

REVEAL Units of Study

<u>Grade 5 Mathematics</u>	
Unit 1	Math is... (10 days) August 15 - August 26
Unit 2	Volume (10 days) August 29 - September 12
Unit 3	Place Value and Number Relationships (10 days) September 13 - September 26
Unit 4	Add and Subtract Decimals (15 days) September 27 - October 17
Unit 5	Multiply Multi-Digit Whole Numbers (13 days) October 18 - November 7
Unit 6	Multiply Decimals (11 days) November 8 - November 30
Unit 7	Divide Whole Numbers (13 days) December 1 - December 16*
Unit 8	Divide Decimals (17 days) January 3 - January 26
Unit 9	Add and Subtraction Fractions (16 days) January 27 - February 17
Unit 10	Multiply Fractions (11 days) February 21 - March 7
Unit 11	Divide Fractions (11 days) March 8 - March 22
Unit 12	Measurement and Data (13 days) March 23 - April 18

Unit 13	Geometry (10 days) April 19 - May 2
IN Unit	More Geometry (8 days) May 3 - May 12
Unit 14	Algebraic Thinking (10 days) May 15 - May 25*

Green: Priority Standards
Grey: Additional Standards

Pink: Supporting Standards
Orange: Standards Not in Grade Level

		Units																
			1	2	3	4	5	6	7	8	9	10	11	12	IN	13	14	IN
St an da rd s	N																	
	S	1			X						X							
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Unit 1- Math Is.....

General Description of the Unit

The focus of this unit is to build students' agency as doers of mathematics; to build students' proficiency with the habits of mind that are integral to doing mathematics; and to build understanding of the norms of interaction that allow for a productive math learning environment where students can develop, refine, and enhance the habits of mind that are integral to doing math.

Priority Standards

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Supporting Standards

- **5.DS.1** Formulate questions that can be addressed with data and make predictions about the data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, bar graphs, and line graphs. Recognize the differences in representing categorical and numerical data.
- **5.AT.3** Solve real-world problems involving multiplication of fractions, including mixed numbers (e.g. by using visual fraction models and equations to represent the problem).
- **4.AT.5** Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g. by using visual fraction models and equations to represent the problem).

	<ul style="list-style-type: none"> ● 4.NS.5 Compare two fractions with different numerators and different denominators (e.g. by creating common denominators or numerators, or by comparing to a benchmark, such as $\frac{1}{2}$, and 1). Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, $<$, and justify the conclusions (e.g. by using a visual fraction model).
<u>Proficiency Scales</u>	<u>Tiered Assessments</u>
<u>Enduring Understandings</u> <ul style="list-style-type: none"> ● Students understand that we each have our own math biography. Students investigate the role of math in our lives. ● Students demonstrate understanding of the problem-solving process, with a focus on making sense of a problem and determining a viable solution plan. ● Students demonstrate understanding of how real-world situations and problems can be modeled with mathematics. ● Students demonstrate understanding of the importance of supporting their solutions and ideas with viable arguments and responding constructively to the arguments of others. ● Students demonstrate understanding of pattern analysis. 	<u>Focus Question:</u> <ul style="list-style-type: none"> ● What does it mean to do math? ● <i>What do you notice?</i> ● <i>What do you wonder?</i>

<ul style="list-style-type: none"> Students demonstrate an understanding of the expectations and agreements that promote a productive and positive learning environment. 			
<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> I can tell my math biography. I can recognize the ways in which we are all doers of math. I can make sense of a problem and represent it in different ways. I can explain different ways to think about numbers. I can represent a real-world situation using mathematics. I can describe tools I can use to solve a problem. I can use patterns to develop efficient strategies to solve problems. I can explain why patterns are useful to solve problems. I can recognize the behaviors and attitudes that support a productive classroom learning environment. I can identify the mindsets that help me problem solve. 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> hobby strategy grid model fractional <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> interview analyze visualize critique justify defend efficient generalizations norms responsibility 	
<u>Mathematical Processes</u>		<u>Employability Skills</u>	

<ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. ● Construct viable arguments and critique the reasoning of others. ● Reason abstractly and quantitatively. ● Model with mathematics. ● Use appropriate tools strategically. ● Attend to precision. ● Look for and make use of structure. ● Look for and express regularity in repeated reasoning. 		
<u>SEL Indicators</u> <ul style="list-style-type: none"> ● Self-awareness ● Self-management ● Social awareness ● Relationship skills ● Responsible decision-making 		
<u>Resources</u>		
<u>Textbook</u>	<u>Materials</u>	<u>Digital</u>
Lesson 1-1 Lesson 1-2 Lesson 1-3 Lesson 1-4 Lesson 1-5 Lesson 1-6	<ul style="list-style-type: none"> ● bowl ● letter-size paper cut into quarters ● coins: nickels, dimes, & quarters ● geoboards or Dot Paper ● pattern blocks 	

Unit 2- Volume

General Description of the Unit

In this unit, students explore measurable attributes of different figures and discover that all 3-dimensional figures have a measurable attribute of the space inside, which is called volume; measured by packing the figure with unit cubes (no gaps or overlaps). Students extend their understanding of multiplication as equal groups to discover that the volume of a rectangular prism can be calculated by multiplying the number of unit cubes in one layer by the number of layers. Students generalize methods for calculating volume of rectangular prisms to derive the formulas $V = l \times w \times h$ and $V = B \times h$. Students discover that volume is additive. They can calculate the volume of composite solid figures by decomposing the figure into rectangular prisms then add the volumes. Students apply the volume formulas to solve real-world problems, including problems involving unknown dimensions.

Priority Standards

- **5.M.5** Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for right rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths to solve real-world problems and other mathematical problems involving shapes.

Supporting Standards

- **5.M.4** Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths or multiplying the height by the area of the base.
- **5.M.6** Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems and other mathematical problems.

Proficiency Scales

[5.M.5](#)

Tiered Assessments**Enduring Understandings**

- Students develop understanding of volume as the amount of space taken up by a solid object.

Focus Question:

- How can I find the volume of rectangular prisms?

<ul style="list-style-type: none">● Students understand that the volume of a right rectangular prism can be determined by counting the number of unit cubes that fill it completely with no gaps or overlaps.● Students use their understanding of volume to develop the formula used to calculate the volume of rectangular prisms.● Students build on their understanding of volume by decomposing composite figures to calculate volume. They recognize that volume is additive and to calculate the volume of the composite figure, the volumes of each part must be added.● Students build proficiency with calculating volume of prisms, and determining missing dimensions given the volume, by using the volume formulas.● Students apply their understanding of volume to solve real-world problems involving volume of rectangular prisms.		<ul style="list-style-type: none">● <i>Do you know what it means to find the volume of rectangular prisms?</i>● <i>What do you already know about finding volume of rectangular prisms?</i>● <i>What do you think you will be doing in the unit?</i>	
<u>Learning Targets</u> <ul style="list-style-type: none">● I can describe volume as an attribute of solid figures.● I can describe how rectangular prisms can be packed using unit cubes with no gaps or overlaps.● I can determine volume by counting unit cubes that fill a solid with no gaps or overlaps.● I can determine volume by multiplying the number of unit	<u>Related Concepts</u> <ul style="list-style-type: none">● N/A		<u>Math Terms</u> <ul style="list-style-type: none">● rectangular prism● unit cube● volume● cubic unit● unit cube● base (of a solid)● formula● composite solid● figure● equation

