerry Pallotta Picture Pie by Ed Emberley <i>Piece = Part = Portion: Fractions = Decimals = Percents</i> by Scott Gifford Pizza Counting by Christina Dobson

Topic: Lesson 21 - Understand Multiplication as Scaling

**Student Learning
Standard(s):**

5.NF.B.5

Interpret multiplication as scaling (resizing), by:

- a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
- b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{n \times a}{n \times b}$ to the effect of multiplying $\frac{a}{b}$ by 1.

*Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.

**Math Practices:
(add 7 & 8 as needed)**

- MP.1 Make sense of the problem and persevere in solving them.
- MP.2 Reason abstractly and quantitatively.
- MP.3 Construct viable arguments and 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. reasoning. • MP.8 Look for and express regularity in repeated	
Days: 3 2/11 - 2/13	Focus: (Major Content)	Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills		
Objective:	We are learning to: • Understand a multiplication expression as a quantity and a resizing, or scaling, factor. • Recognize that multiplying a whole number or fraction by a number greater than 1 results in a product greater than the whole number or fraction and that multiplying by a number less than 1 results in a product less than the whole number or fraction. • Reason about the size of a product when a number is multiplied by 1, by a factor greater than 1, and by a factor less than 1, without calculating. <i>Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.</i>	
Essential Question(s):	How do mathematical models/representations shape our understanding of mathematics?	

Core Resources	
Core Whole Group Resources	Core Formative Assessment
Ready Classroom Math Lessons Lesson 21 Session 1: Model It WB pgs Session 2: Model It and Connect It WB pgs Session 3: Apply It ques 1-3 Materials: Fraction and Multiplication Models, Number lines	- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs

Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools RCM -Session 1: Additional Practice WB pgs -Session 2: Additional Practice WB pgs, Fluency and Skills WS -Session 3: Apply It ques 4-5 <u>Virtual Math Manipulatives</u> Models	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: Understand Multiplication as Scaling -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) - Holiday Drive - How High - Howard County Printable Center Activities (Independent Work Tab) - Finding Fraction Products - Estimating Multiplication of Fractions <u>Unable to provide Direct Links to the Below Activities</u> <u>-K-5 Math Teaching Resources</u> - Comparing Factors and Products	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework - Illustrative Math Tasks - Exit Tickets Howard County (Assessment Tab)
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Factor	Product	Fraction Action by Loreen Leedy Fraction Fun by David A. Adler <i>Fractions = Trouble!</i> by Claudia Mills The Hershey's Chocolate Fractions Book by Jerry Pallotta Picture Pie by Ed Emberley Piece = Part = Portion: Fractions = Decimals = Percents by Scott Gifford Pizza Counting by Christina Dobson
Resizing	Scaling- "scale up, scale down"	

Topic: Lesson 22 - Multiply Fractions in Word Problems			
Student Learning Standard(s):	5.NF.B.6	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.	
Math Practices: (add 7 & 8 as needed)	• MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with Mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision.		
Days: 4 2/18 - 2/21	Focus: (Major Content)		Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills			
Objective:	We are learning to: • Represent real-world problems involving multiplication of fractions and mixed numbers using visual models and equations. • Solve real-world problems involving multiplication of fractions and mixed numbers using visual models and equations. <i>Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.</i>		
Essential Question(s):	How do mathematical models/representations shape our understanding of mathematics? Where do we find fractions in the real world? Why do we write numbers this way?		
Core Resources			

Core Whole Group Resources		Core Formative Assessment	
Ready Classroom Math Lessons Lesson 22 Session 1 - Try It and Connect It WB pgs Session 2 - Try It, Picture It, Model It, and Connect It WB pgs Session 3 - Try It, Picture It, Model It WB pgs Session 4 - Apply It Ques 1-3 Materials: Fraction and Multiplication Models, Number lines, fraction tiles		- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs	
Additional Levelled Resources			
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources	
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools RCM -Session 1 - Additional Practice WB pgs -Session 2 - Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS -Session 3 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS -Session 4 - Apply It Questions 4-8 -3 Act Task: How Much Dew -3 Act Task: Let It Flow -3 Act Task: the Big Pad Virtual Math Manipulatives	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: N/A -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) ● Know the Score ● Keeping on Track ● Give me a Break ● Ice Cream Shop ● My Muffin ● Orange Juice Anyone? ● "Loafing" Around - Howard County Printable Center Activities (Independent Work Tab) ● Models of Multiplication: Whole Number x Mixed Number ● Models of Multiplication: Mixed Number x Fraction Models ● Satisfaction	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework - Illustrative Math Tasks - Exit Tickets ● Howard County (Assessment Tab)	

