Overview	Standards for Mathematical Content	Unit Focus	Standards for Mathematical Practice
Unit 3 **More Operations on Fractions**	5.NF.B.4b 5.NF.B.5 5.NF.B.6 5.NF.B.7* 5.NBT.A.2* 5.NBT.B.7* 5.MD.A.1	• Apply and extend previous understandings of multiplication and division • Understand the place value system • Perform operations with multi-digit whole numbers and with decimals to hundredths • Convert like measurement units within a given measurement system	MP.1 Make sense of problems 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.
Unit 3: **Suggested Open Educational Resources**	5.NF.B.4b New Park 5.NF.B.5 Comparing Heights of Buildings 5.NF.B.5 Grass Seedlings 5.NF.B.5b Mrs. Gray's Homework Assignment 5.NF.B.6 To Multiply or not to multiply? 5.NF.B.7 Banana Pudding 5.NBT.A.2 Multiplying Decimals by 10 5.NBT.A.2 Marta's Multiplication Error 5.NBT.B.7 The Value of Education 5.MD.A.1, 5.NF.B.3 Converting Fractions of a Unit into a Smaller Unit		

Major Supporting Additional (Identified by PARCC Model Content Frameworks).

Curriculum Unit 3	Standards		Pacing	
			Days	Unit Days
Unit 3 **More Operations on Fractions**	5.NF.B.4b	Multiply fractions by whole numbers and fractions by fractions, drawing visual models to represent products, showing *(a/b) x (c/d) = ab(1/bd)*, and creating story contexts.	5	45
	5.NF.B.5	Explain how a product is related to the magnitude of the factors, including cases in which one factor is a fraction greater than 1 and cases in which one factor is a fraction less than 1.	5	
	5.NF.B.6	Solve real-world problems involving multiplication of fractions (including mixed numbers), using visual fraction models or equations to represent the problem.	4	
	5.NF.B.7*	Divide a unit fraction by a non-zero whole number and interpret by creating a story context or visual fraction model. Divide a whole number by a unit fraction and interpret by creating a story context or visual fraction model. Solve real-world problems involving division of unit fractions by whole numbers or whole numbers by unit fractions.	8	
	5.NBT.A.2*	Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; represent powers of 10 using whole-number exponents.	4	
	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; explain the reasoning used, relating the strategy to the written method.	10	
	5.MD.A.1	Convert standard measurement units within the same system (e.g., centimeters to meters) in order to solve multi-step problems.	6	
	Assessment, Re-teach and Extension		3	

Unit 3 Grade 5		
Content Standards	**Suggested Standards for Mathematical Practice**	**Critical Knowledge & Skills**
5.NF.B.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 5.NF.B.4b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	MP.1 Make sense of problems 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.	Concept(s): No new concept(s) introduced Students are able to: - multiply fractional side lengths to find areas of rectangles. - represent fraction products as rectangular areas. - multiply a fraction by a whole number. - multiply a fraction by a fraction, in general, if q is a fraction c/d, then $(a/b) \times (c/d) = a(1/b) \times c(1/d) = ac \times (1/b)(1/d) = ac(1/bd) = ac/bd.$ Learning Goal 1: Multiply fractions by whole numbers and fractions by fractions, drawing visual models to represent products, showing $(a/b) \times (c/d) = ab(1/bd)$, and creating story contexts.
5.NF.B.5. Interpret multiplication as scaling (resizing), by: 5.NF.B.5a. 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. 5.NF.B.5b. 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.	MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): - Multiplication as resizing (scaling) Students are able to: - compare the size of a product to the size of one of its factors, considering the size of the other factor (at least one factor is a fraction). - explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number. - explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number. - explain that multiplying a given number by a fraction equivalent to 1 does not change the product. Learning Goal 2: Explain how a product is related to the magnitude of the factors, including cases in which one factor is a fraction greater than 1 and cases in which one factor is a fraction less than 1.

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.	MP.4 Model with mathematics. MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. 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.	Concept(s): No new concept(s) introduced Students are able to: - multiply fractions and mixed numbers in order to solve real world problems. - represent the solution to these real world problems with visual fraction models and equations. Learning Goal 3: Solve real-world problems involving multiplication of fractions (including mixed numbers), using visual fraction models or equations to represent the problem.

