Overview	Standards for Mathematical	Unit Focus	Standards for Mathematical Practice
	Content		
Unit 2 Multi-digit Arithmetic & Fraction Equivalence	 4.NBT.B.4* 4.NBT.B.5 4.NBT.B.6 4.OA.A.3* 4.MD.A.3 4.NF.A.1 4.NF.A.2 4.NF.B.3a-b 	 Use place value understanding and properties of operations to perform multi-digit arithmetic Use the four operations with whole numbers to solve problems Solve problems involving measurement and conversion of measurements Extend understanding of fraction equivalence and ordering. Build fractions from unit fractions 	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.
Unit 2:	4 NDT D To go group or	a not to an arrown	MP.4 Model with mathematics.
Suggested Open	4.NBT.B To regroup or not to regroup 4.NBT.B.6 mental Division Strategy		MP.5 Use appropriate tools strategically.
Educational	4.NAT.B.o mental Division Strategy 4.OA.A.3, 4.MD.A.3 Karl's Garden		wit is ose appropriate tools strategically.
Resources	4.NF.A.1 Explaining Fraction Equivalence with Pictures		MP.6 Attend to precision.
	4.NF.A.2 Comparing Fractions Using Benchmarks Game 4.NF.A.2 Doubling Numerators and Denominators 4.NF.B.3a Comparing Sums of Unit Fractions 4.NF.B.3b making 22 Seventeenths in Different Ways		MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.

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

				Pacing
Curriculum Unit 2	Standards		Days	Unit Days
	• 4.NBT.B.4*	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	2	
	• 4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers; represent and explain calculations using equations, rectangular arrays, and area models.	11	
	• 4.NBT.B.6	Divide a whole number of up to four-digits by a one-digit divisor; represent and explain the calculation using equations, rectangular arrays, and area models.	8	
Unit 2	• 4.OA.A.3*	Write and solve each equation (including any of the four operations) in order to solve multi-step word problems, using a letter to represent the unknown; interpret remainders in context and assess the reasonableness of answers using mental computation with estimation strategies.	2	45
Multi-digit Arithmetic & Fraction Equivalence	• 4.MD.A.3	Solve real world problems with whole numbers by finding the area and perimeter of rectangles using formulas.	5	
	• 4.NF.A.1	Recognize and generate equivalent fractions and explain why they are equivalent using visual fraction models.	7	
	• 4.NF.A.2	Compare two fractions with different numerators or different denominators, recording comparison with >, =, or <, and justifying the conclusion using visual fraction models.	3	
	• 4.NF.B.3a-b	Decompose a fraction into a sum of fractions with the same denominator in more than one way and record the decomposition as an equation; justify the decomposition with a visual fraction model.	3	
		Assessment, Re-teach and Extension	4	

Unit 2			
	Unit 2 Grade 4		
Content Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills	
4.NBT.B.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm. [Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.] *(benchmarked)	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: add multi-digit whole numbers using the standard algorithm with accuracy and efficiency. subtract multi-digit whole numbers using the standard algorithm with accuracy and efficiency. Learning Goal 1: Fluently add and subtract multi-digit whole numbers using the standard algorithm.	
4.NBT.B.5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. [Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.]	MP.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • multiply a whole number of up to four digits by a one-digit whole number using strategies based on place values. • multiply two two-digit numbers using strategies based on place value. • represent these operations with equations, rectangular arrays, and area models. • explain the calculation by referring to the model (equation, array, or area model). Learning Goal 2: Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers; represent and explain calculations using equations, rectangular arrays, and area models.	

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. [Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.] 4.OA.A.3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning. MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • 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 the relationship between multiplication and division. • represent these operations with equations, rectangular arrays, and area models. • explain the calculation by referring to the model (equation, array, or area model). Learning Goal 3: Divide a whole number of up to four-digits by a one-digit divisor; represent and explain the calculation using equations, rectangular arrays, and area models. Concept(s): • Proper use of the equal sign • Improper use of the equal sign (e.g. 3 + 7 = 10 - 5 = 5 is incorrect) Students are able to: • solve multi-step word problems involving any of the four operations. • solve multi-step word problems involving interpretation (in context) of a remainder. • write equations to represent multi-step word problems, using a letter to represent the unknown quantity. • explain why an answer is reasonable. • use mental computation and estimation strategies to determine whether an answer is reasonable. Learning Goal 4: Write and solve each equation (including any of the four operations) in order to solve multi-step word problems, using a letter to represent the unknown; interpret remainders in context and assess the reasonableness of answers using mental computation with estimation strategies.