Models	<u>Unable to provide Direct Links to the Below Activities</u> <u>-K-5 Math Teaching Resources</u> - Mixed Number x Fraction Models - Whole Number x Mixed Number Models - Literature Link: The Lion's Share	
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Equation	Factor	Fraction Greater than a Whole
Mixed Number	Product	Variable

Topic: Lesson 23 - Understand Division with Unit Fractions			
Student Learning Standard(s):	5.NF.B.7a-b	5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. * Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</i> b. Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i> *Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.	
Math Practices: (add 7 & 8 as needed)	• MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and 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.		
Days: 3 2/24 - 2/26	Focus: (Major Content)		Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills			
Objective:	We are learning to: • Identify situations that involve dividing a unit fraction by a whole number. • Identify situations that involve dividing a whole number by a unit fraction. • Use a visual fraction model to find the quotient of a unit fraction divided by a whole number or the quotient of a whole number divided by a unit fraction.		

	For a given division equation with a unit fraction and a whole number, write a multiplication equation that also can be used to find the quotient. <i>Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.</i>
Essential Question(s):	How do mathematical models/representations shape our understanding of mathematics? Where do we find fractions in the real world? Why do we write numbers this way?

Core Resources		
Core Whole Group Resources	Core Formative Assessment	
Ready Classroom Math Lessons Lesson 23 Session 1: Model It WB pgs Session 2: Model It and Connect It WB pgs Session 3: Apply It ques 1-3 Materials: Fraction Models	- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs	
Additional Leveled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools <u>RCM</u>	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: Understand Division with Unit Fractions -RCM Center Activities -RCM Enrichment Activities	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework

-Session 1: Additional Practice WB pgs -Session 2: Additional Practice WB pgs, Fluency and Skills WS -Session 3: Apply It ques 4-5 -3 Act Task: The Nectarine <u>Virtual Math Manipulatives</u> ● Fraction Tiles ● Interactive Math Lesson Dividing Whole Numbers and Unit Fractions	- Howard County Tasks (Preferred Resources Tab) ● Popsicle Party ● Mini Muffins ● Piece of Cake ● Geometric Artwork ● Making Cookies - Howard County Printable Center Activities (Independent Work Tab) ● Models of Division: Fraction Edition ● Models of Division: Dividing Fractions <u>Unable to provide Direct Links to the Below Activities</u> -K-5 Math Teaching Resources ● Divide a Unit Fraction by a Whole Number ● Divide a Whole Number by a Unit Fraction (v. 1) ● Divide a Whole Number by a Unit Fraction (v. 2)	- Illustrative Math Tasks - Exit Tickets ● Howard County (Assessment Tab)
Vocabulary for Students		Mentor Text List
Dividend	Divisor	Quotient
	Unit Fraction	

Topic: Lesson 24 - Divide Unit Fractions in Word Problems			
Student Learning Standard(s):	5.NF.B.7c	5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. * Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade. c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?</i> 🌱 *Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.	
		Math Practices: (add 7 & 8 as needed) • MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and 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.	
Days: 4 2/27 - 3/4		Focus: (Major Content)	Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills			
Objective:	We are learning to: • Represent and solve real-world problems involving division of unit fractions by whole numbers using visual fraction models and equations. • Represent and solve real-world problems involving division of whole numbers by unit fractions using visual fraction models and equations. • For a given division equation with a unit fraction and a whole number, use the inverse relationship between multiplication and division to write a related multiplication equation.		

	<i>Visual fraction models include tape diagrams, number lines, and area models (See Glossary). Set models, including those defined as the whole, are excluded at this grade.</i>
Essential Question(s):	How do mathematical models/representations shape our understanding of mathematics? Where do we find fractions in the real world? Why do we write numbers this way?

Core Resources		
Core Whole Group Resources		Core Formative Assessment
Ready Classroom Math Lessons Lesson 24 Session 1 - Try It and Connect It WB pgs Session 2 - Try It, Picture It, Model It, and Connect It WB pgs Session 3 - Try It, Model It WB pgs Session 4 - Apply It Ques 1-3 Materials: Fraction Models		- RCM Lesson Quizzes - RCM Comprehension Checks - CFAs
Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools <u>RCM</u> -Session 1 - Additional Practice WB pgs	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME -RCM Center Activities -RCM Enrichment Activities - Howard County Tasks (Preferred Resources Tab) ● Popsicle Party	-RCM Prerequisite Lessons -RCM Tools for Instruction -RCM WB pgs listed under Additional Whole Group Resources - Georgia Framework - Illustrative Math Tasks - Exit Tickets ● Howard County (Assessment Tab)