<mark>5.NF.B.7.</mark> Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. *(benchmarked)*	MP.1 Make sense of problems and persevere in solving them.	Concept(s): No new concept(s) introduced
5.NF.B.7a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*	MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics.	Students are able to: • use a story context to interpret division of a unit fraction by a whole number. • divide of a unit fraction by a whole number and represent with visual fraction models. • use a story context to interpret division of a whole number by a unit fraction. • divide of a whole number by a unit fraction and represent with visual fraction models. • divide unit fractions by whole numbers to solve real-world problems, using visual fraction models and equations to represent the problem. • divide whole numbers by unit fractions to solve real-world problems, using visual fraction models and equations to represent the problem.
5.NF.B.7b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*	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.	
5.NF.B.7c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*		Learning Goal 4: Divide a unit fraction by a non-zero whole number and interpret by creating a story context or visual fraction model. Learning Goal 5: Divide a whole number by a unit fraction and interpret by creating a story context or visual fraction model. Learning Goal 6: Solve real-world problems involving division of unit fractions by whole numbers or whole numbers by unit fractions.

5.NBT.A.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	MP.2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • explain patterns in the placement of the decimal point when multiplying or dividing a decimal by powers of 10. • write powers of 10 using whole-number exponents. Learning Goal 7: Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; represent powers of 10 using whole-number exponents.
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. *(benchmarked)	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.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • add and subtract decimals to hundredths using concrete models and drawings. • multiply and divide decimals to hundredths using concrete models and drawings. • add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. • relate the strategy to the written method and explain the reasoning used. Learning Goal 8: 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; explain the reasoning used, relating the strategy to the written method.

| 5.MD.A.1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. | MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision. | Concept(s): Measurement units can be converted within a given measurement system.

Students are able to:

• convert from one measurement unit to another within a given measurement system (e.g., convert 5 cm to 0.05 m, convert minutes to hours).
• solve multi-step, real world problems that require conversions.

Learning Goal 9: Convert standard measurement units within the same system (e.g., centimeters to meters) in order to solve multi-problems. |

Winslow Township School District
Mathematics Curriculum – Grade 5
Unit 3

Unit 3 Grade 5	
School/District Formative Assessment Plan	**School/District Summative Assessment Plan**
Pre-Assessment-"Show What You Know" "Mid-Chapter Checkpoint" Lesson Quizzes Exit Tickets Daily Monitoring	Link It Chapter Tests Math Portfolio
Focus Mathematical Concepts	

Prerequisite skills:
Achieve the Core Coherence Map
https://achievethecore.org/coherence-map/

Standards:
5.NF.B.4b: 3.MD.7a, 4.NF.4
5.NF.B.5:   4.OA.1, 4.OA.2, 4.NF.1, 5.NF.4
5.NF.B.6:   3.OA.1, 4.OA.2, 4.MD.2, 4.NF.4, 5.NF.4
5.NF.B.7:   3.OA.6, 4.NF.4, 4.NBT.6, 5.NF.3, 5.NF.4
5.NBT.A.2:   3.NBT.3, 4.NBT.1, 4.NF.6, 5.NBT.1
5.NBT.B.7:   4.NBT.4, 5.NBT.1, 5.NBT.2, 5.NBT.3a, 5.NBT.5
5.MD.A.1:   4.MD.1, 4.MD.2, 4.NF.4, 5.NBT.1, 5.NBT.7

Common Misconceptions:
5.NF.B.4b, **5.NF.B.5, 5.NF.B.6** Students may believe that multiplication always results in a larger number. Using models when multiplying with fractions will enable students to see that the results will be smaller.
Additionally, students may believe that division always results in a smaller number. Using models when dividing with fractions will enable students to see that the results will be larger.

5.MD.A.1 When solving problems that require renaming units, students use their knowledge of renaming the numbers as with whole numbers. Students need to pay attention to the unit of measurement which dictates the renaming and the number to use. The same procedures used in renaming whole numbers should not be taught when solving problems involving measurement conversions. For example, when subtracting 5 inches from 2 feet, students may take one foot from the 2 feet and use it as 10 inches. Since there were no inches with the 2 feet, they put 1 with 0 inches and make it 10 inches.

Number Fluency:
5.NBT.5 Students fluently multiply multi-digit whole numbers using the standard algorithm.

