

FOURTH GRADE MATH CURRICULUM

Math Unit: Place Value, Addition & Subtraction to One Million		Pacing Guide: September
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you describe the value of a digit? • How can you read and write numbers through hundred thousand? • How can you compare and order numbers? • How can you round numbers? • How can you rename a whole number? • How can you add whole numbers? • How can you subtract whole numbers? • How can you use the strategy <i>draw a diagram</i> to solve comparison problems with addition and subtraction? 	<ul style="list-style-type: none"> • I can describe the value of a digit. • I can read and write numbers through hundred thousand. • I can compare and order numbers. • I can round numbers. • I can rename a whole number. • I can add and subtract whole numbers. • I can use the strategy <i>draw a diagram</i> to solve comparison problems. 	<ul style="list-style-type: none"> • SWBAT complete a Prerequisite Skills Inventory Test that requires them to generalize place value understanding for multi-digit whole numbers with 80% accuracy. 4NBT.A.1, 4NBT.A.2, 4NBT.A.3 • SWBAT complete a Prerequisite Skills Inventory Test that requires them to use place value understanding and properties of operations to perform multi-digit arithmetic with 80% accuracy. 4NBT.B.4
Suggested Activities		
<ul style="list-style-type: none"> • Show What You Know: Students will model place value, read and write numbers, compare and order numbers, round numbers to the tens and hundreds place, rename numbers, and add whole numbers. (whiteboard or teacher created material) • View, take notes, and discuss brainpop.com video clip, "Rounding." • Notebook: Define the Commutative and Associative Properties of Addition. Illustrate with examples of each. • Real World Project: Students develop understanding and fluency with multi-digit multiplication, and develop understanding of dividing to find quotients involving multi-digit dividends. 		

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- Reteach rounding numbers with youtube video/song: <https://www.youtube.com/watch?v=pNfz-JU2cKE>
- Reteach the base-ten number system using a place value chart, ones, tens, hundreds, and thousands cubes.
- Offer repeated practice for changing numbers from standard form to word form or expanded form.
- Review comparing numbers with tens, hundreds, and thousands with students before assigning independent work.
- Online Projects: Students rename and regroup numbers using khanacademy.org
- Grab and Go Readers: Read to the entire class, a small group, or have individual students read and answer questions about one or more of the following math-related texts: *Summing up a Pet's Needs*, *The World's Tallest Buildings*.
- Chapter 1 STEM Activities - *Can Waves Cut Caves?*, *Air Masses and Fronts*, *Forewarned!*, *Our Place in Space*, *Like Mother-Like Daughter*, *Math and Science Skill* – (Think Central Teacher Resources)
- Vocabulary Builder: Students are provided with examples and explanations for math-related terms: estimate, expanded form, inverse operations, round, thousands. Play Slap the Vocabulary Term (fly swatters and words either in rows on the floor), or Define the Vocabulary Term on Your Back (invite some students to wear a vocab. term taped to their back), students give the wearer clues regarding the term, then the wearer guesses which word is on his/her back.
- Journal entry: Students draw picture or use numbers to show what the vocabulary words mean. Then ask them to discuss the words and pictures with a partner.
- Journal entry: Students describe how to write a 3-digit number in three different ways.
- Journal entry: Students determine and explain whether 44,000 is a good estimate for 43,967.
- Journal entry: Students explain and illustrate two ways to round a given 2- or 3-digit number.

Reinforcement	Enrichment
<ul style="list-style-type: none"> ● Reteach worksheet pages (chapter resources book) ● Personal 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) ● Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> ● Students can research the base-ten positional number system, then teach their peers more about the value of the digits. ● MEGA Math ● iTools ● Advanced Learners Activities ● Extend the Project Activities <p>Online Activities:</p> <ul style="list-style-type: none"> ● Missing Digit Addition - https://www.mathplayground.com/brain_workouts/brain_workout_01_addition.html ● Missing Digit Subtraction - https://www.mathplayground.com/brain_workouts/brain_workout_01_subtraction.html ● World Problems -

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	<p>https://www.mathplayground.com/WordProblemsWithKatie1.html</p> <ul style="list-style-type: none"> • Regrouping 3 Digit Video- https://www.mathplayground.com/video_add_subtract_3_digit_numbers.html <p>Classroom Activities:</p> <ul style="list-style-type: none"> • Think Central: <ol style="list-style-type: none"> a) Can Waves Cut Caves? • Erosion and Deposition b) Air Masses and Fronts • Characteristics of Air Masses c) Forewarned! • Do the Math!–Interpret Data d) Our Place in Space • Sun–Earth–Moon System e) Like Mother, Like Daughter • Inherited Traits f) Math and Science Skills • Do the Math!–Compare Numbers • WANTED Poster • For more details and additional problems see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvwgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> • District provided program • District provided manipulatives • Place Value charts • Comparison Diagram 	<ul style="list-style-type: none"> • Beginning-of-year Test • Mid-Chapter Checkpoint • Chapter 1 Test • Multiplication Fact Quiz • Show What you Know • Exit Slips • Progress Monitoring
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • www.firstinmath.com • www.khanacademy.org • www.multiplication.com • www.thinkcentral.com • Splash Learn - www.splashlearn.com 	<ul style="list-style-type: none"> • students whiteboards and dry erase markers • Zero to Hero by Joan Holub • How Much is a Million by David M. Schwartz • If You Made a Million by David M. Schwartz • Sir Cumference and All the King's Tens: A Math Adventure by Cindy Neuschwander

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Standards

4. NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 + 10$ by applying concepts of place value and division.
4. NBT.A.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
4. NBT.A.3 Use place value understanding to round multi-digit whole numbers to any place.
4. NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Cross-Curricular Connections

21st Century Skills

CRP2 – Apply appropriate academic and technical skills.

CRP4 – Communicate clearly and effectively with reason.

CRP6 – Demonstrate creativity and innovation.

CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11 – Use technology to enhance productivity.

Technology

8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.3 – Use a graphic organizer to organize information about a problem or issue.

8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

SEL

- Relationship Skills: Utilize positive communication and social skills to interact effectively with others
- Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills
- Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings
- Self-Management: Recognize the skills needed to establish and achieve personal and educational goals
- Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges

Math Unit: Multiply by 1-Digit Numbers

Pacing Guide: October

Essential Questions

Enduring Understandings

Benchmark Assessment(s)

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<ul style="list-style-type: none"> • How can you model multiplication comparisons to solve problems? • How can you estimate products by rounding and determine if exact answers are reasonable? • How can you use the Distributive Property to multiply? • How can you use mental math and properties to help you multiply numbers? • When can you use the draw a diagram strategy to solve a multistep multiplication problem? • How can you use regrouping to multiply? • How can you represent and solve multistep problems using equations? 	<ul style="list-style-type: none"> • I can model multiplication comparisons. • I can estimate products by rounding. • I can use the Distributive Property to multiply a 2-digit number by a 1-digit number. • I can use mental math to multiply numbers. • I can use properties to help multiply numbers. • I can use regrouping to multiply numbers. • I can use equations to represent and solve problems. 	<ul style="list-style-type: none"> • SWBAT complete a practice test that requires them to use the four operations with whole numbers to solve problems with 80% accuracy. 4.OA.A1, 4.OA.A2, and 4.OA.A3 • SWBAT complete a practice test that requires them to use place value understanding and properties of operations to perform multi-digit arithmetic with 80% accuracy. 4.NBT.B.5
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Suggested Activities

- Show What You Know: Use individual whiteboards in order draw arrays, fill in the product or missing factor, regroup tens and ones to form hundreds, and review rounding rules.
- Grab and Go Readers: Share the math-related books with the whole class, a small group, or assign individual students the following titles that focus on Ch. 2 math topics: *Multiplying a Good Deed*, *Putting the World on a Page*, *Tickle My Memory*.
- Compare $3 \times 5 = 15$ with verbal reasoning, 15 is 3 times as many as 5.
- Use the Comparison Diagram in order to model multiplication equations.
- Number Line Multiplication: Use repeated addition in order to show multiplication when multiplying tens, hundreds, and thousands.
- Round in order to estimate products and in order to find out if exact answers are reasonable.
- Use grid paper in order to shade and model multiplication using the Distributive Property.
- Multiply using place value and partial products.
- Pop-a-Pose: Students squat down low, spaced apart. The teacher shares a mental math fact. (+, -, X, /) Students pop up when know the answer. The teacher selects one person who popped up to share, then repeat process.
- Multiply 2-digit, 3-digit, and 4-digit numbers with regrouping.
- Word Definition Map: Complete a word definition map for any chapter 2 term. It should answer the following questions: What is it? What is it like? What are some examples?
- Vocabulary Flashcards: Create and study flashcards for Distributive Property, estimate, factor, partial product, place value, product,

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<ul style="list-style-type: none"> regroup, and round. Use an area model in order to multiply. 	
Reinforcement	Enrichment
<ul style="list-style-type: none"> Reteach worksheet pages (chapter resources book) Personal 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) Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> STEM activities Mega Math iTools Advances Learners Activities Extend the Project Activities Online Activities: <ul style="list-style-type: none"> Grand Prix Multiplication - https://www.mathplayground.com/ASB_GrandPrixMultiplication.html Music Shop Multiplication- https://www.mathplayground.com/music_shop_multiplication.html Classroom Activities: <ul style="list-style-type: none"> Think Central: <ul style="list-style-type: none"> Other Ways Plants Grow • Spore-Bearing Plants Heat Proofing a Home • Do the Math!–Solve Real World Problems Tic- Tac- Toe Choice Board Use Multiplication Properties Word problem To see more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvvgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> district approved math program district approved manipulatives set comparison diagram 	<ul style="list-style-type: none"> Mid-Chapter Checkpoint (Chapter 2) Chapter 2 Test Multiplication Fact Quiz Show What You Know