<p>cubes in one layer by the number of layers that fill a solid with no gaps or overlaps.</p> <ul style="list-style-type: none">• I can find the volume of composite figures.• I can explain how to find the volume of composite figures.• I can solve problems involving volume.• I can describe how to solve problems involving volume.		<ul style="list-style-type: none">• unknown• variable <p><u>Academic Terms</u></p> <ul style="list-style-type: none">• analyze• establish• debate• suggest• assert• evaluate• complex• speculate• relevant• valid
<p><u>Mathematical Processes</u></p> <ul style="list-style-type: none">• Attend to precision.• Look for and make use of structure.• Model with mathematics.• Reason abstractly and quantitatively.• Make sense of problems and persevere in solving them.•	<p><u>Employability Skills</u></p>	
<p><u>SEL Indicators</u></p> <ul style="list-style-type: none">• Self-Awareness: Self-Efficacy• Social Awareness: Appreciate Diversity• Self-Management: Control Impulses• Relationship Skills: Build Relationships• Responsible Decision-Making: Solve problems		
<p><u>Resources</u></p>		

<u>Textbook</u>	<u>Materials</u>	<u>Digital</u>
Lesson 2-1 Lesson 2-2 Lesson 2-3 Lesson 2-4 Lesson 2-5	<ul style="list-style-type: none"> ● centimeter cubes ● marbles, bean, or other measure of units ● cubes ● ruler ● unit cubes ● 	<ul style="list-style-type: none"> ●

Unit 3- Place Value and Number Relationships

General Description of the Unit - In this unit students learn that our number system is called a base-10 place-value system because it takes 10 of one unit to equal 1 unit in the place-value position to the left of the given unit. Students learn that the value of a digit, as its value in a whole number, depends upon its place in the number. So, the value of a digit is 10 times what it would be in the place to its right, and its value is 1/10th what it would be to its left.

Priority Standards: none

Supporting Standards

- **5.NS.1** Use a number line to compare and order fractions, mixed numbers, and decimals to thousandths. Write the results using >, =, and < symbols.
- **5.NS.3** Recognize the relationship that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right, and inversely, a digit in one place represents 1/10 of what it represents in the place to its left.

	<ul style="list-style-type: none"> ● 5.NS.5 Use place value understanding to round decimal numbers up to thousandths to any given place value. ● 5.NS.6 Understand, interpret, and model percents as part of a hundred (e.g
<u>Proficiency Scales</u>	<u>Tiered Assessments</u>
<u>Enduring Understandings</u> <ul style="list-style-type: none"> ● Students build on place-value concepts by comparing the value of a digit in one place-value position with the value of the same digit in another place-value position when the digits are adjacent or several places away. ● Students deepen and extend their understanding of place-value patterns by reading & writing decimals, and by making multiplicative comparisons by 10 of decimals. ● Students build on their understanding of place-value patterns to read & write decimals to the thousandths place. ● Students build on their number sense by examining patterns that extend place-value concepts from previous lessons to decimals in the thousandths. ● Students develop understanding of decimal place value. ● Students use place value understanding to read & write decimals to the thousandths place. ● Students use number sense to extend place value concepts to rounding decimals. ● Students use rounding strategies to understand & solve problems. 	<u>Focus Question</u> <ul style="list-style-type: none"> ● What do you already know about decimals? ● What can decimals be used for? ● What do you already know about place value? ● What do you think you will be doing in this unit?

<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> • I can recognize that the value of a digit represents ten times as much as it represents in a place to its right. • I can recognize that the value of a digit represents one-tenth as much as the place to its left. • I can extend the place value relationship to decimal numbers. • I can explain the relationship of place values in decimal numbers. • I can read & write decimals to thousandths using standard form, expanded form, & word form. • I can make sense of decimals to the thousandths place. • I can compare two decimals to the thousandths place using place value. • I can use rounding strategies to round decimals. • I can explain how to apply rounding strategies to decimals. 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> • N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> • digit • place value • place-value chart • decimal • decimal point • tenth • hundredth • thousandth • expanded form • standard form • word form • greater than (>) • less than (<) • estimate round <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> • cite • relationship • contradiction • infer • expand • quality • address • negate • prove • variation
<p><u>Mathematical Processes</u></p>	<p><u>Employability Skills</u></p>	