-Session 2 - Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS -Session 3 - Connect It, Apply It WB and Additional Practice WB pgs, Fluency & Skills Practice WS -Session 4 - Apply It Questions 4-6 -3 Act Task: The Nectarine <u>Virtual Math Manipulatives</u> • Fraction Tiles • Interactive Math Lesson Dividing Whole Numbers and Unit Fractions	• Mini Muffins • Piece of Cake • Geometric Artwork • Making Cookies - Howard County Printable Center Activities (Independent Work Tab) • Models of Division: Fraction Edition • Models of Division: Dividing Fractions	
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Dividend Unit Fraction	Divisor Variable	Quotient

Topic: Unit Review and Unit Assessment	
Days: 2	Review Date: 3/6 Unit Assessment Date: 3/7
Scoring Submission in LinkIt:	Data Review Date:

**Math In Action Lessons can be completed if time allows within the unit. They may also be used for differentiation for G&T students.*

Topic: Lesson - Math in Action		
Student Learning Standard(s):	5.NF.B.3 5.NF.B.4a 5.NF.B.4b 5.NBT.B.7 5.NF.B.6 5.NF.B.7b 5.NF.B.7c	5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths. 5.NF.B Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Math Practices: (add 7 & 8 as needed)	• MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and 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.	
Days: 3/5	Focus: (Major Content)	Benchmarked Standard: N Fluency Standard: N
Critical Knowledge & Skills		
Objective:	We are learning to: Apply skills from the unit to solve real-world problems involving operations with whole numbers, decimals, and fractions.	
Essential Question(s):	How does my knowledge of basic operations help me solve problems? What makes a strategy both effective and efficient? When is estimation more appropriate than finding the 'right' answer? What are strategies to make a reasonable estimate?	

Core Resources		
Core Whole Group Resources		Core Formative Assessment
Additional Leveled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools Ready Classroom Math Lessons Math In Action - Solar Lights - Plant Shrubs - Water Shrubs - Use Compost -3 Act Tasks from Lessons in this Unit -Illustrative Math Tasks in this Unit	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME -RCM Center Activities -RCM Enrichment Activities	-RCM Prerequisite Lessons -RCM Tools for Instruction -Unit Resources for Review
Vocabulary for Students (Unit 3 Digital Word Wall)		Mentor Text List
Unit Vocabulary		

Computer Science (8.1) and Design Thinking (8.2)	
8.1.5.CS.3: Identify potential solutions for simple hardware and	8.2.5.ITH.1: Explain how societal needs and wants influence the

software problems using common troubleshooting strategies. 8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods 8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information. 8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2: Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.	development and function of a product and a system. 8.2.5.ITH.2: Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have. 8.2.5.ITH.4: Describe a technology/tool that has made the way people live easier or has led to a new business or career. 8.2.5.NT.1: Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem. 8.2.5.NT.2: Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries, and societies. 8.2.5.ETW.1: Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems. 8.2.5.ETW.2: Describe ways that various technologies are used to reduce improper use of resources. 8.2.5.ETW.3: Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved. 8.2.5.EC.1: Analyze how technology has contributed to or reduced inequities in local and global communities and determine its short- and long-term effects.
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Preparation for College, Careers, and Beyond	
Career Ready Practices	Personal Financial Literacy (9.1), Career Awareness, Exploration, and Preparation (9.2), Life Literacies and Key Skills (9.4)
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.	9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions 9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue

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.	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global 9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions. 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences. 9.4.5.DC.8: Propose ways local and global communities can engage digitally to participate in and promote climate action 9.4.5.GCA.1: Analyze how culture shapes individual and community perspectives and points of view 9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue
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9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data

9.4.5.IML.4: Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.

9.4.5.IML.5: Distinguish how media are used by individuals, groups, and organizations for varying purposes

9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions

9.4.5.IML.7: Evaluate the degree to which information meets a need including social emotional learning, academic, and social

9.4.5.TL.1: Compare the common uses of at least two different digital tools and identify the advantages and disadvantages of using each.

9.4.5.TL.2: Sort and filter data in a spreadsheet to analyze findings.