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Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • First In Math Games- http://www.firstinmath.com • Multiplication Games http://www.multiplication.com • www.thinkcentral.com • www.khanacademy.org • Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> • triangle multiplication/division flashcards • personal whiteboards and dry erase markers for each student • <i>The Best of Times</i> by Greg Tang • <i>7X9=Trouble</i> by Claudia Mill • <i>365 Penguins</i> by Jean-Luc Fromental
<h2>Standards</h2>	
<p>4.OA.A.1 Interpret a multiplication equation as a comparison, e.g., interpret $35=5 \times 7$ as a statement that 35 is 5 times as many a 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p>4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</p> <p>4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p> <p>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.</p>	
<h2>Cross-Curricular Connections</h2>	
<p>21st Century Skills</p> <p><i>CRP2. Apply appropriate academic and technical skills.</i></p> <p><i>CRP4. Communicate clearly and effectively and with reason.</i></p> <p><i>CRP6. Demonstrate creativity and innovation.</i></p> <p><i>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</i></p> <p><i>CRP11. Use technology to enhance productivity.</i></p> <p>Technology</p> <p><i>8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i></p> <p><i>8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue.</i></p> <p><i>8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.</i></p> <p><i>8.2.5.C4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.</i></p> <p>SEL</p> <ul style="list-style-type: none"> • <i>Relationship Skills: Utilize positive communication and social skills to interact effectively with others</i> • <i>Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills</i> • <i>Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings</i> • <i>Self-Management: Recognize the skills needed to establish and achieve personal and educational goals</i> • <i>Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges</i> 	

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Math Unit: Multiply by 2-Digit Numbers		Pacing Guide: November
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none">• What strategies can you use to multiply by tens?• What strategies can you use to estimate products?• How can you use area	<ul style="list-style-type: none">• I can use place value and multiplication properties to multiply by tens.• I can estimate products	<ul style="list-style-type: none">• SWBAT complete practice test that requires them to use place value understanding and properties of operations to perform multi-digit arithmetic with 80% accuracy. 4NBT.B.5• SWBAT complete practice test that requires them to use the four operations with whole numbers to solve problems with 80%

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<p>models and partial products to multiply 2-digit numbers?</p> <ul style="list-style-type: none"> • How can you use place value and partial products to multiply 2-digit numbers? • How can you use regrouping to multiply 2-digit numbers? • How can you find and record products of two 2-digit numbers? • How can you use the strategy <i>draw a diagram</i> to solve multistep multiplication problems? 	<p>by rounding or by using compatible numbers.</p> <ul style="list-style-type: none"> • I can use area models, place value, and partial products to multiply 2-digit numbers. • I can use regrouping to multiply 2-digit numbers. • I can choose a method to multiply 2-digit numbers. 	<p>accuracy. 4.OA.A.3</p>
<p>Suggested Activities</p>		
<ul style="list-style-type: none"> • Show What you Know: Check students for prior knowledge on basic multiplication facts, 2- and 3-digit by 1-digit multiplication, multiplication and estimation vocabulary. • Discuss strategies we use in order to multiply two-digit numbers. (compatible numbers, estimate, partial products) • Vocabulary <i>Matchup</i>: Create a set of vocabulary word cards, half with the terms and half stating the definitions. Put the cards face down in rows. Take turns flipping over two cards. Keep matches. Whoever gets the most matches, wins. • Journal: Draw a fraction circle to model $\frac{5}{6} - \frac{1}{6}$ and write the difference. • Journal: How can you use place value to tell why $60 \times 10 = 600$? 		
<p>Reinforcement</p>	<p>Enrichment</p>	
<ul style="list-style-type: none"> • Reteach worksheets • Personal Math Trainer (Think Central) • Math On the Spot videos • Response to Intervention Activities (Think Central) • ELL Activities • Strategic Intervention Guide (Think Central) 	<ul style="list-style-type: none"> • Create a mystery message that can be decoded by another student using 2-digit by 2-digit multiplication. • Suggest students research a different method of multiplication such as The Lattice Method. • Prove why a specific multiplication method makes more sense than another. 	

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<ul style="list-style-type: none"> ● Intensive Intervention Guide (Think Central) ● Screen and implement Tier 2 interventions ● Model concepts concretely before assigning abstract work ● Students rephrase how to regroup in order to multiply 2-digit numbers 	<ul style="list-style-type: none"> ● STEM Activities ● MEGA Math ● iTools ● Advanced Learners Activities ● Extend the Project Activities ● Online Activities: <ul style="list-style-type: none"> ● Multiplication Snake - https://www.mathplayground.com/multiplication_snake.html ● Find Patterns in the Multiplication Chart - https://www.mathplayground.com/interactive_multiplication_chart.html ● Treasure Quest Multiplication - https://www.mathplayground.com/treasure_quest_multiplication_chart.html ● Classroom Activities: <ul style="list-style-type: none"> ● Think Central: <ul style="list-style-type: none"> ○ <u>The Food Eaters • Do the Math!–Find Fractions</u> ● Exploration Activity Cube Manipulatives. ● Let’s Make a Guess with Greta ● For more details and additional problems see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvwgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● District provided student workbooks ● District provided manipulatives 	<ul style="list-style-type: none"> ● Mid-Chapter Checkpoint ● Chapter 3 Test ● Show What you Know ● Multiplication Fact Quiz ● Performance tasks ● Exit Slips ● Digital Multiplication Quiz

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Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • www.thinkcentral.com • www.khanacademy.org • www.youtube.com • brainpop.com • www.splashlearn.com 	<ul style="list-style-type: none"> • grid paper • whiteboards and dry erase markers for every student • multiplication flashcards
Standards	
<p>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.</p> <p>4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p>	
Cross-Curricular Connections	
<p>21st Century Skills</p> <p><i>CRP2 – Apply appropriate academic and technical skills.</i></p> <p><i>CRP4 – Communicate clearly and effectively with reason.</i></p> <p><i>CRP6 – Demonstrate creativity and innovation.</i></p> <p><i>CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.</i></p> <p><i>CRP11 – Use technology to enhance productivity.</i></p> <p>Technology</p> <p><i>8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i></p> <p><i>8.1.5.A.3 – Use a graphic organizer to organize information about a problem or issue.</i></p> <p><i>8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.</i></p> <p>SEL</p> <ul style="list-style-type: none"> • <i>Relationship Skills: Utilize positive communication and social skills to interact effectively with others</i> • <i>Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills</i> • <i>Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings</i> • <i>Self-Management: Recognize the skills needed to establish and achieve personal and educational goals</i> • <i>Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges</i> 	

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Math Unit: Divide by 1-Digit Numbers		Pacing Guide: November-December
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none">• How can you use multiples and compatible numbers to estimate quotients?• How can you use models to divide whole numbers that do not divide evenly?• How can you divide numbers through	<ul style="list-style-type: none">• I can use multiples and compatible numbers to estimate quotients.• I can divide numbers through thousands by whole numbers to 10.• I can estimate quotients.	<ul style="list-style-type: none">• SWBAT complete a practice test that requires them to use place value understanding and properties of operations to perform multi-digit arithmetic with 80% accuracy. 4.NBT.B.6• SWBAT complete a practice test that requires them to use the four operations with whole numbers to solve problems with 80% accuracy. 4.OA.A.3

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<p>thousands by whole numbers to 10?</p> <ul style="list-style-type: none"> • How can you use the Distributive Property, repeated subtraction, and multiples to find quotients? • How can you use remainders, partial quotients, and base ten blocks to divide? • How can you divide multi-digit numbers and check your answers? • How can you use the strategy <i>draw a diagram</i> to solve multistep division problems? 	<ul style="list-style-type: none"> • I can use Distributive Property, repeated subtraction and multiples to find quotients. • I can use partial quotients and base ten blocks to divide. • I can divide multi-digit numbers and check your answers. • I can use the strategy <i>draw a diagram</i> to solve multistep division problems. 	
<p>Suggested Activities</p>		
<ul style="list-style-type: none"> • Show What You Know: Check student understanding of how arrays can show division, what multiples are, subtracting through 4-digit numbers, and vocabulary related to division. • Grab and Go Readers: Read to or assign <i>The Division Champs</i> and <i>The Thirst Quencher</i> division related texts to individuals or small groups. • Vocabulary Pictionary: Students take turns illustrating a chapter 4 term. They can stand up/raise hand/etc. once they know which word the person up selected. • Repeated Subtraction: Draw a number line and show repeated subtraction as a means for dividing. • Counters: Use counters to show repeated subtraction, or to show when there will be remainders when dividing. • Grid Paper Division: Shade arrays on grid paper in order to show how the Distributive Property works when dividing. • Journal Activity: Write a paragraph that uses at least three of these words: dividend, divisor, multiple, quotient, and remainder. • Journal Activity: Explain how you know that the quotient $143/5$ has a remainder. • Journal Activity: Think about what you learned about division today. Complete one of these sentences: I learned that... I was surprised that... I noticed that... • Model Division: Partner students up. Take turns modeling the steps for dividing numbers through thousands by whole numbers to 10. • Fact Fluency Builder: Pass out index cards with either one dividend or divisor on each. Students should all have one card. Students stand up and walk around to make the related multiplication and division facts from the numbers they hold. • STEM: Research Category 5 hurricanes in order to estimate how long it would take a hurricane to move a given number of miles at a speed of 9 miles per hour. 		

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- Social Studies: Compare the lengths of different states' coastlines. Use compatible numbers in order to estimate how much longer the Pacific coast is than the Atlantic coast.