<ul style="list-style-type: none"> • Make sense of problems and persevere in solving them. • Construct viable arguments & critique the reasoning of others. • Reason abstractly & quantitatively. • Model with mathematics. • Use appropriate tools strategically. • Attend to precision. • Look for and make use of structure. • Look for and express regularity in repeated reasoning. 					
<p><u>SEL Indicators</u></p> <ul style="list-style-type: none"> • Self-Awareness: Self-Confidence • Self-Management: Manage Stress • Relationship Skills: Communication • Social Awareness: Develop Perspective • Responsible Decision-Making: Reflection 					
<p style="text-align: center;"><u>Resources</u></p>					
<p style="text-align: center;"><u>Textbook</u></p> <p>Lesson 3-1 Lesson 3-2 Lesson 3-3 Lesson 3-4 Lesson 3-5</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;"><u>Materials</u></th> <th style="text-align: center; padding: 5px;"><u>Digital</u></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top; padding: 5px;"> <ul style="list-style-type: none"> • Place-Value Chart to Millions Teaching Resource • 10 x 10 Grids Teaching Resource • blank number cubes • number cubes • Decimal Forms Teaching Resources • Number Cards 0-10 Teaching Resource </td><td style="vertical-align: top; padding: 5px;"> <ul style="list-style-type: none"> • </td></tr> </tbody> </table>	<u>Materials</u>	<u>Digital</u>	<ul style="list-style-type: none"> • Place-Value Chart to Millions Teaching Resource • 10 x 10 Grids Teaching Resource • blank number cubes • number cubes • Decimal Forms Teaching Resources • Number Cards 0-10 Teaching Resource 	<ul style="list-style-type: none"> •
<u>Materials</u>	<u>Digital</u>				
<ul style="list-style-type: none"> • Place-Value Chart to Millions Teaching Resource • 10 x 10 Grids Teaching Resource • blank number cubes • number cubes • Decimal Forms Teaching Resources • Number Cards 0-10 Teaching Resource 	<ul style="list-style-type: none"> • 				

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Unit 4- Add and Subtract Decimals

<p><u>General Description of the Unit:</u> In this unit students estimate sums & differences by using rounded numbers and compatible numbers. Estimation strategies are taught prior to finding exact results so that students have tools to use to check for reasonableness. Students learn to find exact sums and differences using multiple representations including tenths and hundredths grids and number lines. Students also learn how to decompose decimals to perform operations on their parts.</p>	
<p><u>Priority Standards</u></p> <ul style="list-style-type: none"> ● 5.AT.5: Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations, models or drawings and strategies based on place value or properties of operations to represent the problem). 	<p><u>Supporting Standards</u></p> <ul style="list-style-type: none"> ● 5.C.8: Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.
<p><u>Proficiency Scales</u> <u>5.AT.5</u></p>	<p><u>Tiered Assessments</u></p>
<p><u>Enduring Understandings</u></p> <ul style="list-style-type: none"> ● Students build on their understanding of decimals & begin to understand operations with decimals by estimating sums & differences. ● Students create and use representations to build their understandings of addition with decimals. ● Students build on their understanding of place value, decimals, & operations with decimals. 	<p><u>Focus Question</u></p> <ul style="list-style-type: none"> ● What do you already know about decimals? ● When do you think you might need to add & subtract with decimals? ● What do you think you will be learning in this unit?

<ul style="list-style-type: none"> • Students build on their understanding of addition as they use strategies to add decimals. • Students create and use representations to build their understandings of subtraction with decimals. • Students build on their understanding of subtraction of decimals by using decimal grids to represent subtraction. • Students build on their understanding of subtraction as they notice similarities between subtracting whole numbers & subtracting decimals. • Students build on their understanding of adding & subtracting decimals as they use representations & models to explain the strategy used to find the sum or difference of decimals. 		
<u>Learning Targets</u> <ul style="list-style-type: none"> • I can estimate sums & differences of decimals. • I can explain how to estimate sums & differences of decimals. • I can represent addition of decimals using decimal grids. • I can represent addition of tenths & hundredths. • I can explain how to use various strategies to add decimals. 	<u>Related Concepts</u> <ul style="list-style-type: none"> • N/A 	<u>Math Terms</u> <ul style="list-style-type: none"> • decimal • estimate • decimal grid • hundredths • tenths • decompose • partial sums • decomposition <u>Academic Terms:</u> <ul style="list-style-type: none"> • analyze • infer • reasonable