	Offit 2	
• 4.MD.A.3. Apply the area and	MP.2 Reason abstractly and quantitatively.	Concept(s): No new concept(s) introduced
perimeter formulas for rectangles in	MP.5 Use appropriate tools strategically.	Students are able to:
real world and mathematical		 solve real world and mathematical problems by finding the area of
problems.		rectangles using a formula.
example, find the width of a rectangular		 solve real world and mathematical problems by finding the perimeter
room given the area of the flooring		of rectangles using a formula.
and the length, by viewing the area		
formula as a multiplication equation		Learning Goal 5: Solve real world problems with whole numbers by finding
with an unknown factor.		the area and perimeter of rectangles using formulas.
• 4.NF.A.1. Explain why a fraction <i>a/b</i>	MP.1 Make sense of problems and persevere in	Concept(s):
is equivalent to a fraction $(n \times a)/(n \times a)$	solving them.	• Equivalent fractions are the same size while the number and size of
b) by using visual fraction models,	MP.4 Model with mathematics.	the parts differ.
with attention to how the number and	MP.5 Use appropriate tools strategically.	Students are able to:
size of the parts differ even though	MP.6 Attend to precision.	explain, using visual fraction models, why two fractions are
the two fractions themselves are the	MP.7 Look for and make use of structure.	equivalent.
same size. Use this principle to		 generate equivalent fractions, using fraction a/b as equivalent to
recognize and generate equivalent		fraction $(n \times a)/(n \times b)$.
fractions.		(1000)
[Grade 4 expectations in this domain are		Learning Goal 6: Recognize and generate equivalent fractions and explain
limited to denominators of 2, 3, 4, 5,		why they are equivalent using visual fraction models.
6, 8, 10, 12 and 100.]		my andy and equivalent along visual nation models.
• 4.NF.A.2. Compare two fractions	MP.1 Make sense of problems and persevere in	Concept(s):
with different numerators and	solving them.	• Fractions may only be compared when the two fractions refer to the
different denominators, e.g., by	MP.4 Model with mathematics.	same whole.
creating common denominators or	MP.5 Use appropriate tools strategically.	Students are able to:
numerators, or by comparing to a	MP.6 Attend to precision.	 create common denominators in order to compare two fractions.
benchmark fraction such as 1/2.	MP.7 Look for and make use of structure.	 create common numerators in order to compare two fractions.
Recognize that comparisons are valid	1711.7 Eook for the make use of structure.	 compare two fractions with different numerators and different
only when the two fractions refer to		denominators by comparing to a benchmark fraction.
the same whole. Record the results of		 record the results of comparisons with the symbols >, =, or <, and
comparisons with symbols >, =, or <,		justify the conclusions, e.g., by using a visual fraction model.
and justify the conclusions, e.g., by		justify the conclusions, e.g., by using a visual fraction model.
using a visual fraction model.		Learning Goal 7: Compare two fractions with different numerators or
[Grade 4 expectations in this domain are		different denominators, recording comparison with >, =, or
limited to denominators of 2, 3, 4, 5,		<, and justifying the conclusion using visual fraction
6, 8, 10, 12 and 100.]		models.
0, 0, 10, 12 and 100.]		models.

4.NF.B.3. Understand a fraction *a/b* with a > 1 as a sum of fractions 1/b. 4.NF.B.3a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. 4.NF.B.3b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 21/8 = 1 + 1 +1/8 = 8/8 + 8/8 + 1/8.

[Grade 4 expectations in this domain are limited to denominators of 2, 3, 4, 5,

6, 8, 10, 12 and 100.]

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.

Concept(s):

- Some fractions can be decomposed.
- Addition/subtraction of fractions is joining/separating parts referring to the same whole.

Students are able to:

- decompose a fraction into a sum of fractions with the same denominator in more than one way.
- write decompositions of fractions as an equation.
- develop visual fraction models that represent decomposed fractions and use them to justify decompositions.

Learning Goal 8: Decompose a fraction into a sum of fractions with the same denominator in more than one way and record the decomposition as an equation; justify the decomposition with a visual fraction model.

Unit 2 Grade 4		
School/District Formative Assessment Plan	School/District Summative Assessment Plan	
Pre-Assessment, Quizzes	Chapter Benchmark	
Exit Tickets	Link-It	
Daily Monitoring		
Math Journals		
Interactive Notebooks		
Portfolios		
Totalonos		

Focus Mathematical Concepts

Prerequisite skills:

Achieve the Core Coherence Map

https://achievethecore.org/coherence-map/

Standards:

4.NBT.B.4: 2.NBT.7, 3.NBT.2, 4.NBT.1

4.NBT.B.6 3.NBT.3, 3.OA.5, 3.OA.7, 4.NBT.1, 4.NBT.2 **4.NBT.B.6** 3.OA.2, 3.OA.5, 3.OA.6, 3.OA.7, 4.NBT.1

4.OA.A.3: 2.OA.1, 3.OA.8

4.MD.A.3: 3.OA.4, 3.MD.7, 3.MD.8

4.NF.A.1: 3.NF.3, 4.OA.1 **4.NF.A.2:** 3.NF.3, 4.NF.1

4.NF.B.3a-b: 3.NBT.2, 3.NF.1, 3.NF.2

Common Misconceptions:

4.NBT.4-6 Often students mix up when to 'carry' and when to 'borrow'. Also students often do not notice the need of borrowing and just take the smaller digit from the larger one. Emphasize place value and the meaning of each of the digits.