Reinforcement	Enrichment
<ul style="list-style-type: none"> • Reteach worksheet pages (chapter resources book) • Personal 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) • Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> • Estimating Quotients: Enrich by creating a 10-section spinner, labeling each section 0-9. Students spin the pointer two times and use the digits to write a 2-digit number. That number is the target quotient. Then, students spin the pointer five times and use the five digits to fill in the division example below so that it will produce a quotient that is as close as possible to the target quotient. • Partner Practice: Individually create a 3-digit by 1-digit division problem. After solving it, partner up and take your partner's problem and solve it using a different method. • Trading Cards: Have a group create a set 48 total trading cards from paper. Then, have students show how to separate them into groups of equal sizes. • STEM Water/Snow Research: Students find out why the amount of water in snow varies greatly. (The air temperature, wind speed, and crystal structure of the snow all affect the water content.) Then, they determine how much water 6 inches of snow would melt into in four different cities across the world. • STEM activities • iTools: • Advances Learners Activities: • Real World Project Activity: • Online Activities: <ul style="list-style-type: none"> • Division Derby - https://www.mathplayground.com/ASB_Division_Derby.html • Demolition Derby - https://www.mathplayground.com/ASB_DemolitionDivision.html • Math Monster Division -

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	<p>https://www.mathplayground.com/math_monster_division.html</p> <ul style="list-style-type: none"> • Drag Race Division - https://www.mathplayground.com/ASB_DragRaceDivision.html • Classroom Activities: <ul style="list-style-type: none"> ○ Think Central: <ul style="list-style-type: none"> ■ Flowing Down Slope • The Mississippi River Watershed ■ Fast or Slow • Do the Math!–Calculate Speed ○ Design your own: Create a story ○ For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-1LvvgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> • district provided program • district provided manipulatives 	<ul style="list-style-type: none"> • Mid-Chapter Checkpoint (Chapter 4) • Chapter 4 Test • Multiplication Fact Quiz • Show What You Know • Exit Slips • Performance tasks
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • First In Math Games- http://www.firstinmath.com • Multiplication Games http://www.multiplication.com • www.thinkcentral.com • www.khanacademy.org • Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> • Venn Diagram • grid paper • equal section/circles for dividing • base-ten blocks • Divide and Ride by Stuart J. Murphy • The Great Divide: A Mathematical Marathon by Dayle Ann Dodds • One Hundred Hungry Ants by Elinor J. Pinczes • Equal Schmequal: A Math Adventure by Virginia Kroll
Standards	

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

4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Cross-Curricular Connections

21st Century Skills

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

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CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Technology

8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue.

8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

8.2.5.C4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

SEL

- *Relationship Skills: Utilize positive communication and social skills to interact effectively with others*
- *Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills*
- *Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings*
- *Self-Management: Recognize the skills needed to establish and achieve personal and educational goals*
- *Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges*

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Math Unit: Factors, Multiples, and Patterns		Pacing Guide: January
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you use models to find factors? • How can you tell whether one number is a factor of another number? • How can you use the <i>Make a List</i> strategy to solve problems with common factors? • How are factors and multiples related? • How can you tell whether a number is prime or composite? • How can you tell whether a number is prime or composite? • How can you make and 	<ul style="list-style-type: none"> • I can use models to find factors. • I can tell whether a number is prime or composite or if it is a factor of another number. • I can use the <i>Make a List</i> strategy to solve problems with common factors. • I can tell how factors and multiples are related. • I can make and describe patterns. 	<ul style="list-style-type: none"> • SWBAT complete practice test that requires them to have familiarity with factors and multiples with 80% accuracy. 4.OA.B.4 • SWBAT complete practice test that requires them to generate and analyze patterns with 80% accuracy. 4.OA.C.5

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describe patterns?		
Suggested Activities		
<ul style="list-style-type: none"> ● Show What You Know: Check student understanding of skip-counting, arrays, multiplication facts, and vocabulary such as common factor, common multiple, composite number, divisible, and prime number. ● Factors: Find the factors of 42. Show and explain your work, and list the factor pairs in a table. ● Factor Ninja/Chopping Up Products Poster: Students draw a ninja with a speech bubble that explains how to find factors of a given number. Then, they show factor pairs for that number. ● Multiples and Factors: Students use manipulatives to create models of multiples and factors and then draw representations (pictorial and symbolic) of these multiples and factors. Students then provide examples of both a prime and a composite number and explain how to distinguish between the two. ● Represent Multiples/Factors: Students may show multiples and factors in a variety of ways: Tree diagrams, rectangular area models, 100-Chart patterns, through use of number lines, blocks, and skip counting ● Multiple Monster Poster: Students illustrate a monster which has the known power to find multiples. On their poster, they define the term, multiple, and list the first ten multiples of the number they are given. ● Multiple Flip Book: Students create a flip book that shares the the first 10 multiples of 1,2,3,4,5,6,7,8,9. ● Common Multiples: Students can shade all multiples of 5 by skip-counting by that number in one color, then shade all multiples of 6 on the same chart in another color, then find the common multiples. ● Human Array: Students arrange themselves into a human array in order to locate factors of the total number in the classroom. ● Grab and Go Reader: Assign students to the following text, either online or in their math classroom, <i>Eratosthenes and His Sieve</i>. ● Beginner Vocabulary Builder: Is this number prime or composite? Show us how many factors this number has. ● Intermediate Vocabulary Builder: Is 10 a prime or composite number? How do you know? ● Advanced Vocabulary Builder: Why is 12 a composite number? Name 3 other composite numbers less than 12. ● Vocabulary Game: <i>Guess the Word</i> - Students explain math vocab. in their own words. They partner up or work in small groups. One person selects a vocab. word and gives the group one word describing it. Someone makes one guess. The person shares another one-word clue. Whoever guesses the term correctly earns one point. ● Journal Activity: Students draw pictures or use numbers to show what each term means. Then, they can discuss their work with a partner. ● Journal Activity: Students explain how they can use models to find factors. ● Divisibility Discussion: I know ___ is divisible by ___ because _____. ● Word Problem: Write a word problem that can be solved by finding the numbers that have 4 as a factor. ● Personal Math Trainer: Students complete online work at their own pace for each lesson. (ThinkCentral Teacher Resources) ● STEM: <i>Flash and Boom</i> - Explain how light and sound energy both form. Determine how far away lightning strikes if you see it every 40, 35, or 20 seconds. ● The Sieve of Eratosthenes: Eratosthenes was a Greek mathematician who lived more than 2,000 years ago. He invented a method of finding prime numbers. Follow his steps, either online, or in the students workbook p.308, to locate all prime numbers from 1-100. ● Journal Activity/Class Discussion: Describe how to decide if 94 is a prime number or composite number. ● Fibonacci Sequence: Share photos of a pinecone and an artichoke. Explain how patterns in nature can be called the Fibonacci sequence. Share the beginning of the sequence with the class, 0,1,1,2,3,5,8,13,21,... Ask students how they know what the next number in the sequence is found. Then, ask students to locate the next four numbers in the sequence. 		

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Reinforcement	Enrichment
<ul style="list-style-type: none"> ● Reteach workbook pages (chapter resource book) ● Personal 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) ● Express regularly, repeated reasoning for what makes a prime number, prime. For instance, 2 is the smallest prime number because it has exactly two factors, 1 and itself. ● Multiples: Reiterate regularly that multiples are found by skip-counting. ● Finding Common Factors (RtI Tier 2): Students separate, or divide, two different sets of counters into equal groups. Use counters in order to identify common factors in a pair of numbers. ● Break It Apart (RtI Tier 3): Use 20 counters per partnership to find factors without having any leftover counters. Ask, how many groups of 10 can we form? How many groups of 2 can we form? Can we form groups of 3 without having leftover counters? ● Remind students that $100,000 = 10 \times 10 \times 10 \times 10 \times 10$ ● Display a table of divisibility rules. ● Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> ● Enrich worksheet pages (chapter resource book) ● STEM Activities (Think Central) ● MEGA Math (Think Central) ● iTools (Think Central) ● Advanced Learners Activities ● Extend the Project Activities (Real World/Critical Area Project-in Book & Think Central) ● Challenge students to find the factors for greater numbers. Ex. Find all factors of 98 and its double, 196. ● Challenge students to make conjectures of what a divisibility rule for 8 would be. Encourage them to guess, check, and revise their ideas. ● Advanced learners can explain why a particular divisibility rule works. ● Share some background history on mathematician, Christian Goldbach, who lived in the 1700s. Suggest that students find out if Christian Goldbach's conjecture that every even number greater than 2 be expressed as the sum of two prime numbers is true or not. Ex. $28 = 23 + 5$ (23 and 5 both being prime). Are there other prime addends that also add up to 28? How about 30? ● Online Activities: <ul style="list-style-type: none"> ● Missing Digit Multiplication - https://www.mathplayground.com/brain_workouts/brain_workout_01_multiplication.html ● Otters Missing Factors - https://www.mathplayground.com/ASB_Swimming_Otters.html ● Algebraic Reasoning - https://www.mathplayground.com/algebraic_reasoning.html ● Math Monster Division - https://www.mathplayground.com/math_monster_division.html ● Classroom Activities: <ul style="list-style-type: none"> ● Think Central: <u>Flash and Boom! • Do the Math!–Solve Real World Problems</u> <ul style="list-style-type: none"> ● Design your own: Create a story problem

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	<ul style="list-style-type: none"> • Exploration Activity • For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-1LvwgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> • District provided program • District provided manipulatives 	<ul style="list-style-type: none"> • Mid-Chapter Checkpoint • Chapter 5 Test • Multiplication Fact Quiz • Show What you Know
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • www.firstinmath.com • www.multiplication.com • www.thinkcentral.com • Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> • <u>You Can Count on Monsters</u> by Richard Evan Schwartz • divisibility rules charts (possibly laminated for each student) • counters • Fibonacci sequence pictures to share with the class • poster paper
Standards	
<p>4.OA.B.4 Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.</p> <p>4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</p>	
Cross-Curricular Connections	
<p>21st Century Skills <i>CRP2 – Apply appropriate academic and technical skills.</i> <i>CRP4 – Communicate clearly and effectively with reason.</i> <i>CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.</i> <i>CRP11 – Use technology to enhance productivity.</i></p> <p>Technology <i>8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i></p>	

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8.1.5.A.3 – Use a graphic organizer to organize information about problems or issues.