<ul style="list-style-type: none"> • I can demonstrate how to use various strategies to add decimals. • I can use strategies to add decimals. • I can explain the strategy I use to add decimals. • I can represent subtraction of decimals less than 1 containing tenths. • I can represent subtraction of decimals less than 1 containing hundredths. • I can subtract tenths from hundredths. • I can subtract hundredths from tenths. • I can use strategies to subtract decimals. • I can explain the strategy I use to subtract decimals. • I can explain strategies for adding & subtracting decimals. • I can add & subtract decimals to solve problems. 		<ul style="list-style-type: none"> • benefit • drawback • evaluate • debate • infer • emphasize • procedure • assert • prove • accurate
<u>Mathematical Processes</u> <ul style="list-style-type: none"> • Reason abstractly and quantitatively. • Use appropriate tools strategically. • Attend to precision. 		<u>Employability Skills</u>

<ul style="list-style-type: none"> • Model with mathematics. • Look for and make use of structure. • Construct viable arguments & critique the reasoning of others. • Make sense of problems & persevere in solving them. • 	
<p><u>SEL Indicators</u></p> <ul style="list-style-type: none"> • Self-Management - Goal Setting • Self-Awareness - Identify Emotions • Relationship Skills - Social Engagement • Social- Awareness - Empathy • Relationship Skills - Teamwork • Responsible Decision-Making - Identify Problems • Self_awareness - recognize Strengths • Social Awareness - Respect Others 	
<p style="text-align: center;"><u>Resources</u></p>	
<p style="text-align: center;"><u>Textbook</u></p> <p>Lesson 4-1 Lesson 4-2 Lesson 4-3 Lesson 4-4 Lesson 4-5 Lesson 4-6 Lesson 4-7 Lesson 4-8</p>	<p style="text-align: center;"><u>Materials</u></p> <ul style="list-style-type: none"> • Decimal Cards Teaching Resource • number cube • Tenths & Hundredths Teaching Resource • base-ten blocks • decimal grid • 10 x 10 Teaching Resource • index cards • Decimal Cards Teaching Resource <p style="text-align: center;"><u>Digital</u></p> <ul style="list-style-type: none"> •

	<ul style="list-style-type: none"> ● Blank Number Lines Teaching Resource ● number cubes ● Decimal Grids ● Blank Open Number Lines Teaching Resource ● Explain & Show Your Strategies Teaching Resource 	
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Unit 5- Multiply Multi-Digit Whole Numbers

General Description of the Unit In this unit, students begin to estimate products, using compatible numbers & rounding. Estimation gives students a way to think about computation with larger numbers. After they estimate products, students begin finding exact products by using area models & partial products. Students then relate their understanding of partial products to an algorithm.

Priority Standards

- **5.AT.1:** Solve real-world problems involving multiplication and division of whole numbers (e.g. by using equations to represent the problem). In division problems that involve a remainder, explain how the remainder affects the solution to the problem.

