Fifth Grade: Math Curriculum

Unit: 1	Time: September	Standards:
Essential Questions • How can you describe the relationship between two place-value positions? • How can you use an exponent to show powers of 10? • How do you multiply by 1-digit and 2-digit numbers? • How is multiplication used to solve a division problem? • How can you use the strategy *solve a simpler problem* to help you solve a division problem? • How can you use a numerical expression to describe a situation? • In what order must operations be evaluated to find the solution to a problem? • In what order must operations be evaluated to find a solution when there are parentheses within parentheses?	**Enduring Understandings** • I can recognize the 10 to 1 relationship between two place-value positions. • I can write and evaluate repeated factors in exponent form. • I can multiply by 1-digit and 2-digit numbers? • I can use multiplication to solve division problems. • I can use the strategy *solve a simpler problem* to solve problems. • I can use order of operations to evaluate numerical expression. • I can evaluate numerical expressions with parentheses, brackets, and braces. • I can write numerical expressions.	5.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. 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. 5.NBT.B.5 Fluently multiply multi-digit whole number using the standard algorithm. 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. 5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. 5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognize that 3 X (18932 +921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*
Benchmark Assessment(s) ➢ SWBAT complete a practice test that requires them to describe the relationship between tow place-value positions and use exponents to show powers of 10 with 80% accuracy (PARCC test prep workbook pages 9-10). 5.NBT.A.2 ➢ SWBAT complete a practice test that requires them to multiply multi digit numbers with 80% accuracy (PARCC test prep workbook pages 17-18). 5.NBT.B.5 ➢ SWBAT complete a practice test that requires them to write and solve numerical expressions using order of operations with 80% accuracy (PARCC workbook test prep pages 1-4). 5.OA.A.1, 5.OA.A.2		**Other Assessments** ✓ Beginning-of-Year Test ✓ Mid-Chapter Checkpoint (Chp.1) ✓ Chapter 1 Test ✓ Vocabulary Quiz **Materials** -Go Math! Student workbook (chap. 1) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Real World Project: (extending division to 2-digit divisors, integrating decimal factors into the place value system and developing understanding of operations with decimals to the hundredths, and developing fluency with whole number and decimal operations). Student workbook pg.2 and Critical Area Projects pg. B1-B2 (via Think Central).
- Grab and Go activities 1, 11, and 15 (Planning Guide pg. PG 92).
- Grab and Go Reader – A Drive through History and Niagara Falls Numbers.
- Grab and Go game – What's Left?
- Chapter 1 STEM Activities: Smart choices/activity 3
- Chapter 1 Performance Task

REINFORCEMENT

- **Reteach worksheet pages (chapter resources book)**
- **Persona Math Trainer (Think Central)**
- **Math On the Spot videos**
- **Response to Intervention Activities (Think Central)**
- **ELL Activities**
- **Strategic Intervention Guide (Think Central)**
- **Intensive Intervention Guide (Think Central)**

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)
- STEM activities (Think Central)

Suggested Websites

- **First in math games: http://www.firstinmath.com/**
- **Illuminations: https://illuminations.nctm.org/**
- **IXL: https://www.ixl.com/math/grade-5**

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

SEL: Develop, implement and model effective problem solving and critical thinking skills.

Language Arts: W.5.2.d.: Use precise language and domain- specific vocabulary to inform about or explain the topic.