8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

SEL

- *Relationship Skills: Utilize positive communication and social skills to interact effectively with others*
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Math Unit: Fraction Equivalence and Comparison		Pacing Guide: January-February
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> ● How can you use models and multiplication to find equivalent fractions? ● How can you write fractions in the simplest form? ● How can you write a pair of fractions using common denominator? ● How can you use the strategy <i>make a table</i> to solve problems using equivalent fractions? ● How can you compare and order fractions? 	<ul style="list-style-type: none"> ● I can use models and multiplication to find equivalent fractions. ● I can write fractions in the simplest form. ● I can write a pair of fractions using common denominator. ● I can use the strategy <i>make a table</i> to solve problems using equivalent fractions ● I can compare and order fractions. 	<ul style="list-style-type: none"> ● SWBAT complete a practice test that requires them to demonstrate understanding of fraction equivalence and ordering with 80% accuracy. 4.NF.A.1 and 4.NF.A.2.
Suggested Activities		
<ul style="list-style-type: none"> ● Show What You Know: Assess students’ prior knowledge on parts of a whole, shaded fractions of a whole, and comparing parts of a whole. ● Break apart or combine pieces to find equivalent fractions. ● Use benchmarks like $\frac{1}{2}$ or 1 to compare fractions and later estimate fraction sums and differences. ● Real World Project: Students develop an understanding of fraction equivalence, addition, and subtraction of fractions by whole numbers. ● Grab and Go Fraction Readers: Read or assign <i>Fundraising Fair, A Melody in Fractions, and/or Sleeping Half the Day Away</i>. Discuss. 		

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- Unit Fractions: Compare unit fraction strips.
- Fraction Strips: Make equivalent fractions using fraction strips.
- Using Multiplication to Generate Equivalent Fractions: Multiply the numerator and denominator by another number to form an equivalent fraction.
- Math Talk: If you divide 8 eighth-size parts into 4 equal groups, how many eighth-size parts are in each group?
- STEM Activity: *What Goes Up Comes Down* - What happens to water vapor after it rises into the air above Earth's surface? How does it become puffy white clouds or raindrops that fall on your head? Compare raindrop, water drop, and dust particle sizes using fractions.
- Beginning Vocabulary Builder: What are the denominators in $\frac{1}{4}$ and $\frac{3}{4}$? Are they the same?
- Intermediate Vocabulary Builder: Which pair of fractions has the same denominators? Which pair has different denominators?
- Advanced Vocabulary Builder: What can you share about a given pair of fractions?
- Vocabulary Visualizations: Make and complete a chart for each new vocabulary term, which includes each word, meaning, and example. The terms are: benchmark, common denominator, equivalent fractions, simplest form.
- Vocabulary Semantic Mapping: Students look at a new vocabulary term and list as many related words or phrases as possible. Then, they build a map to analyze the relationship between words.
- Fraction Review: Play Fraction BINGO.
- Journal Activity: What strategies can you use to compare fractions and write equivalent fractions?
- Journal Activity: Draw a model to show a fraction that is equivalent to $\frac{1}{3}$ and a fraction that is not equivalent to $\frac{1}{3}$.
- Journal Activity: Explain how you can determine if $\frac{1}{3}$ and $\frac{4}{12}$ are equivalent fractions.
- Journal Activity: Explain, using words or drawings, how to write $\frac{6}{9}$ in simplest form.

Reinforcement	Enrichment
<ul style="list-style-type: none"> • Reteach worksheet pages (chapter resources book) • Personal Math Trainer (Think Central) • Math On the Spot videos • Response to Intervention Activities (Think Central) • ELL Activities • Review how each denominator tells us how many equal-size pieces the whole has been divided or split into. • Discuss what students notice about the size of the denominator and the size of the piece. • Draw unit fractions to reiterate that $\frac{1}{3}$ is not equal to $\frac{1}{10}$. • Review multiplication patterns in order to more quickly discern if two fractions are equivalent. • Strategic Intervention Guide (Think Central) • Intensive Intervention Guide (Think Central) • Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> • Enrich worksheet pages (chapter resources book) • STEM activities (Think Central) • Mega Math (Think Central) • iTools (Think Central) • Advances Learners Activities • Extend the Project Activities (Real World/Critical Area Project-In book & Think Central) • Building Custom Guitars: Students research electric and acoustic guitars. Find out how electric guitars are powered. Read about the material from which the strings are made. Find out what makes strings have different sounds. Sketch guitars you might like to learn how to play. • Provide students with sets of three or four fractions in each group. Students identify which fraction in each group is not equivalent to the others. They can trade sets with a partner and discuss strategies used to identify the nonequivalent fraction. • Challenge students to use mental math to write fractions in simplest form.

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	<ul style="list-style-type: none"> ● Instruct students to create a repeating pattern with two-colored counters. After the first time the pattern repeats, ask students to find the fraction of a particular color counter if the pattern were repeated six times. ● Online Activities: <ul style="list-style-type: none"> ● Visual Fractions - https://www.mathplayground.com/visual_fractions.html ● Number Bonds Fractions - https://www.mathplayground.com/number_bonds_fractions.html ● Classroom Activities: <ul style="list-style-type: none"> ● Think Central: <ul style="list-style-type: none"> ○ Feeling Radiant! • Conduction, Convection, Radiation ○ Where Does Water Go? • The Water Cycle ○ The Power of Pollen • Do the Math!–Work with Fractions ○ Life on the Blue Planet • Do the Math!–Use Fractions ○ Bringing Up Baby • Do the Math!–Solve a Problem ● Students will be given the task of preparing three desserts. For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvugdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● Go Math! Student workbook (Chapter 6) ● District provided program ● District provided manipulatives 	<ul style="list-style-type: none"> ● Mid-Chapter Checkpoint (Chapter 6) ● Chapter 6 Test ● Multiplication Fact Quiz ● Show What You Know ● Middle of Year Test – Chapter 6 Resources ● Performance Tasks ● Student Portfolio of Fraction Activities

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Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • First In Math Games- http://www.firstinmath.com • Multiplication Games http://www.multiplication.com • www.thinkcentral.com • www.khanacademy.org • Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> • district provided manipulatives • <u>The Wishing Club: a Story about Fractions</u> by Donna Jo Napoli • <u>The Lion’s Share: A Tale of Halving Cake and Eating it, Too</u> by Matthew McElligott • <u>Fraction Fun</u> by David A. Adler • <u>Fractions = Trouble</u> by Claudia Mills • <u>Twinderella: A Fractioned Fairy Tale</u> by Corey Rosen Schwartz
Standards	
<p>4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.</p> <p>4.NF.A.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record results of comparisons with symbols $>$, $=$, $<$, and justify the conclusions, e.g., by using a visual fraction model.</p>	
Cross-Curricular Connections	
<p>21st Century Skills</p> <p><i>CRP2. Apply appropriate academic and technical skills.</i></p> <p><i>CRP4. Communicate clearly and effectively and with reason.</i></p> <p><i>CRP6. Demonstrate creativity and innovation.</i></p> <p><i>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</i></p> <p><i>CRP11. Use technology to enhance productivity.</i></p> <p>Technology</p> <p><i>8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i></p> <p><i>8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue.</i></p> <p><i>8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.</i></p> <p><i>8.2.5.C4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.</i></p> <p>SEL</p> <ul style="list-style-type: none"> • <i>Relationship Skills: Utilize positive communication and social skills to interact effectively with others</i> • <i>Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills</i> • <i>Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings</i> • <i>Self-Management: Recognize the skills needed to establish and achieve personal and educational goals</i> • <i>Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges</i> 	

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Math Unit: Add & Subtract Fractions		Pacing Guide: February
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • When can you add or subtract parts of a whole? • How can you write a fraction as a sum of fractions with the same denominators? • How can you add fractions with denominators using models? • How can you subtract fractions with like denominators using models? • How can you add and subtract fractions with like denominators? • How can you rename mixed numbers as fractions greater than 1 and rename fractions greater than 1 as mixed numbers? • How can you add and subtract mixed numbers with like denominators? • How can you rename a mixed number to help you subtract? • How can you add fractions with like denominators using properties of addition? 	<ul style="list-style-type: none"> • I can add or subtract parts of a whole. • I can write a fraction as a sum of fractions with the same denominator. • I can add and subtract fractions and mixed numbers with like denominators. • I can rename mixed numbers as fractions greater than one and rename fractions greater than 1 as mixed numbers. • I can rename a mixed number to help me subtract. • I can add fractions with like denominators using properties of addition. • I can use the strategy <i>Act it Out</i> to solve multistep problems with fractions. 	<ul style="list-style-type: none"> • SWBAT complete a practice test with 80% accuracy that requires them to build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. (4.NF.B.3a., 4.NF.B.3b., 4.NF.B.3c., 4.NF.B.3d)

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- How can you use the strategy *Act it Out* to solve multistep problems with fractions?

Suggested Activities

- Show What You Know: Check students' prior knowledge of fractions equal to one, parts of a whole, and when reading and writing fractions.
- Vocabulary Word Map: Make a word map that shares what word is being defined, when the word is used, and some examples of the term.
- Grab and Go Readers: Assign or read and discuss *Sleeping Half the Day Away*.
- STEM Activity: *Where Does Water Go?* - Research where most of Earth's water goes after it rains or precipitates. Then, ask students to consider all of the rainfall equalling 100 parts. 97 parts would be salty. Where could the other 3 parts come from? Make a graph to show your findings.
- STEM Activity: *The Power of Pollen* - Read more about how pollination takes place. Then, offer the following problem: Animals pollinate $\frac{3}{4}$ of seed-making plants. Wind and water pollinate the other $\frac{1}{4}$ of plants. Make a pie graph to show this information.
- STEM Activity: *Life on the Blue Planet* - Read about salt and fresh-water environments. Then, create a graph to share the fraction of different animal types live in salt water vs. fresh water.
- Fraction Concentration: On the sticky side of each of 10 sticky notes, write an addition or subtraction problem involving fractions and mixed numbers. On the sticky side of 10 other notes, write the solutions. Then randomly number all the notes from 1 through 20. The host finds a magazine picture of something that both players will recognize, and sticks the notes on the picture so that it is completely covered. Players take turns. The first player turns over any two sticky notes. If the notes show a problem and its solution, the player takes both notes and gets another turn. The winner is the first player to correctly identify the photo.
- Journal Activity: Explain why $\frac{1}{4}$ of the round cake is not equal to $\frac{1}{4}$ of the square cake.
- Journal Activity: Write $\frac{9}{12}$ as a sum of unit fractions.
- Journal Activity: Find a recipe in a book or online that includes the amount of salt as a fraction. Model how to find the amount of salt needed when the recipe is doubled or tripled.
- Art Connection: Students draw a sailboat with a large triangular sail. Then, they divide their sail into an equal number of smaller triangles. They can color in the sail to make a design, then write about the fraction of each color they used in their entire sail.
- Journal Activity: List the steps you would use in order to model $\frac{7}{10} - \frac{4}{10}$.
- Road Map: Students draw a road map illustrating the total stretch of a road to clean and the amount cleaned in the morning and afternoon. Ask for volunteers to share their drawings and reasoning.
- Explain real world scenarios for using mixed numbers rather than improper fractions. Ex. When your family has eaten two whole pizzas and a $\frac{1}{4}$ of the last one, we say they ate 2 and $\frac{1}{4}$ pizzas, not $\frac{9}{4}$ of the pizza.
- Identify fraction markings on rulers.
- Create a "Monster Inch" on the long side of a sheet of $8\frac{1}{2} \times 11$ paper. Model how to mark the spot for 0 inches as well as 1 whole inch, $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ of the inch.
- Discuss: How might mixed numbers be used when you follow a recipe, or how might mixed numbers be used when you go on a trip?