Supporting Standards

- **5.C.1:** Multiply multi-digit whole numbers fluently using a standard algorithmic approach.
- **5.C.3:** Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
- **5.NS.4:** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

<u>Proficiency Scales</u> <u>5.AT.1</u>		<u>Tiered Assessments</u>	
<u>Enduring Understandings</u> <ul style="list-style-type: none"> • Students develop conceptual understanding by connecting the ideas of powers and exponents. • Students develop conceptual understanding by multiplying by powers of 10 and looking for patterns and understanding the effect multiplying by a power of 10 has on a number. • Students build their understanding of multiplying multi-digit numbers by estimating products. • Students connect multi-digit multiplication with area models and partial products to make use of students' conceptual understanding of place value. • Students build their understanding of multiplication by using partial products to multiply multi-digit factors. • Students develop an understanding of how they can solve problems using a multiplication algorithm. • Students build their understanding of multiplying two multi-digit factors. 		<u>Focus Question</u> <ul style="list-style-type: none"> • What does multi-digit mean? • What are whole numbers? • What do you know about multiplying multi-digit numbers? • What do you think you will be doing in this unit? 	
<u>Learning Targets</u> <ul style="list-style-type: none"> • I can write a power of 10 as a multiplication expression with factors of 10. • I can write a power of 10 using a base of 10 and exponents. 	<u>Related Concepts</u> <ul style="list-style-type: none"> • N/A 	<u>Math Terms</u> <ul style="list-style-type: none"> • base • exponent • exponential form • power of 10 • factor • estimate 	

<ul style="list-style-type: none"> • I can determine the products of numbers multiplied by powers of 10 written with exponents. • I can describe the pattern for multiplying by powers of 10. • I can explain how to estimate products of multi-digit factors. • I can estimate products of multi-digit factors to determine if calculations are reasonable. • I can use an estimated product to make predictions about a calculated solution. • I can use an area model and partial products to multiply multi-digit whole numbers. • I can use partial products to help me multiply multi-digit factors. • I can explain how to use partial products to multiply. • I can multiply using an algorithm. • I can describe an algorithm for multiplication. • I can use an algorithm to multiply multi-digit factors. • I can explain how to use an algorithm to multiply. 		<ul style="list-style-type: none"> • round • area model • decompose • partial products • algorithm • regroup <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> • accurate • prove • cite • establish • relevant • debate • speculate • analyze • suggest • procedure • note • transition
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<u>Mathematical Processes</u> <ul style="list-style-type: none"> • Look for and make use of structure. • Construct viable arguments and critique the reasoning of others. • Use appropriate tools strategically. • Make sense of problems and persevere in solving them. • Look for and express regularity in repeated reasoning. 	<u>Employability Skills</u>				
<u>SEL Indicators</u> <ul style="list-style-type: none"> • Self-Awareness - Accurate Self-perception; Identify Emotions • Self-Management - Control Impulses; Self-Discipline • Responsible Decision Making - Analyze Situations • Social Awareness - Develop Perspective • Relationship Skills - Social Engagement 					
<u>Resources</u>					
<u>Textbook</u> Lesson 5-1 Lesson 5-2 Lesson 5-3 Lesson 5-4 Lesson 5-5 Lesson 5-6 Lesson 5-7	<table border="1"> <thead> <tr> <th><u>Materials</u></th> <th><u>Digital</u></th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • number cubes • calculators • index cards • base-ten blocks • Multiplication Algorithm • spinners </td> <td> <ul style="list-style-type: none"> • </td> </tr> </tbody> </table>	<u>Materials</u>	<u>Digital</u>	<ul style="list-style-type: none"> • number cubes • calculators • index cards • base-ten blocks • Multiplication Algorithm • spinners 	<ul style="list-style-type: none"> •
<u>Materials</u>	<u>Digital</u>				
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Unit 6- Multiply Decimals

<u>General Description of the Unit</u> In this unit, students extend on their understanding from Grade 4 of multiplying whole numbers and fractions to multiplying decimals. They use estimation to determine the reasonableness of their answers. Students apply their understanding of
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multiplying decimals to solve problems in real-world contexts. Students apply their knowledge of decimal fractions, place value, and the properties of operations to multiply decimals. Students revisit and make use of the pattern they discovered to make a generalization about the placement of the decimal in the product.

Priority Standards

- **5.AT.5** Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations, models or drawings and strategies based on place value or properties of operations to represent the problem).