Achieve the Core – GoMath Fluency Activities
https://achievethecore.org/page/2853/go-math-k-5-guidance-documents

Achieve the Core – Fluency Activities
https://achievethecore.org/page/2948/fluency-resources-for-grade-level-routines

Math Coach – Fact Fluency http://schoolwires.henry.k12.ga.us/Page/21865
Math Wire – Basic Facts Link http://mathwire.com/numbersense/bfactslinks.html
Math Fact Practice http://www.playkidsgames.com/games/mathfact/mathFact.htm
Xtramath - www.xtramath.org

District/School Tasks	District/School Primary and Supplementary Resources and Technology Integration
PARCC Released Items http://www.parcc-assessment.org/released-items **NJDOE Digital Item Library** https://nj.digitalitemlibrary.com/home **NJSLA Mathematics Evidence Statements** https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491 **LinkIt! Form A, B, & C**	Text: Go Math **Think Central** https://www-k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&pageName=resourcepage Xtramath www.xtramath.org Sumdog www.sumdog.com Khan Academy www.khanacademy.org **5th grade Flip Book** http://community.ksde.org/Default.aspx?tabid=5646 **North Carolina Dept of Ed. Wikispaces:** http://maccss.ncdpi.wikispaces.net/Elementary **PARCC Math Resources** http://www.parcc-assessment.org/assessments/test-design/mathematics/math-test-specifications-documents **101 Math Discourse Questions:** http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf **Asking Effective Questions** http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf
Instructional Best Practices and Exemplars	
1. Identifying similarities and differences 2. Summarizing and note taking 3. Reinforcing effort and providing recognition 4. Homework and practice 5. Nonlinguistic representations	6. Cooperative learning 7. Setting objectives and providing feedback 8. Generating and testing hypotheses 9. Cues, questions, and advance organizers 10. Manage response rates

Vocabulary

5.NF.B.4b, 5, 6 & 7
Apply and extend previous understanding of multiplication and division to multiply and divide fractions.
fraction, numerator, denominator, operations, multiplication/multiply, division/divide, mixed numbers, product, quotient, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, , scaling, comparing

5.NBT.A.2
Understand the place value system.
place value, decimal, decimal point, patterns, multiply, divide, tenths, thousands, greater than, less than, equal to, ‹, ›, =, compare/comparison, round

Go Math Chapter 6 Vocabulary
common denominator, equivalent fractions, common multiple, difference, simplest form

Go Math Chapter 7 Vocabulary
common factor, factor

Go Math Chapter 8 Vocabulary
dividend, equation, inverse operations, fraction, product, remainder

5.NBT.B.7
Perform operations with multi-digit whole numbers and with decimals to hundredths.
multiplication/multiply, division/division, decimal, decimal point, tenths, hundredths, products, quotients, dividends, divisor, rectangular arrays, area models, addition/add, subtraction/subtract, (properties)-rules about how numbers work, reasoning

5.MD.A.1
Convert like measurement units within a given measurement system.
conversion/convert, metric and customary measurement
From previous grades: relative size, liquid volume, mass, length, kilometer (km), meter (m), centimeter (cm), kilogram (kg), gram (g), liter (L), milliliter (mL), inch (in), foot (ft), yard (yd), mile (mi), ounce (oz), pound (lb), cup (c), pint (pt), quart (qt), gallon (gal), hour, minute, second, a.m., p.m., clockwise, counter clockwise

9.1 Personal Financial Literacy, 9.2 Career Awareness, Exploration, Preparation and Training & 9.4 Life Literacies and Key Skills

9.1.5.CP.1: Identify the advantages of maintaining a positive credit history.

9.1.5.EG.1: Explain and give examples of what is meant by the term "tax."

9.1.5.EG.2: Describe how tax monies are spent.

9.1.5. EG.5: Identify sources of consumer protection and assistance.

9.1.5.FP.1: Illustrate the impact of financial traits on financial decisions.

9.1.5.FP.3: Analyze how spending choices and decision-making can result in positive or negative consequences.

9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.

9.2.5.CAP.6: Compare the characteristics of a successful entrepreneur with the traits of successful employees.

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

The implementation of the 21st Century skills and standards for students of the Winslow Township District is infused in an interdisciplinary format in a variety of curriculum areas that include, English language Arts, Mathematics, School Guidance, Social Studies, Technology, Visual and Performing Arts, Science, Physical Education and Health, and World Language.: Additional opportunities to address 9.1, 9.2 & 9.4:

Philadelphia Mint

https://www.usmint.gov/learn/kids/resources/educational-standards

Different ways to teach Financial Literacy.

https://www.makeuseof.com/tag/10-interactive-financial-websites-teach-kids-money-management-skills/

Suggested Modifications for Special Education/504

Students with special needs: The students' needs will be addressed on an individual and grade level using a variety of modalities. Accommodations will be made for those students who need extra time to complete assignment. Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all   students as teaching strategies are considered.