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Reinforcement	Enrichment
<ul style="list-style-type: none"> ● Reteach workbook pages (chapter resource book) ● Personal 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) ● Remind students of a common error in writing too many addends when writing a fraction as a sum of unit fractions. Ex. In $\frac{3}{4}$, the numerator, 3, tells you that there will be 3 unit fractions adding to make it. $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ ● Review that the Take-Away Model for subtracting fractions answers the question, how much is left, while the Comparison Model is useful for situations that ask questions such as how much more. ● Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> ● Enrich worksheet pages (chapter resource book) ● MEGA Math (Think Central) ● iTools (Think Central) ● Advanced Learners Activities ● Extend the Project Activities (Real World/Critical Area Project-in Book & Think Central) ● Ask students to write fraction word problems that are solved by using more than one operation. Exchange problems with a partner for solving. ● Provide students with mixed numbers. Next, they list two possible addends that could make that sum. Then, they use the Associative Property to group four possible addends to generate that sum. ● Tangram: A tangram seat has two large triangles, one medium triangle, two small triangles, a parallelogram, and a square that form a large square. What fraction of the large square is each tangram piece? How many sets of tangrams would you need in order to make one large square entirely out of large triangles? ● Online Activities: <ul style="list-style-type: none"> ● Visual Fractions - https://www.mathplayground.com/visual_fractions.html ● Number Bonds Fractions - https://www.mathplayground.com/number_bonds_fractions.html ● Classroom Activities: <ul style="list-style-type: none"> ● Think Central: <ul style="list-style-type: none"> ○ Feeling Radiant! • Conduction, Convection, Radiation ○ Where Does Water Go? • The Water Cycle ○ The Power of Pollen • Do the Math!–Work with Fractions ○ Life on the Blue Planet • Do the Math!–Use Fractions ○ Bringing Up Baby • Do the Math!–Solve a Problem ● Students will be given the task of preparing three desserts. For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7

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Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● District provided program ● District provided manipulatives 	<ul style="list-style-type: none"> ● Mid-Chapter Checkpoint ● Chapter 7 Test ● Multiplication Fact Quiz ● Show What you Know ● Performance Tasks
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> ● www.firstinmath.com ● www.multiplication.com ● www.thinkcentral.com ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● grid paper ● copies of formulas to be stapled into student notebooks ● <u>Full House: An Invitation to Fractions</u> by Dayle Ann Dodd
Standards	
<p>4.NF.B.3 Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.</p> <ol style="list-style-type: none"> Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. 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: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 1/8 = 1 + 1/8 = 8/8 + 1/8$. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. 	
Cross-Curricular Connections	
<p>21st Century Skills</p> <p>CRP2 – Apply appropriate academic and technical skills.</p> <p>CRP4 – Communicate clearly and effectively with reason.</p> <p>CRP6 – Demonstrate creativity and innovation.</p> <p>CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP11 – Use technology to enhance productivity.</p>	

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Technology

8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.3 – Use a graphic organizer to organize information about a problem or issue.

8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

SEL

- *Relationship Skills: Utilize positive communication and social skills to interact effectively with others*
- *Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills*
- *Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings*
- *Self-Management: Recognize the skills needed to establish and achieve personal and educational goals*
- *Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges*

Math Unit: Multiply Fractions by Whole Numbers		Pacing Guide: March
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> ● How can you write a fraction as a product of a whole number and a unit fraction? 	<ul style="list-style-type: none"> ● I can write a fraction as a product of a whole number and a unit fraction. 	<ul style="list-style-type: none"> ● SWBAT complete a practice test that requires them to build fractions from unit fractions by applying and extending previous understandings or operations on whole numbers with 80%

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<ul style="list-style-type: none"> • How can you use a model to multiply a fraction by a whole number to solve a problem? • How can you use the strategy <i>draw a diagram</i> to solve comparison problems with fractions? 	<ul style="list-style-type: none"> • I can use a model to multiply a fraction by a whole number to solve a problem. • I can use the strategy <i>draw a diagram</i> to solve comparison problems with fractions. 	<p>accuracy. 4.NF.B.4a, 4.NF.B.4b, and 4.NF.B.4c</p>
<p>Suggested Activities</p>		
<ul style="list-style-type: none"> • Show What You Know: Check prior knowledge on: relating addition to multiplication, reading and writing mixed numbers, as well as modeling fractions and mixed numbers. • Grab and Go Readers: Assign or read and discuss <i>A Melody in Fractions</i>. • STEM Activity: <i>How Do Soils Form?</i> - Study soil samples and read about how soil is formed. Remind students that it can take 1,000 years for a centimeter of soil to form. If people grew at the same rate, how long would it take for students to grow to their current height? To find the answer, students should convert their height to centimeters by multiplying their height in inches by 2.5 and then multiply the product by 1,000. • Discuss what $6 \times \frac{1}{2}$ means. Ask how many halves are there in 6 groups of $\frac{1}{2}$. How can we rename $\frac{6}{2}$? • Discuss how to write $2\frac{2}{3}$ as an improper fraction. • STEM Activity: <i>How Does a Garden Grow?</i> -Students read about the life cycle and growth rates of some plants, then compare them. • STEM Activity: <i>Generating Electricity</i> -Students read about how electricity gets to our homes and schools, then find out the cost to power appliances from their fraction of a total electric bill. • Vocabulary Builder: Students draw pictures or use numbers to show what each of the following terms means. (equation, fraction, Identity Property of Multiplication, pattern, unit fraction) • Vocabulary Game: <i>Go Fish</i>- Play with 4 sets of the vocab. words. A player asks another if he or she has a word that matches his/her definition. If so, that player gets the card and can ask another player. Once the person asking must “go fish”, his/her turn is over. • Journal Activity: Write two questions you have about multiplying fractions by whole numbers. • Journal Activity: Explain how to find multiples of a unit fraction. • Journal Activity: Pete practiced piano $1\frac{1}{2}$ hours 3 times per week and Elisa practiced $\frac{3}{4}$ hour 5 times per week. Explain and show how you know who practiced more in one week. • Journal Activity: Explain how to write $\frac{5}{3}$ as a product of a whole number and a unit fraction. • Sketch an example to show how you can draw a diagram to solve comparison problems, then share it with a partner. 		
<p>Reinforcement</p>	<p>Enrichment</p>	

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<ul style="list-style-type: none"> • Reteach worksheet pages (chapter resources book) • Personal 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) • Connect It (RtI Tier 2): Related repeated addition to multiplication • Model It (RtI Tier 3): Model mixed numbers using fraction circles. • Screen and implement Tier 2 interventions 	<ul style="list-style-type: none"> • Enrich worksheet pages (chapter resources book) • STEM activities (Think Central) • Mega Math (Think Central) • iTools (Think Central) • Advances Learners Activities • Extend the Project Activities (Real World/Critical Area Project-In book & Think Central) • Recipe Roll: Give students copies of recipes. Ask them to roll a regular die, which will tell them how many batches of the recipe they'll need. Then, they should multiply the recipe by that number. Ex. If you roll a 3, you'll need to triple the recipe. • Online Activities: <ul style="list-style-type: none"> • Scale Fractions - https://www.mathplayground.com/Scale_Fractions.html • Tug Team Fractions - https://www.mathplayground.com/ASB_TugTeamFractions.html • Classroom Activities: <ul style="list-style-type: none"> • Think Central: <ul style="list-style-type: none"> ■ How Do Soils Form? • Three Stages of Matter in Soil ■ How Does a Garden Grow? • Life Cycles of Plants ■ Generating Electricity • Do the Math!–Solve a Problem • Imposter Fraction Project: For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-LLvwgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> • District provided program • District provided manipulatives 	<ul style="list-style-type: none"> • Mid-Chapter Checkpoint (Chapter 8) • Chapter 8 Test • Multiplication Fact Quiz • Show What You Know • Performance Tasks
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • First In Math Games- http://www.firstinmath.com • Multiplication Games http://www.multiplication.com 	<ul style="list-style-type: none"> • Jump, Kangaroo, Jump by Stuart J. Murphy

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- www.thinkcentral.com
- www.khanacademy.org
- Splash Learn www.splashlearn.com

- Fractions are Parts of Things by J. Richard Dennis
- Superhero School by Aaron Reynolds
- fraction strips
- fraction pizza game
- student sized analog clock models

Standards

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

- Understand a multiple of a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.*
- Understand a multiple of a/b as a multiple of $1/b$ and use this understanding to multiply fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)*
- Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

Cross-Curricular Connections

21st Century Skills

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Technology

8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.3 Use a graphic organizer to organize information about problem or issue.