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

Unit: 2	Time: October	Standards:
Essential Questions • How can you solve and check division problems? • How can you use base-ten blocks to model and understand division of whole numbers? • How can you divide by 2-digit divisors? • How can you use numbers to estimate quotients? • How can the strategy *draw a diagram* help you solve a division problem?	**Enduring Understandings** • I can divide 3- and 4- digit dividends by 1- digit divisors. • I can model division with 2-digit divisors using base-ten blocks. • I can divide by two-digit divisors. • I can estimate quotients by using compatible numbers. • I can solve problems by using the strategy *draw a diagram.*	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.
Benchmark Assessment(s) ➢ SWBAT complete a practice test to find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors with 80% accuracy (PARCC test prep workbook pages 19-20). 5.NBT.B.6		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.2) ✓ Chapter 2 Test ✓ Vocabulary Quiz **Materials** • Go Math! Student workbook (chap.2) • Go Math! PARCC workbook
SUGGESTED ACTIVITIES		
• Grab and Go activity 15 (Planning Guide pg. PG 92). • Grab and Go Reader – A Drive through History and Niagara Falls Numbers. • Grab and Go game – What's Left? • Chapter 2 STEM Activities: Super Models choices/activity 3 • Chapter 2 Performance Task		**REINFORCEMENT** • Reteach worksheet pages (chapter resources book) • Persona Math Trainer (Think Central) • Math On the Spot videos • Response to Intervention Activities (Think Central) • ELL Activities • Strategic Intervention Guide (Think Central) • Intensive Intervention Guide (Think Central)

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games:** http://www.firstinmath.com/
- **Illuminations:** https://illuminations.nctm.org/
- **IXL:** https://www.ixl.com/math/grade-5

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

SEL: Develop, implement and model effective problem solving and critical thinking skills.

Language Arts: W.5.2.d.: Use precise language and domain- specific vocabulary to inform about or explain the topic.

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Fifth Grade: Math Curriculum

Unit: 3	Time: November	Standards:
Essential Questions • How do you read, write, and represent decimals through the thousands? • How can you use place value to compare and order decimals? • How can you use base-ten blocks to model decimal addition? • How can place value help you add and subtract decimals?? • How can you use addition or subtraction to describe a pattern or create a sequence with decimals? • Which method could you choose to find decimal sums and differences?	**Enduring Understandings** • I can read, write, and represent decimals through the thousands. • I can compare and order decimals to thousands using place value. • I can model decimal addition using base-ten blocks. • I can add and subtract decimals using place value. • I can identify, describe, and create numeric patterns with decimals. • I can choose a method to find a decimal sum or difference.	5.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. 5.NBT.A.3 Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392=3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 9 x (1/100) + 2 x (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. 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.
Benchmark Assessment(s) ➢ SWBAT complete a practice test to read, write, compare and order decimals using the place value system with 80% accuracy (PARCC test prep workbook pages 11-14). 5.NBT.A.3ab		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.3) ✓ Chapter 3 Test ✓ Vocabulary Quiz
		Materials • Go Math! Student workbook (chap.3) • Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Grab and Go activity cards 4 and 5 (Planning Guide pg. PG 92).
- Grab and Go Readers – Dewey and His Decimals, Halfpipe, and A Hundredth of a Second.
- Grab and Go games – Decimal Challenge and Ride the Course.
- Chapter 3 STEM Activities: Super Models choices/activity 3
- Chapter 2 Performance Task

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games:** http://www.firstinmath.com/
- **Illuminations:** https://illuminations.nctm.org/
- **IXL:** https://www.ixl.com/math/grade-5

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

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Fifth Grade: Math Curriculum

Unit: 4	Time: December	Standards:
Essential Questions • How can you use a model, properties, and place value to multiply a whole number and a decimal or a decimal and a decimal? • How can you use expanded form and place value to multiply a decimal and a whole number? • How can the strategy *draw a diagram* help you solve a decimal multiplication problem? • What strategies can you use to place a decimal point in a product? • How do you know you have the correct number of decimal places in your product?	**Enduring Understandings** • I can use a model, properties, and place value to multiply decimals. • I can use expanded form and place value to multiply decimals. • I can use the strategy *draw a diagram* to solve decimal multiplication problem. • I can use various strategies to place a decimal point in a product. • I can multiply decimals with zeros in the product.	5.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. 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.
Benchmark Assessment(s) ➢ SWBAT complete a practice test to recognize that a digit in one place value represents 10 times as much as the digit to its right and 1/10 as much as the digit to the left with 80% accuracy (PARCC test prep workbook pages 7-8). 5.NBT.A.1 ➢ SWBAT complete a practice test that requires them to describe the relationship between tow place-value positions and use exponents to show powers of 10 with 80% accuracy (PARCC test prep workbook pages 9-10). 5.NBT.A.2		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.4) ✓ Chapter 4 Test ✓ Vocabulary Quiz **Materials** • Go Math! Student workbook (chap.4) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Grab and Go activity cards 4 and 13 (Planning Guide pg. PG 93).
- Grab and Go Reader – Doubling Every Day
- Grab and Go game – Powerful Products
- Chapter 4 STEM Activities: Invasive Species/activity 6
- Chapter 4 Performance Task