☐ Provide the opportunity to re-take tests
☐ Modify activities/assignments/projects/assessments
☐ Breakdown activities/assignments/projects/assessments into manageable units
☐ Additional time to complete activities/assignments/projects/assessments
☐ Provide an option for alternative activities/assignments/projects/assessments
☐ Modify Content
☐ Modify Amount
☐ Small Group Intervention/Remediation

☐ Individual Intervention/Remediation
☐ Additional Support Materials
☐ Guided Notes
☐ Graphic Organizers
☐ Adjust Pacing of Content
☐ Increase one on one time
☐ Peer Support
☐ Other Modifications for Special Education:
- Think Central Online Resources:
  - Reteach
  - Strategic Intervention
  - Intensive Intervention Skill Pack
  - Response to Intervention Activities

Winslow Township School District
Mathematics Curriculum – Grade 5
Unit 3

Suggested Modifications for At-Risk Students

Formative and summative data will be used to monitor student success. At first signs of failure, student work will be reviewed to determine support. This may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations

☐ Provide the opportunity to re-take tests
☐ Increase one on one time
☐ Oral prompts can be given
☐ Using visual demonstrations, illustrations, and models
☐ Give directions/instructions verbally and in simple written format
☐ Peer Support
☐ Modify activities/assignments/projects/assessments
☐ Additional time to complete activities/assignments/projects/assessments
☐ Provide an option for alternative activities/assignments/projects/assessments

☐ Modify Content
☐ Modify Amount
☐ Adjust Pacing of Content
☐ Small Group Intervention/Remediation
☐ Individual Intervention/Remediation
☐ Additional Support Materials
☐ Guided Notes
☐ Graphic Organizers
☐ Other Modifications for Students At-Risk:
- Think Central Online Resources:
  - Reteach
  - Strategic Intervention
  - Intensive Intervention Skill Pack
  - Response to Intervention Activities

English Language Learners	Suggested Modifications for Gifted Students

All WIDA Can Do Descriptors can be found at this link: https://wida.wisc.edu/teach/can-do/descriptors
 ☐ Grades 4-5 WIDA Can Do Descriptors:
     ☐ Listening ☐ Speaking
     ☐ Reading ☐ Writing
     ☐ Oral Language
 Students will be provided with accommodations and modifications that may include:
 • Relate to and identify commonalities in mathematics studies in student's home country
 • Assist with organization
 • Use of computer
 • Emphasize/highlight key concepts
 • Teacher Modeling
 • Peer Modeling
 • Label Classroom Materials - Word Walls
	Students excelling in mastery of standards will be challenged with complex, high level challenges related to the topic.
	 • Raise levels of intellectual demands
	 • Require higher order thinking, communication, and leadership skills
	 • Differentiate content, process, or product according to student's readiness, interests, and/or learning styles
	 • Provide higher level texts
	 • Expand use of open-ended, abstract questions
	 • Critical and creative thinking activities that provide an emphasis on research and in-depth study
	 • Enrichment Activities/Project-Based Learning/ Independent Study
	 Additional Strategies may be located at the links:
	 ❖ Gifted Programming Standards
	 ❖ Webb's Depth of Knowledge Levels and/or Revised Bloom's Taxonomy
	 ❖ REVISED Bloom's Taxonomy Action Verbs

Suggested Activities	
☐ Do Now/Warm-Up ☐ Whole Group ☐ Small Groups ☐ Guided Practice ☐ Independent Practice ☐ Personal Math Trainer on Think Central ☐ Go Math Vocabulary Games	☐ Centers ☐ Intervention/Remediation ☐ Projects ☐Academic Games ☐ Other Suggested Activities: Go Math Grab and Go Activities

Interdisciplinary Connections
Science/Social Studies questions embedded in series (math, science, social studies)   Think Central Go Math! Real World Videos (math, reading, science, social studies)   Think Central S.T.E.M. Activities (math and science)   Math Journal Prompts embedded in series (math and writing)
Integration of Computer Science and Design Thinking NJSLS 8
8.1.5.CS.1: Model how computing devices connect to other components to form a system.   8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.   8.1.5.CS.3: Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.   8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.   8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data