8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

8.2.5.C4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

SEL

- *Relationship Skills: Utilize positive communication and social skills to interact effectively with others*
- *Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills*
- *Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings*
- *Self-Management: Recognize the skills needed to establish and achieve personal and educational goals*
- *Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges*

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Math Unit: Relate Fractions and Decimals		Pacing Guide: March
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you record tenths as fractions and decimals? • How can you record hundredths as fractions and decimals? • How can you record tenths and hundredths as fractions and decimals? • How can you relate fractions, decimals, and money? • How can you use the strategy Act it Out to solve problems that use money? 	<ul style="list-style-type: none"> • I can record tenths and hundredths as fractions and decimals. • I can relate fractions, decimals and money. • I can use the strategy Act it Out to solve problems that use money. • I can add fractions when the denominators are 10 or 100. • I can compare 	<ul style="list-style-type: none"> • SWBAT complete practice test that requires them to understand decimal notation for fractions, and compare decimal fractions with 80% accuracy. 4.NF.C.5., 4.NF.C.6., 4.NF.C.7 • SWBAT complete practice test that requires them to solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit with 80% accuracy. 4.MD.A.2

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<ul style="list-style-type: none"> • How can you add fractions when the denominators are 10 or 100? • How can you compare decimals? 	<p>decimals.</p>	
<p>Suggested Activities</p>		
<ul style="list-style-type: none"> • Show What You Know: Check prior knowledge on: counting coins, equivalent fractions, and fractions with a denominator of 10. • Discuss where you have seen fractions and decimals in real life. Create a T-chart of this information. • Discuss how many tenth size pieces are in one whole. • Begin the unit with base-ten fractions. (Use denominators that are multiples of ten.) • Use models, place-value tables, and number lines in order to establish the relationship between the fraction and decimal version of numbers. • Remind students that a whole number and a fraction can name the same amount. Ex. 1 whole = $\frac{3}{3}$, $\frac{4}{4}$, $\frac{10}{10}$, etc. • Grab and Go Readers – Assign students to read/read aloud one or more of the following math-related titles: <i>And the Total Is...</i>, <i>Decimals on a Diamond</i>, <i>Elizabeth’s Groovy Green Racing Machine</i>, <i>A Melody in Fractions</i>. • Record hundredths as fractions and as decimals. • Use a 100s grid and shade in $\frac{42}{100}$. Name the model and write it as a fraction and a decimal. • Write a money amount in three ways: drawing the coins, as a decimal, and as a fraction. • Place decimals on a number line from least to greatest. • Vocabulary Builder: Ch. Vocab. terms - decimal, decimal point, equivalent decimals, hundredth, tenth Draw a flat and color it to show 0.1, 0.2, 0.3, 0.4, etc. Write $0.1 = \frac{1}{10}$ and so on. • Vocabulary Game: <i>Matchup</i> - • Journal Activity: Explain, in your own words, what equivalent decimals are. • Journal Activity: How can you record tenths as fractions and decimals? • Journal Activity: Write a letter to advise new learners about how to relate fractions to decimals. • Journal Activity: Describe a situation where it is easier to use decimals than fractions, and explain why. 		
<p>Reinforcement</p>		<p>Enrichment</p>
<ul style="list-style-type: none"> • Reteach workbook pages (chapter resource book) • Personal 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) 		<ul style="list-style-type: none"> • Enrich worksheet pages (chapter resource book) • STEM Activities (Think Central) • MEGA Math (Think Central) • iTools (Think Central) • Advanced Learners Activities • Extend the Project Activities (Real World/Critical Area Project-in Book & Think Central) • Research the lengths of 4-5 insects in cm. For each insect, make

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<ul style="list-style-type: none"> • Discuss It! (Tier 2): Write a whole number in three forms: word form, standard form, and expanded form. • Ask students what they need to remember to say when they get to a comma in a 4-digit or larger number. (name of the period) • Write It! (Tier 3): Provide students with fraction circles, each divided into eighths. Cut out three parts out of eight. What is left? ($\frac{5}{8}$) Write fractions using fraction circles. • Screen and implement Tier 2 interventions 	<p>two flashcards, one sharing the decimal length, the other showing the fraction/mixed number. Play a matching game with one student's cards.</p> <ul style="list-style-type: none"> • Vacation Decimals/Fractions: Students research the length of a road trip they wish to go on some day. Once they know the distance to the nearest hundredth, they rename the decimal as a fraction. • Use play money in order to show how to divide different money amounts in half, between three people, or even between four people. • Online Activities: <ul style="list-style-type: none"> • Pizza Pandas - https://www.mathplayground.com/ASB_PizzaPandas.html • Visual Fractions - https://www.mathplayground.com/visual_fractions.html • Classroom Activities: <ul style="list-style-type: none"> • Think Central: <ul style="list-style-type: none"> ○ You Have a Solution! • Do the Math!–Calculate Amounts ○ Go with the Flow... of Heat • Conductors ○ Blowing in the Wind • Landform Changes ○ Under Pressure • Air Pressure Changes ○ The Good and the Bad of It • Do the Math!– Interpret a Table • Mosaic Decimals Project • Discuss and Teach to a Peer • For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvwgdGBA5A/edit?usp=sharing
<p>Materials and Resources</p>	<p>Other Assessments</p>
<ul style="list-style-type: none"> • District provided program • District provided manipulatives 	<ul style="list-style-type: none"> • Mid-Chapter Checkpoint • Chapter 9 Test • Multiplication Fact Quiz • Show What you Know • Performance Tasks

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Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • www.firstinmath.com • www.multiplication.com • www.thinkcentral.com • Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> • <u>The Wishing Club: A Story about Fractions</u> by Donna Jo Napoli • <u>Dazzling Decimals</u> by Lisa Arias • <u>Follow the Money</u> by Loreen Leedy • <u>The Go Around Dollar</u> by Barbara Adams and Joyce Zairns • 100s grid (laminated for each student and copies for each student)
Standards	
<p>4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$ and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.</p> <p>4.NF.C.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</p> <p>4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $+$, or $<$, and justify the conclusions, e.g., by using a visual model.</p> <p>4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p>	
Cross-Curricular Connections	
<p>21st Century Skills</p> <p><i>CRP2 – Apply appropriate academic and technical skills.</i></p> <p><i>CRP4 – Communicate clearly and effectively with reason.</i></p> <p><i>CRP6 – Demonstrate creativity and innovation.</i></p> <p><i>CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.</i></p> <p><i>CRP11 – Use technology to enhance productivity.</i></p> <p>Technology</p> <p><i>8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i></p> <p><i>8.1.5.A.3 – Use a graphic organizer to organize information about a problem or issue.</i></p> <p><i>8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.</i></p> <p>SEL</p> <ul style="list-style-type: none"> • <i>Relationship Skills: Utilize positive communication and social skills to interact effectively with others</i> • <i>Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills</i> • <i>Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings</i> • <i>Self-Management: Recognize the skills needed to establish and achieve personal and educational goals</i> • <i>Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges</i> 	

FOURTH GRADE MATH CURRICULUM

Math Unit: Two-Dimensional Figures		Pacing Guide: April
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you identify and draw points, lines, line segments, rays, and angles? • How can you classify triangles by the size of their angles? • How can you identify and draw parallel lines and perpendicular lines? • How can you sort and classify quadrilaterals? • How do you find lines of symmetry? • How can you use the strategy <i>act it out</i> to solve pattern problems? 	<ul style="list-style-type: none"> • I can identify and draw points, lines, line segments, rays, and angles. • I can classify triangles by the size of their angles. • I can identify and draw parallel lines and perpendicular lines. • I can sort and classify quadrilaterals. • I can find lines of symmetry. • I can use the strategy <i>act it out</i> to solve pattern problems. 	<ul style="list-style-type: none"> • SWBAT complete a practice test that requires them to draw and identify lines and angles, and classify shapes by properties of their lines and angles with 80% accuracy. 4.G.A.1, 4.G.A.2, and 4.G.A.3. • SWBAT complete a practice test that requires them to generate and analyze patterns with 80% accuracy. 4.OA.C5.
Suggested Activities		
<ul style="list-style-type: none"> • Show What You Know: Check prior knowledge on the number of sides and vertices of different polygons, as well as geometric patterns. • Grab and Go Readers: <i>A Mirror Image</i>, <i>A New Angle on Trains and Train Stations</i>, <i>Skateboarding Takes Shape</i>. • Vocabulary: (acute angle, line, line of symmetry, obtuse angle, ray, right angle, straight angle) 		

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- Play Simon Says and make lines, rays, points, acute, right, and obtuse angles with arms and legs.
- Vocabulary Builder: Discuss what is common between two different polygons, such as a square and a rectangle.
- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
- Vocabulary Game: *Going to a Botanical Garden*
- Real World Project: Design a garden that covers a whole city block. Decide on features to have in your garden and where they will be located. Mark off parts of your garden for each feature. Then find the number of square units the feature covers and record it on the design. Include a map key. Score using a teacher-created rubric.
- Performance Task: Identify at least 8 features on the school playground that are in the shape of a triangle or quadrilateral. Classify each two-dimensional shape by its properties.
- Spring Symmetry: Fold a sheet of paper in half and cut out a springtime shape such as a flower, insect, or butterfly. Next, paint on one half of the shape, then fold to get the paint on the other side. Discuss symmetry.
- Use straws and pipe cleaners to create three different types of triangles and at least four different quadrilaterals.
- Triangle Angles: Students use graph paper in order to draw each of the different types of triangles, cut them out, then form a line with their angles. Discuss what type of angle the three angles formed.
- Use a Venn Diagram to classify triangles.
- Journal Activity: Draw and label a figure that has 4 points, 2 rays, and 1 right angle.
- Journal Activity: Draw and label an example of a right triangle, an acute triangle, and an obtuse triangle.
- Journal Activity: How can you identify and draw points, lines, line segments, rays, and angles?