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games:** http://www.firstinmath.com/
- **Illuminations:** https://illuminations.nctm.org/
- **IXL:** https://www.ixl.com/math/grade-5

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

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Language Arts: W.5.2.d.: Use precise language and domain- specific vocabulary to inform about or explain the topic.

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Fifth Grade: Math Curriculum

Unit: 5	Time December/January	Standards:
Essential Questions • How can you use a model to divide a decimal by a whole number and divide by a decimal? • How can you estimate decimal quotients? • How can the strategy *work backwards* help you solve a multistep decimal problem? • When do you write a zero in the dividend to find a quotient?	**Enduring Understandings** • I can use a model to divide a decimal by a whole number and divide by a decimal. • I can estimate decimal quotients. • I can use the strategy *work backwards* to solve multistep decimal problems. • I can write a zero in the dividend to find a quotient.	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.

Benchmark Assessment(s)

- SWBAT complete a practice test to add ,subtract, multiply, and divide decimals to the hundredths, using concrete models or drawings with 80% accuracy (PARCC test prep workbook pages 21-22) 5NBT.B.7

Other Assessments

- ✓ Mid-Chapter Checkpoint (Chp.5)
- ✓ Chapter 5 Test
- ✓ Vocabulary Quiz

Materials

-Go Math! Student workbook (chap.5)
-Go Math! PARCC workbook

SUGGESTED ACTIVITIES

- Grab and Go activity card 17 (Planning Guide pg. PG 93).
- Grab and Go Reader – Seeking the Lowest Price
- Grab and Go game – Match Up
- Chapter 5 STEM Activities: Populations and Communities/activity 1
- Critical Area Performance Task 1 (Chapter resources/chapter 5 page 33)
- Chapter 5 Performance Task

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

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Fifth Grade: Math Curriculum

	ENRICHMENT • Enrich worksheet pages (chapter resources book) • Mega Math (Think Central) • *i*Tools (Think Central) • Advanced Learners Activities • STEM activities (Think Central)
Suggested Websites • **First in math games:** http://www.firstinmath.com/ • **Illuminations:** https://illuminations.nctm.org/ • **IXL:** https://www.ixl.com/math/grade-5	**Suggested Materials** • Go Math! Manipulatives Set • Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

SEL: Develop, implement and model effective problem solving and critical thinking skills.

Language Arts: W.5.2.d.: Use precise language and domain- specific vocabulary to inform about or explain the topic.

Fifth Grade: Math Curriculum

Unit: 6	Time: January/February	Standards:
Essential Questions • How can I use a common denominator to add and subtract fractions with unlike denominators? • How can you use models to add and subtract fractions and mixed numbers that have different denominators? • How can you use renaming to find the difference of two mixed numbers? • How can the strategy *work backward* help you solve a problem with fractions that involves addition and subtraction? • How can properties help you add fractions with unlike denominators?	**Enduring Understandings** • I can use models to add and subtract fractions and mixed numbers that have different denominators. • I can use renaming to find the difference of two mixed numbers. • I can use the strategy *work backward* to solve a problem with fractions that involves. Addition and subtraction. • I can use properties to help me add fractions with unlike denominators.	5.NF.A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)* 5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7<1/2.*
Benchmark Assessment(s) ➢ SWBAT complete a practice test to add and subtract fractions with unlike denominators using common denominators with 80% accuracy (PARCC test prep workbook pages 23-24) 5NF.A.1 ➢ SWBAT complete a practice test to solve word problems involving addition and subtraction of fractions with 80% accuracy (PARCC test prep workbook pages 25-26) 5.NF.A.2		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.6) ✓ Chapter 6 Test ✓ Vocabulary Quiz ✓ Middle-of-Year Test **Materials** -Go Math! Student workbook (chap.6) -Go Math! PARCC workbook
SUGGESTED ACTIVITIES		
• Grab and Go activity card 8 (Planning Guide pg. PG 93). • Grab and Go Readers – Fractions Add Up!, Fossil Hunters, and Table Soccer, Anyone? • Grab and Go games – Picture Problems and What' the difference? • Chapter 6 STEM Activities: Resources on the Move/activity 1 • Chapter 6 Performance Task		**REINFORCEMENT** • Reteach worksheet pages (chapter resources book) • Persona Math Trainer (Think Central) • Math On the Spot videos • Response to Intervention Activities (Think Central) • ELL Activities