Supporting Standards

- **5.NS.4** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
- **5.C.8** Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.

Proficiency Scales

5.AT.5

Tiered Assessments

Enduring Understandings

- Students understand multiplying decimals by powers of 10 using strategies based on place value, properties of operations, and patterns in the powers of 10.
- Students extend their understanding of estimation as a strategy for determining whether products are reasonable.
- Students develop understanding of multiplication of decimals by representing multiplication using equations and decimal grids.

Focus Question

- What strategies can I use to multiply decimals?
- *What strategies did you use to multiply whole numbers?*
- *How do you think multiplying decimals will be different?*

<ul style="list-style-type: none"> • Students build on their understanding of partial products and area models to multiply decimals. • Students extend their understanding of place value to determine the product of two decimal factors. • Students build on their understanding of multiplying decimals as they use representations and models to find the product of decimals. 		
<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> • I can use patterns to multiply a decimal by a power of 10. • I can explain patterns when multiplying a decimal by a power of 10. • I can explain how to estimate products of two decimals. • I can use an estimated product to make predictions about a calculated solution. • I can estimate products of decimals to assess if calculations are reasonable. • I can use decimal grids to help me represent and solve multiplication equations involving decimals. • I can use patterns based on place value concepts and properties of operations to 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> • N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> • exponent • factor • product • estimate • range • round • decimal grid • partition • area • area model • decompose • partial product • decomposition • unknown <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> • analyze • reflect • cite • speculate • complex

<p>make generalizations about multiplying decimals.</p> <ul style="list-style-type: none"> • I can use those generalizations to determine the placement of digits in a product. • I can explain why I chose a strategy to solve multiplication equations involving decimals. • I can understand other strategies to solve multiplication equations involving decimals. 		<ul style="list-style-type: none"> • negate • complement • evaluate • assert • expand • relevant • suggest
<p><u>Mathematical Processes</u></p> <ul style="list-style-type: none"> • Attend to precision. • Look for and make use of structure. • Reason abstractly and quantitatively. • Use appropriate tools strategically. • Model with mathematics. • Look for and express regularity in repeated reasoning. • Make sense of problems and persevere in solving them. • Construct viable arguments and critique the reasoning of others. 		<p><u>Employability Skills</u></p>
<p><u>SEL Indicators</u></p> <ul style="list-style-type: none"> • Social Awareness - Empathy; Self-Confidence; Appreciate Diversity • Relationship Skills - Build Relationships • Self-Management - Manage Stress • Responsible Decision-making - Evaluate 		
<p><u>Resources</u></p>		
<u>Textbook</u>	<u>Materials</u>	<u>Digital</u>

Lesson 6-1 Lesson 6-2 Lesson 6-3 Lesson 6-4 Lesson 6-5 Lesson 6-6	<ul style="list-style-type: none"> • calculator • number cubes: 1 whole number cube, 1 decimal cube • place-value charts • Blank Open number lines • 10x10 Grids • base-ten blocks • 0.5 cm grid paper • decimal grids • Show and Explain Your Reasoning 	<ul style="list-style-type: none"> •
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Unit 7- Divide Whole Numbers

General Description of the Unit

In this unit, students build on their understanding of multiplication and division from Grade 4. Students have previously worked with division of up to four-digit dividends and one-digit divisors, including situations involving remainders. They continue to use equations, rectangular arrays, and area models to extend their knowledge of division to include up to four-digit dividends and two-digit divisors. They use estimation techniques to determine the reasonableness of solutions. Students apply their understanding of dividing multi-digit whole numbers to solve problems in real-world contexts.