Reinforcement	Enrichment
<ul style="list-style-type: none"> • Reteach worksheet pages (chapter resources book) • Personal 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) • Screen and implement Tier 2 interventions • Describe It! (Tier 2): Describe basic attributes of figures such as a rectangle, triangle, and circle. • Find It! (Tier 3): Hold a class discussion. Look around the classroom. What are some objects that have the shape of a rectangle in this space? What do you see that resembles a square? What shapes go inside your backpack? 	<ul style="list-style-type: none"> • Enrich worksheet pages (chapter resources book) • STEM activities (Think Central) • Mega Math (Think Central) • iTools (Think Central) • Advances Learners Activities • Extend the Project Activities (Real World/Critical Area Project- In book & Think Central) • Online Activities: <ul style="list-style-type: none"> • Geo Boards - https://www.mathplayground.com/geoboard.html • Pattern Blocks - https://www.mathplayground.com/patternblocks.html • Classroom Activities: <ul style="list-style-type: none"> • Think Central: You Have a Solution • Do the Math!–Calculate Amounts • Tetrominoes Cover-Up Project. For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvwgdGBA5A/edit?usp=sharing

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Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● District provided program ● District provided manipulatives 	<ul style="list-style-type: none"> ● Mid-Chapter Checkpoint (Chapter 10) ● Chapter 10 Test ● Multiplication Fact Quiz ● Show What You Know ● Performance Tasks ● Student portfolios include geometry, measurement, and data
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> ● First In Math Games- http://www.firstinmath.com ● Multiplication Games http://www.multiplication.com ● www.thinkcentral.com ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● tangrams ● popsicle sticks ● straws/pipe cleaners ● protractors ● copies of Venn Diagrams for each student ● paint, construction paper, scissors ● symmetry plastic reflectors (one per student) ● grid paper
Standards	
<p>4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</p> <p>4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.</p> <p>4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.</p> <p>4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.</p>	
Cross-Curricular Connections	
<p>21st Century Skills</p> <p><i>CRP2. Apply appropriate academic and technical skills.</i></p> <p><i>CRP4. Communicate clearly and effectively and with reason.</i></p> <p><i>CRP6. Demonstrate creativity and innovation.</i></p> <p><i>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</i></p> <p><i>CRP11. Use technology to enhance productivity.</i></p> <p>Technology</p> <p><i>8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i></p> <p><i>8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue.</i></p> <p><i>8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.</i></p> <p><i>8.2.5.C4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.</i></p>	

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SEL

- *Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills*
- *Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings*
- *Self-Management: Recognize the skills needed to establish and achieve personal and educational goals*
- *Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges*

Math Unit: Angles		Pacing Guide: April
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you relate angles and fractional parts of a circle? • How are degrees related to fractional parts of a circle? • How can you use a protractor to measure and draw angles? • How can you determine the measure of an angle separated into parts? • How can you use the strategy <i>Draw a Diagram</i> to solve angle measurement problems? 	<ul style="list-style-type: none"> • I can relate angles and fractional parts of a circle. • I can tell how degrees are related to fractional parts of a circle. • I can use a protractor to measure and draw angles. • I can determine the measure of an angle separated into parts. • I can use the strategy <i>Draw a Diagram</i> to solve angle measure problems. 	<ul style="list-style-type: none"> • SWBAT complete practice test that requires them to understand concepts of angle and measure angles with 80% accuracy. 4.MD.C.5a/4.MD.C.5b., 4.MD.C.6., 4.MD.C.7
Suggested Activities		
<ul style="list-style-type: none"> • Show What You Know: Check student prior knowledge on: measuring to the nearest cm, classifying angles, and reading the shaded parts of fractions. • Protractor: View a video clip on youtube in order to introduce reading angle measurements with a protractor. Fold paper circles and measure their angles, also. • Grab and Go Readers: Assign or read <i>Skateboarding Takes Shape</i> to the class and discuss. • Relate angles to fractional parts of a circle. • Use an analog clock's hour and minute hand to show times and to illustrate acute, right, obtuse, and straight angles. 		

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- Brainstorm situations in real life in which fractions are related to time.
- STEM Activities: *Careers in Science or Other Models Scientist*, UseThink Central Teacher Resources
- Vocabulary: (clockwise, counterclockwise, degree, acute angle, obtuse angle, ray, right angle, vertex)
- Vocabulary Builder: Branching Diagram - Students list the vocabulary term, then branch out describing it in their own words, then illustrating it in the next branch.
- Vocabulary Game: *Picture it* - Students play pictionary, taking turns drawing what each vocabulary term means
- Trace a 45°, 90°, and a 180° angle. Find one example of each angle in the room you're in. Illustrate and label the angles you found clearly.
- Create a Compare/Contrast chart for the terms protractor and ruler.
- Use a protractor to measure the angles on pattern blocks.
- Journal Activity: Explain how to use a protractor to measure an angle or to draw an angle.
- Journal Activity: Illustrate and explain the difference between clockwise and counterclockwise.
- At Home Extension: Find an angle at home. Measure the angle and record the measurement. Classify the angle.
- Separate an angle into 2, 3, or 4 smaller parts. Measure each part and add up the measurements to see the relationship.
- Different Angle Parts and the Circle: Draw or provide students with two circles. Each student breaks up both circles into three different sized angles. Students measure the angles and add them up in order to find out that a circle's angle measurement is always 360°.
- Street Maps: Street maps have many angles. Students research a street map and print it out. Then, they select an acute, obtuse, and a right angle to highlight and measure.
- STEM: Roll a ball toward a wall and find out if its path makes an acute, obtuse, or right angle.

Reinforcement	Enrichment
<ul style="list-style-type: none"> • Reteach workbook pages (chapter resource book) • Personal 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) • Screen and implement Tier 2 interventions • Draw It! (Tier 2): Draw different angles and relate them to common objects. • Find It! (Tier 3): Draw the three types of angles on a board and discuss objects or places where everyone has seen right, acute, obtuse, and straight angles. 	<ul style="list-style-type: none"> • Enrich worksheet pages (chapter resource book) • STEM Activities (Think Central) • MEGA Math (Think Central) • iTools (Think Central) • Advanced Learners Activities • Extend the Project Activities (Real World/Critical Area Project-in Book & Think Central) • Online Activities: <ul style="list-style-type: none"> • Angle Ciscus - https://www.education.com/game/angle-measurement-circus/?gclid=CjoKCOjworr4BRCTARIsABO_48OxRbWZzek05OFZsZzyKUHUEXnDO7PN4cyuoG53uKTQf3USWqjB57saAu8eEALw_wcB • Party Designers - https://www.mathplayground.com/PartyDesigner/index.html • Classroom Activities: <ul style="list-style-type: none"> • Think Central: <ul style="list-style-type: none"> ○ Careers in Science • You be an Air Traffic

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	<p style="text-align: center;"><u>Controller</u></p> <ul style="list-style-type: none"> ○ <u>Other Models Scientists Use • Do the Math!–Use Fractions</u> ○ Window Designer Project. For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-lLvwgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● District provided program ● District provided manipulatives 	<ul style="list-style-type: none"> ● Mid-Chapter Checkpoint ● Chapter 11 Test ● Multiplication Fact Quiz ● Show What you Know ● Performance Task ● Student portfolio
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> ● www.firstinmath.com ● www.multiplication.com ● www.thinkcentral.com ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● <u>What’s Your Angle, Pythagoras</u> by Julie Ellis ● grid paper ● circle templates or copies with circles on them ● pattern blocks ● student clocks ● bouncy balls (2-4 for STEM activity)
Standards	
<p>4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:</p> <ol style="list-style-type: none"> a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles. b. An angle that turns through n one-degree angles is said to have an angles of measure of n degrees. <p>4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p> <p>4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.</p>	

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Cross-Curricular Connections

21st Century Skills

CRP2 – Apply appropriate academic and technical skills.

CRP4 – Communicate clearly and effectively with reason.

CRP6 – Demonstrate creativity and innovation.

CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11 – Use technology to enhance productivity.

Technology

8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.3 – Use a graphic organizer to organize information about a problem or issue.

8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

SEL

- *Relationship Skills: Utilize positive communication and social skills to interact effectively with others*
- *Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills*
- *Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings*
- *Self-Management: Recognize the skills needed to establish and achieve personal and educational goals*
- *Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges*

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Math Unit: Relative Sizes of Measurement		Pacing Guide: May
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you use benchmarks to understand the relative sizes of measurement units? • How can you use models to compare customary units of length, weight, liquid volume, mass, and time? • How can you make and interpret line plots with fractional data? • How can you use the strategy <i>draw a diagram</i> to solve elapsed time problems? • How can you solve problems involving mixed measures? • How can you use patterns to write number pairs for measurement units? 	<ul style="list-style-type: none"> • I can use benchmarks to understand the relative sizes of measurement units. • I can use models to compare customary units of length, weight, liquid volume, mass, and time. • I can make and interpret line plots with fractional data. • I can use the strategy <i>draw a diagram</i> to solve elapsed time problems. • I can solve problems involving mixed measures. • I can use patterns to write number pairs for measurement units. 	<ul style="list-style-type: none"> • SWBAT complete a practice test that requires them to solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit with 80% accuracy. 4.MD.A.1 and 4.MD.A.2. • SWBAT complete a practice test that requires them to represent and interpret data with 80% accuracy. 4.MD.B.4.
Suggested Activities		
<ul style="list-style-type: none"> • Show What You Know: Diagnose what students already know about relative sizes of measurement units such as: reading and writing time to the half hour, multiplying 1-digit numbers by multi-digit numbers, and reading a line plot graph. • Find exact measurements of the heights of items in the room. Then, discuss how we would estimate the same heights if we didn't have a measuring tool. • Use benchmark units in order to make good estimates. Ex. the width of a finger is about 1 cm. Now, you can figure out about how long a brand new pencil is. 		