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Fifth Grade: Math Curriculum

- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games: http://www.firstinmath.com/**
- **Illuminations: https://illuminations.nctm.org/**

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.

9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

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 (e.g., 6.1.5.CivicsCM.3).

SEL: Develop, implement and model effective problem solving and critical thinking skills.

Language Arts: W.5.2.d.: Use precise language and domain- specific vocabulary to inform about or explain the topic.

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Fifth Grade: Math Curriculum

Unit: 7	Time: February/March	Standards:
Essential Questions • How can I find the product of a fraction and a whole number with or without a model? • How does the size of the product compare to the size of one factor (greater than or less than one) when multiplying fractions? • How do you multiply fractions? • How can you use a unit tile to find the area of a rectangle with fractions side lengths? • How do you multiply mixed numbers?	**Enduring Understandings** • I can find the product of a fraction and a whole number with or without models. • I can relate the size of the product to the factors when multiplying fractions greater than or less than one. • I can use a model to multiply two mixed numbers and find the area of a rectangle. • I can multiply fractions.	5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product *(a/b) x q* as *a* parts of a partition of *q* into *b* equal parts; equivalently, as a result of a sequence of operations *a x q ÷ b. For example, use a visual fraction model to show (2/3) x 4 = 8/3, and create a story context for this equation. Do the same with (2/3) x (4/5) = 8/15. (In general, (a/b) x (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. Multiplying 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: 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 x a)/(n x b)* to the effect of multiplying *a/b* by 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.
Benchmark Assessment(s) ➢ SWBAT complete a practice test to multiply fractions with or without using a model with 80% accuracy (PARCC test prep workbook pages 29-30) 5NF.B.4a ➢ SWBAT complete a practice test multiply fractions using unit tiles and area with 80% accuracy (PARCC test prep workbook pages 31-32) 5.NF.B.4b ➢ SWBAT complete a practice test related to the size of the product based on whether it is multiplied by a number greater than or less than one with 80% accuracy (PARCC test prep workbook pages 33-36) 5.NF.B.5ab ➢ SWBAT complete a practice test to solve real word problem involving multiplication of fractions and mixed numbers with 80% accuracy (PARCC test prep pages 37-38) 5.NF.B.6		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.7) ✓ Chapter 7 Test ✓ Vocabulary Quiz **Materials** -Go Math! Student workbook (chap.7) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Grab and Go activity cards 6 and 11 (Planning Guide pg. PG 94).
- Grab and Go Reader – Cranking Out the Numbers
- Grab and Go games – Fraction Factors
- Chapter 7 STEM Activities: How Do We Know?/activity 3
- Chapter 7 Performance Task

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games:** http://www.firstinmath.com/
- **Illuminations:** https://illuminations.nctm.org/
- **IXL:** https://www.ixl.com/math/grade-5

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

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Language Arts: W.5.2.d.: Use precise language and domain- specific vocabulary to inform about or explain the topic.