Specific strategies or students having difficulty with lining up similar place values in numbers as they are adding and subtracting.

Sometimes it is helpful to have them write their calculations on grid paper or lined notebook paper with the lines running vertical. This assists the student with lining up the numbers more accurately.

4.NF.1-2 Students think that when generating equivalent fractions they need to multiply or divide either the numerator or denominator, such as, changing $\frac{1}{2}$ to sixths.

They would multiply the denominator by 3 to get $\frac{1}{6}$, instead of multiplying the numerator by 3 also. Their focus is only on the multiple of the denominator, not the "whole fraction".

It's important that students use a fraction in the form of one such as $\frac{3}{3}$ so that the numerator and denominator do not contain the original numerator or denominator.

Number Fluency:

4.NBT.4 Students fluently add and subtract 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

District/School Tasks	District/School Primary and Supplementary Resources	
PARCC Released Items	Text - Go Math	
http://www.parcc-assessment.org/released-items		
	Think Central	
NIDOE Disitel Here Library	https://www-	
NJDOE Digital Item Library https://nj.digitalitemlibrary.com/home	<u>k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&pageName=res</u>	
ittps://iij.digitalitelillibrary.com/nome	<u>ourcepage</u>	
NJSLA Mathematics Evidence Statements	Flip Book – Gr 4	
https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-	http://community.ksde.org/Default.aspx?tabid=5646	
Yk0U712M/edit#gid=554025491	North Carolina Dept of Ed. Wikispaces:	
	http://maccss.ncdpi.wikispaces.net/Elementary	
LinkIt! Form A, B, & C	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 AskingEffective	
	Questions.pdf	
	GoMath Personal Math Trainer	
	XtraMath	
	http://www.xtramath.org	
	Prodigy	
	http://www.prodigygame.com MobyMax	
	http://www.mobymax.com	
	http://www.mobymax.com	
Instructional Best Practices and Exemplars		
1. Identifying similarities and differences	6. Cooperative learning	
2. Summarizing and note taking	7. Setting objectives and providing feedback	
3. Reinforcing effort and providing recognition	8. Generating and testing hypotheses	
4. Homework and practice	9. Cues, questions, and advance organizers	
5. Nonlinguistic representations	10. Manage response rates	

Vocabulary

4.NBT.B.4, 5 & 6

Use place Value understanding and properties of operations to perform multidigit arithmetic.

add, addend, sum, subtract, difference, equation, strategies, (properties)-rules about how numbers work, rectangular arrays, area model, multiply, divide, factor, product, quotient, reasonableness

4.OA.A.3

Use the four operations with whole numbers to solve problems.

multiplication/multiply, division/divide, dividend, divisor, addition/add, subtraction/subtract, equations, unknown, remainders, reasonableness, mental computation, estimation, rounding

4.MD.A.3

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

area, perimeter

4.NF.A.1 & 2

Extend understanding of fraction equivalence and ordering.

partition(ed), fraction, unit fraction, equivalent, expression, multiple, reason, denominator, numerator, comparison/compare, <, >, =, benchmark fraction

4.NF.B.3

Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.

operations, addition/joining, subtraction/separating, fraction, unit fraction, equivalent, multiple, reason, denominator, numerator, decomposing, mixed number, (properties)-rules about how numbers work, multiply, multiple

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

- 9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.
- 9.4.5.IML.7: Evaluate the degree to which information meets a need including social emotional learning, academic, and social (e.g., 2.2.5. PF.5).
- 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 (e.g., 1.5.5.CR3a).
- 9.4.5.TL.5: Collaborate digitally to produce an artifact (e.g., 1.2.5CR1d).

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 interpretation will be made for those students who need extra time to related to IEP specifications. 504 accommodations will also be attended to alternative assessments, and scaffolding strategies will be used to support 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	complete assignment. Support staff will be available to aid students o by all instructional leaders. Physical expectations and modifications,		
☐ Additional time to complete activities/assignments/projects/assessments	☐ Graphic Organizers		
□ Provide an option for alternative activities/assignments/projects/assessments □ Modify Content □ Modify Amount □ Small Group Intervention/Remediation	□ 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		

Suggested Modifications for At-Risk Students			
Formative and summative data will be used to monitor student success. At first si include parent consultation, basic skills review and differentiation strategies. Wit 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 □ Daily 5 □ CAFÉ	☐ Centers ☐ Intervention/Remediation ☐ Projects ☐ Academic Games ☐ Other Suggested 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)

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.NI.2: Describe physical and digital security measures for protecting sensitive personal information.
- 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.
- 8.1.5.DA.4: Organize and present climate change data visually to highlight relationships or support a claim
- 8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.