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- Grab and Go Readers: Read to the class or assign *Designing a Skatepark, Fighting Fire with Fire, Paint By Numbers*. Discuss new knowledge from each reading.
- STEM Activities: *Measurement Tools, You're Getting Warmer, What is Technology?, So Different, Yet the Same, Ice Carvings, The Clean-Up Crew, Changes in Food Webs, Who Can Take the Cold?, Like Mother, Like Daughter, and Night and Day*. See Think Central Teacher Resources.
- Vocabulary: cup, decimeter, fluid ounce, gallon, half gallon, line plot, milliliter, millimeter, ounce, pint, pound, quart, second, ton
- Research everyday items that are measured in either ounces or pounds, then discuss why different measuring units are needed.
- Vocabulary Flashcards: Use index cards to write the measurement on one side and the abbreviation for that measurement on the opposite side. Practice with a partner.
- Discuss some items that might really weigh a ton.
- Study the weights of three of your favorite animals. Convert each animal's weight from pounds to ounces.
- Vocabulary Game: *Bingo* - Students complete their own empty Bingo charts with measurement vocabulary terms. The teacher shares definitions of the words and students shade in the box with the correct definition if they have it.
- Journal Activity: Do 50 milliliters and 50 millimeters represent the same amount? Explain.
- Line Plot Data Collect: Students find items in the classroom that measure exactly $\frac{1}{4}$ in., $\frac{1}{2}$ in., and $\frac{3}{4}$ in. After finding 25 measurements, students create their own line plots. (can be completed in partnerships)
- Journal Activity: Explain how to read a line plot.
- The Gold Standard: Students research what the gold standard means and how it relates to money. Then, they find out how much 1 gram of gold is worth, and how much 10, 15, and 20 grams would be worth. Finally, students find out how much a kilogram of gold would be worth.
- T-Chart: Compare number of days to how many hours in each day, or number of ounces in numbers of pounds, etc.
- Timeline: Create and illustrate a timeline of your life on one day this week. Include elapsed time between all activities.

Reinforcement	Enrichment
<ul style="list-style-type: none"> ● Reteach worksheet pages (chapter resources book) ● Personal 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) ● Screen and implement Tier 2 interventions ● Clarify the difference between inches and feet. 	<ul style="list-style-type: none"> ● Enrich worksheet pages (chapter resources book) ● STEM activities (Think Central) ● Mega Math (Think Central) ● iTools (Think Central) ● Advances Learners Activities ● Extend the Project Activities (Real World/Critical Area Project-In book & Think Central) ● Research other units of length and describe each one's relationship to the US Customary unit, the inch. ● Online Activities: Rock Star Measurements - https://www.education.com/game/rock-star-ruler-measurement/ ● Classroom Activities: <ul style="list-style-type: none"> ● Think Central: <ul style="list-style-type: none"> ○ <u>Measurement Tools • Do the Math!–Make</u>

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	<ul style="list-style-type: none"> ○ <u>Measurements</u> ○ <u>You're Getting Warmer! • Compare and Contrast Temperatures</u> ○ <u>So Different, Yet the Same • Physical Changes</u> ○ <u>Ice Carvings • Do the Math!–Analyze Data</u> ○ <u>Up in the Air • Do the Math!–Graph Data</u> ○ <u>The Clean-Up Crew • Scavengers and Decomposers</u> ○ <u>Like Mother, Like Daughter • Inherited Traits</u> ○ <u>Night and Day • Do the Math!–Use and Represent Numbers</u> ● Math Connection Project ● Measurement Stations ● For more details see: https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-llvwgdGBA5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● District provided program ● District provided manipulatives 	<ul style="list-style-type: none"> ● Mid-Chapter Checkpoint (Chapter 12) ● Chapter 12 Test ● Multiplication Fact Quiz ● Show What You Know ● Performance Tasks ● Student portfolio
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> ● First In Math Games- http://www.firstinmath.com ● Multiplication Games http://www.multiplication.com ● www.thinkcentral.com ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● <u>Perimeter, Area, and Volume: A Monster Book of Dimensions</u> by David A. Adler ● <u>Sir Cumference and the Isle of Immeter</u> by Cindy Neuschwander ● containers to read volume from ● rulers, yard sticks, meter sticks ● quart and pint sized container ● gallon sized container ● scale (kitchen) ● timeline templates ● blank Bingo sheets

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Standards

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

4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm, mm; kg, g; lb, oz; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4ft snake as 48in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...

4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

4.MD.B.4 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.

Cross-Curricular Connections

21st Century Skills

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Technology

8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue.

8.1.5.A.3 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.

8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

8.2.5.C4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

SEL

- *Relationship Skills: Utilize positive communication and social skills to interact effectively with others*
- *Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills*
- *Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings*
- *Self-Management: Recognize the skills needed to establish and achieve personal and educational goals*
- *Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges*

Math Unit: Perimeter & Area

Pacing Guide: June

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Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you use a formula to find the perimeter of a rectangle? • How can you use a formula to find the area of a rectangle? • How can you find the area of combined rectangles? • How can you find an unknown measure of a rectangle given its area or perimeter? • How can you use the strategy <i>solve a simpler problem</i> to solve area problems? 	<ul style="list-style-type: none"> • I can use a formula to find the perimeter and area of a rectangle. • I can find the area of combined rectangles. • I can find an unknown measure of a rectangle given its area or perimeter. • I can use the strategy <i>solve a simpler problem</i> to solve area problems. 	<ul style="list-style-type: none"> • SWBAT complete practice test that requires them to solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit with 80% accuracy. 4.MD.A.3
Suggested Activities		
<ul style="list-style-type: none"> • Show What You Know: • Grab and Go Readers: Partner-read and discuss one or more of the following math stories, <i>Designing a Skate park</i>, <i>Fighting Fire with Fire</i>, <i>Paint by Numbers</i>. • Draw a picture of a speed limit sign and discuss how you might find out the distance around the sign. • Perimeter Poster: Students create an outdoor park with at least four fun areas to enjoy. Then, they find the perimeter for each of their places. • Discuss how we would find the area of our classroom’s ceiling. • House plan: Design one or more floors of a dream home with a minimum of 4 rectangular rooms. Then, calculate the area of each room to the nearest foot, using the formula for area. • Design a Garden: Students brainstorm different types of gardens, then design one larger garden including at least two types/shapes (square/rectangle) that share one side. Then, students calculate the area of the combined rectangles. • STEM Activities: <i>Pump Up the Volume</i> - Think Central Teacher Resources • Vocabulary Builder: Share pictures of items that should either be measured in area or perimeter. Area = area rug, wallpaper Perimeter = fence, picture frame • Area Formula = Base X Height • Vocabulary Game: <i>Guess the Word</i>, Students volunteer to wear a vocabulary term on their backs. All students walk around the classroom and provide students with words on their backs with information about those words in one minute. Then, the students with words on their 		

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backs, share the clues they were given, and make a good guess for the vocabulary term.

- Journal Activity: Define perimeter and area in your own words.
- Journal Activity: Describe how to find the perimeter and area of your classroom.
- Journal Activity: Explain how to use a formula to find the area of a rectangle.
- Journal Activity: Write an area word problem so that the solution is 36 square units.

Reinforcement	Enrichment
<ul style="list-style-type: none"> • Reteach workbook pages (chapter resource book) • Personal 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) • Screen and implement Tier 2 interventions • Write It! (Tier 2): Solve equations with unknown amounts. Ex. $3XN=27$ • Model It! (Tier 3): Draw an array and review what multiplication fact it represents. 	<ul style="list-style-type: none"> • Enrich worksheet pages (chapter resource book) • STEM Activities (Think Central) • MEGA Math (Think Central) • iTools (Think Central) • Advanced Learners Activities • Extend the Project Activities (Real World/Critical Area Project-in Book & Think Central) • Online Activities: <ul style="list-style-type: none"> • Perimeter Snatch - https://www.mathplayground.com/perimeter_snatch_jr.html • Party Designers - https://www.mathplayground.com/PartyDesigner/index.html • Classroom Activities: <ul style="list-style-type: none"> • Think Central: <u>Pump Up the Volume!</u> • <u>Do the Math!</u>– <u>Measure the Volume of Objects</u> • Area & Perimeter Project • Pool Designer Project • For more details see https://docs.google.com/document/d/1KhcKFAcxOCqd7WG1rjm-y76O3do3RBZ-ILvwdG5A/edit?usp=sharing
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> • District provided program • District provided manipulatives 	<ul style="list-style-type: none"> • Mid-Chapter Checkpoint • Chapter 13 Test • Multiplication Fact Quiz • Show What you Know

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	<ul style="list-style-type: none"> ● Performance Tasks ● Student portfolio
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> ● www.firstinmath.com ● www.multiplication.com ● www.thinkcentral.com ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● grid paper ● rulers ● word map graphic organizers ● poster paper
Standards	
<p>4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length between the longest and shortest specimens in an insect collection</p>	
Cross-Curricular Connections	
<p>21st Century Skills <i>CRP2 – Apply appropriate academic and technical skills.</i> <i>CRP4 – Communicate clearly and effectively with reason.</i> <i>CRP6 – Demonstrate creativity and innovation.</i> <i>CRP8 – Utilize critical thinking to make sense of problems and persevere in solving them.</i> <i>CRP11 – Use technology to enhance productivity.</i></p> <p>Technology <i>8.1.5.A.1 – Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</i> <i>8.1.5.A.3 – Use a graphic organizer to organize information about a problem or issue.</i> <i>8.1.5.D.4 – Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.</i></p> <p>SEL</p> <ul style="list-style-type: none"> ● <i>Relationship Skills: Utilize positive communication and social skills to interact effectively with others</i> ● <i>Responsible Decision-Making: Develop, implement and model effective problem solving and critical thinking skills</i> ● <i>Social Awareness: Demonstrate an awareness of the expectations for social interactions in a variety of settings</i> ● <i>Self-Management: Recognize the skills needed to establish and achieve personal and educational goals</i> ● <i>Self-Awareness: Recognize the importance of self-confidence in handling daily tasks and challenges</i> 	

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Math Unit: Angles		Pacing Guide: April
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
•	•	
Suggested Activities		
•		
Reinforcement	Enrichment	
•	•	
Materials and Resources	Other Assessments	
•	•	
Suggested Websites	Suggested Materials	
•	•	
Standards		
Cross-Curricular Connections		

FOURTH GRADE MATH CURRICULUM

Math Unit: Angles		Pacing Guide: April
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
•	•	
Suggested Activities		
•		
Reinforcement	Enrichment	
•	•	
Materials and Resources	Other Assessments	
•	•	
Suggested Websites	Suggested Materials	
•	•	
Standards		

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Cross-Curricular Connections