9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

9.4.5.TL.4: Compare and contrast artifacts produced individually to those developed collaboratively

9.4.5.TL.5: Collaborate digitally to produce an artifact

Personal Financial Literacy (Standard 9.1)	
Strand A	Income and Careers
Strand B	Money Management
Strand C	Credit and Debt Management
Strand D	Planning, Saving, and Investing
Strand E	Becoming a Critical Consumer
Strand F	Civic and Financial Responsibility
Strand G	Insuring and Protecting
Career Awareness, Exploration, and Preparation (Standard 9.2)	
Strand A	Career Awareness (by end of Grade 4)
Strand B	Career Exploration (by end of Grade 8)
Strand C	Career Preparation (by end of Grade 12)

Cross-Curricular Connections	
Interdisciplinary Connections	Technology Integration and Literacy
- Literature connections (math mentor texts identified in “Resources and Activities”) - Math journals - Math word wall - Literacy Connections & Activities Ready Classroom Math	Online links and possible resources for the integration of technology into lessons are embedded within the “Possible Resources and Activities” column for each Topic area.

Possible Modifications and Accommodations			
Special Education/504 Plans	At-Risk	Gifted	English Language Learners
<i>*All teachers of students with special needs must review each student’s IEP. Teachers must then select the appropriate modifications and/or accommodations necessary to enable the student to appropriately progress in the general curriculum.</i> Possible Modifications/Accommodations - Number line on desk - Extra time on timed calculation assessments - Use of a calculator or chart of basic facts for computation - Use of a graphic organizer to plan ways to solve math problems - Use of concrete materials and objects (manipulatives) - Opportunities for cooperative partner work - Assign fewer problems at one time (e.g., assign only odds or evens) - Basic computation – use counters	The possible list of modifications/accommodations identified for Special Education students can be utilized for At-Risk students. Teachers should utilize ongoing methods to provide instruction, assess student needs, and utilize modifications specific to the needs of individual students. <i>*Refer to the individual student Math Plan for specific interventions.</i>	<i>*Teachers should select the appropriate modifications and/or accommodations for Gifted and Talented according to the following suggestions.</i> Differentiating instruction based on: ● Content: What is taught or the material used ● Process: How it is taught or support given or student grouping or environment ● Product: What students produce To differentiate content consider: ● Using different resources that have less explicit information (e.g., tiering assignments - consider what would make the content more complex to digest for gifted students) ○ For Example: tiering problem solving scenarios making a gifted learner’s scenario more complex ○ For Example: gifted students could work on deriving the procedure for an abstract concept ● Organizing ideas through graphic organizers ● Using a learning contract (learning contracts are <i>individualized</i> and allow students to participate in designing their own learning which is motivating for gifted students) ● Using jigsaws	● Continue practicing vocabulary ● Demonstrate that vocabulary can have multiple meanings ● Encourage bilingual supports among students ● Provide visual cues, graphic representations, gestures, and pictures ● Rephrase math problems when appropriate ● Build knowledge from real-world examples ● Provide manipulatives and symbols ● Have students estimate each other’s heights ● Have students measure themselves and one another ● Have students relate an object they know with a unit of measure

● Differentiated center-based small group instruction ● Fractions – use fraction blocks ● Provide a copy of mathematical equations, class notes, and examples for math notebooks ● Highlight or underline key words in word problems ● If a manipulative is used during instruction, allow its use on a test ● Place value – use place value blocks ● Provide graph paper for arrays ● Provide reteach pages if necessary ● Provide several ways to solve a problem if possible ● Offer small and large graph paper options ● Provide visual aids and anchor charts ● Tiered lessons and assignments		● Using orbital studies (differ from independent investigations and is meant as an extension of the topics covered in class into specific fields of study e.g., manufacturing) To differentiate the process consider: ● How students are grouped ● Tiering materials used (e.g., graphic organizers varying in complexity, types of questions asked - DOK level) ○ For Example: <i>Below-Grade-Level Question:</i> ●●●●●● + ? = ●●●●●●●●●● <i>On-Grade-Level Question (Grade 1):</i> 6 + ? = 10 <i>Above-Grade-Level Question:</i> Jon has 6 puppies. He wants to have 10 puppies. How many more puppies does he need to buy? To differentiate the product consider: ● Using a choice board (the difficulty of the activity should be noted for each choice and should be at least 3 levels) ● Using a menu of options (each item is assigned a point value and students select the route to take) ● Using open ended tasks (have more than one correct answer and/or more than one way to get to/explain an answer) ○ For Example: (Grade 2) Use the digits 0 to 9, at most one time each, to make a true statement. - = + (Open Middle Link) ○ For Example: (Grade 3) Using the digits 1 to 9 exactly one time each, place a digit in each box to make the sum as close to 1000 as possible. + + (GeoGebra Link)	● Encourage peer discussions regarding how students are thinking about math ● RCM Unit Connect Language Development to Mathematics
Individualized Learning Opportunities			
Possible independent study and online learning opportunities are embedded within the “Possible Resources and Activities” column for each Topic area. iReady			