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

Unit: 8	Time: March/April	Standards:
Essential Questions • How do you divide a whole number by a fraction and divide a fraction by a whole number? • How can the strategy *draw a diagram* help you solve division problems by writing a multiplication sentence? • How does a fraction represent division? • How can you divide fractions by solving a related multiplication sentence? • How can you use diagrams, equations, and story problems to represent division?	**Enduring Understandings** • I can divide a whole number by a fraction and divide a fraction by a whole number. • I can solve problems using the strategy *draw a diagram.* • I can interpret a fraction as a division and solve whole-number division problems that result in a fraction or mixed number. • I can divide a whole number by a fraction and divide a fraction by a whole number. • I can represent division by drawing diagrams and writing story problems and equations.	5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole number and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole numbers, 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) x 4 = 1/3.* b. 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 x (1/5) = 4.* c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by nit 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?* 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?*
Benchmark Assessment(s) ➢ SWBAT complete a practice test to apply and extend previous understandings of multiplication and division to divide fractions with 80% accuracy (PARCC test prep workbook pages 39-44) 5.NF.B.7abc ➢ SWBAT complete a practice test to solve real word problem involving division of fractions and mixed numbers with 80% accuracy (PARCC test prep pages 27-88) 5.NF.B.3		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.8) ✓ Chapter 8 Test ✓ Vocabulary Quiz **Materials** -Go Math! Student workbook (chap.8) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Grab and Go activity card 6 (Planning Guide pg. PG 94).
- Grab and Go Reader – Cranking Out the Numbers
- Grab and Go game – Fraction Factors
- Chapter 8 STEM Activities: Meet Scientists/activity 1
- Critical Area Performance Task 2 (Chapter resources page 27)
- Chapter 8 Performance Task

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games:** http://www.firstinmath.com/
- **Illuminations:** https://illuminations.nctm.org/
- **IXL:** https://www.ixl.com/math/grade-5

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

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Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

Unit: 9	Time: April/May	Standards:
Essential Questions • How can a line plot help you find an average with data given in fractions? • How can you identify and plot points on a coordinate grid? • How can you use a coordinate grid to display data collected in an experiment? • How can you use a line graph to display and analyze real-world data? • How can you identify a relationship between two numerical patterns? • How can you use the strategy *solve a simpler problem* to help you solve a problem with patterns? • How can you write and graph ordered pairs on a coordinate grid using two numerical patterns?	**Enduring Understandings** • I can a line plot help you find an average with data given in fractions. • I can graph and name points on a coordinate grid using ordered pairs. • I can collect and graph on a coordinate grid. • I can analyze and display data in a line graph. • I can use two rules to generate a numerical pattern and identify the relationship between the corresponding terms in the patterns. • I can solve problems using the strategy *simpler problem.* • I can graph the relationship between two numerical patterns on a coordinate grid.	5.OA.B.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6 and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.* 5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally* 5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (eg., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate). 5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
Benchmark Assessment(s) ➢ SWBAT complete a practice test to analyze patterns and relationships with 80% accuracy (PARCC test prep workbook pages 5-6) 5.OA.B.3 ➢ SWBAT complete a practice test to make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8) with 80% accuracy (PARCC test prep pages 47-48) 5.MD.B2 ➢ SWBAT complete a practice graph points on the coordinate plane to solve real-world and mathematical problems with 80% accuracy (PARCC test prep pages 61-64) 5.G.A1-2		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.9) ✓ Chapter 9 Test ✓ Vocabulary Quiz **Materials** -Go Math! Student workbook (chap.9) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Grab and Go activity cards 6 and 19 (Planning Guide pg. PG 94).
- Grab and Go Readers – Graphing Practice, Is This a Career for You? and Park Visitors.
- Grab and Go game – It's a Toss-up
- Chapter 9 STEM Activities: Special Delivery: Data Displays/activity 1
- Chapter 9 Performance Task

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games:** http://www.firstinmath.com/
- **Illuminations:** https://illuminations.nctm.org/
- **IXL:** https://www.ixl.com/math/grade-5

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

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Fifth Grade: Math Curriculum

Unit: 10	Time: May	Standards:
Essential Questions • How can you compare and convert customary units of length, capacity, and weight? • How can you solve multistep problems that include measurement conversions? • How can you compare and convert metric units? • How can you use the strategy *make a table* to help solve problems about customary and metric conversions? • How can you solve elapsed time problems by converting units of time?	**Enduring Understandings** • I can compare, contrast, convert customary units of length, capacity, and weight. • I can I convert measurement units to solve multistep problems. • I can compare, contrast, and convert metric units. • I can solve problems about customary and metric conversions using the strategy *make a table.* • I can convert units of time to solve elapsed time problems.	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.
Benchmark Assessment(s) ➢ SWBAT complete a practice test to convert like measurement units within a given measurement system with 80% accuracy (PARCC test prep workbook pages 45-46) 5.MD.A.1		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.10) ✓ Chapter 10 Test ✓ Vocabulary Quiz **Materials** -Go Math! Student workbook (chap.10) -Go Math! PARCC workbook

SUGGESTED ACTIVITIES

• Grab and Go activity card 2 (Planning Guide pg. PG 95). • Grab and Go Readers – A Day in Dallas and A Math Mix-Up. • Grab and Go game – 2 Steps Forward, 1 Step Back • Chapter 10 STEM Activities: Meeting People's Needs/activity 3 • Chapter 10 Performance Task	**REINFORCEMENT** • Reteach worksheet pages (chapter resources book) • Persona Math Trainer (Think Central) • Math On the Spot videos • Response to Intervention Activities (Think Central) • ELL Activities • Strategic Intervention Guide (Think Central) • Intensive Intervention Guide (Think Central)

Date of BOE Approval: June 21, 2022

Fifth Grade: Math Curriculum

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advanced Learners Activities
- STEM activities (Think Central)

Suggested Websites

- **First in math games: http://www.firstinmath.com/**
- **Illuminations: https://illuminations.nctm.org/**
- **IXL: https://www.ixl.com/math/grade-5**

Suggested Materials

- Go Math! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills:

9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
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 (e.g., 6.1.5.CivicsCM.3).

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Fifth Grade: Math Curriculum

Unit: 11	Time: June	Standards:
Essential Questions • How can you classify polygons and triangles? • How can classify and compare quadrilaterals? • How can you identify, describe, and classify three-dimensional figures? • How can you use unit cubes to find the volume of a rectangular? • How can you find the volume of a rectangular prism? • How can you use a formula to find the volume of a rectangular prism? • How can you use the strategy *make a table* to compare different rectangular prisms with the same volume? • How can you find the volume of rectangular prisms that are combined?	**Enduring Understandings** • I can identify and classify polygons and triangles. • I can classify and compare quadrilateral using their properties. • I can identify, describe, and classify three-dimensional figures. • I can count unit cubes that fill a solid figure to find volume. • I can find the volume of a rectangular prism. • I can use a formula to find the volume of a rectangular prism. • I can use the strategy *make a table* to compare volumes. • I can find the volume of combined rectangular prisms.	5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.* 5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties. 5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units. 5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units. 5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas as $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Fifth Grade: Math Curriculum

Benchmark Assessment(s)

- SWBAT complete a practice test to classify two-dimensional figures into categories based on their properties with 80% accuracy (PARCC test prep workbook pages 65-68) 5.G.B.34
- SWBAT complete a practice test to recognize volume as an attribute of solid figures and understand concepts of volume measurement with 80% accuracy (PARCC test prep workbook pages 49-52) 5.MD.C.3ab
- SWBAT complete a practice test to relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume (PARCC test prep workbook pages 53-60) 5.MD.C.4 , 5.MD.C.5abc

Other Assessments

- ✓ Mid-Chapter Checkpoint (Chp.11)
- ✓ Chapter 11 Test
- ✓ Vocabulary Quiz

Materials

- Go Math! Student workbook (chap.11)
- Go Math! PARCC workbook

SUGGESTED ACTIVITIES

- Grab and Go activity cards 12, 14, 16, and 20 (Planning Guide pg. PG 95).
- Grab and Go Readers – Beautiful Geometry and City of the Future
- Grab and Go games – Model Makers and Triple Play
- Chapter 11 STEM Activities: More Measuring – Units of Volume/activity 1
- Chapter 11 Performance Task
- Chapter 11 Critical Area Performance task 3 (Chapter Resources/chap. 11)

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Persona Math Trainer (Think Central)
- Math On the Spot videos
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- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central

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- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

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9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
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Fifth Grade: Math Curriculum

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