Priority Standards

- **5.AT.1** Solve real-world problems involving multiplication and division of whole numbers (e.g. by using equations to represent the problem). In division

Supporting Standards:

- **5.C.2** Find whole-number quotients and remainders with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of

<p>problems that involve a remainder, explain how the remainder affects the solution to the problem.</p>	<p>operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning used.</p>	
<p><u>Proficiency Scales</u> <u>5.AT.1</u></p>	<p><u>Tiered Assessments</u></p>	
<p><u>Enduring Understandings</u></p> <ul style="list-style-type: none"> • Students build on their understanding of division by using place-value patterns to calculate quotients. • Students build their understanding of division through estimating quotients. • Students build their understanding of multiplication and division using basic facts to divide multi-digit numbers. • Students build on their understanding of division as they begin to divide with 2-digit divisors using area models. • Students understanding of division is enhanced as they divide multi-digit numbers using partial quotients. • Students build on their understanding of division as they represent multi-digit division by 2-digit divisors. • Students build on their understanding of division as they represent multi-digit division by 2-digit divisors. 	<p><u>Focus Question</u></p> <ul style="list-style-type: none"> • How can I divide multi-digit numbers? • <i>What do you know about representing division?</i> • <i>How does knowing multiplication facts help you decide?</i> 	
<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> • I can explain patterns when dividing by a multiple of 10. 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> • N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> • dividend • divisor • quotient

<ul style="list-style-type: none"> ● I can use patterns to determine the quotient when dividing by a multiple of 10. ● I can explain how to estimate quotients of multi-digit numbers. ● I can estimate quotients of multi-digit numbers to determine if calculations are reasonable. ● I can use an estimated quotient to make predictions about a calculated solution. ● I can use the relationship between multiplication and division to determine the quotient when dividing by a 2-digit divisor. ● I can use an area model to determine partial quotients and add partial quotients to calculate the quotient. ● I can record partial quotients using a strategy. ● I can use partial quotients to solve division problems, which sometimes include a remainder. ● I can solve word problems involving division. 		<ul style="list-style-type: none"> ● estimate ● partial quotient ● remainder <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> ● accurate ● evaluate ● suggest ● variation ● analyze ● establish ● reflect ● speculate ● condition ● drawback ● address ● advantage ● note ● transition
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<ul style="list-style-type: none">I can interpret the remainder when solving word problems.		
<u>Mathematical Processes</u> <ul style="list-style-type: none">Reason abstractly and quantitatively.Look for and make use of structure.Use appropriate tools strategically.Look for and express regularity in repeated reasoning.Model with mathematics.Look for and make use of structure.Make sense of problems and persevere in solving them.	<u>Employability Skills</u>	
<u>SEL Indicators</u> <ul style="list-style-type: none">Self-Awareness - Recognize StrengthsSelf-Management - Self Motivation; Goal SettingRelationship Skills - TeamworkResponsible Decision-Making - Ethical Responsibility; Identify ProblemsSocial Awareness - Respect Others		
<u>Resources</u>		
<u>Textbook</u> Lesson 7-1 Lesson 7-2 Lesson 7-3 Lesson 7-4 Lesson 7-5 Lesson 7-6 Lesson 7-7	<u>Materials</u> <ul style="list-style-type: none">base-ten blocksindex cardsdigit cardsBlank Partial Quotientsnumber cubescalculators	<u>Digital</u> <ul style="list-style-type: none">

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Unit 8- Divide Decimals

<p><u>General Description of the Unit</u></p> <p>The focus of this unit is to learn dividing decimals. This unit opens with use of different-sized glasses and jugs to illustrate division by decimals. This is an important opportunity to help students form a concrete understanding that dividing does <i>not</i> always “make smaller”. Students understand better the nature of division: not simply making numbers smaller-but finding out how many of one quantity “for into” another. Students understand that dividing by a (positive) decimal less than 1 is not always intuitive. When students first learn about the effect of each operation, they see that addition and multiplication have answers that are generally greater than the first addend or factor, whereas subtraction and division generally have answers that are less than the minuend or divided.</p>	
<p><u>Priority Standards</u></p> <ul style="list-style-type: none"> • <u>5.AT.5</u> Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation(e.g. by using equations, models or drawings and strategies based on place value or properties of operations to represent the problem). 	<p><u>Supporting Standards</u></p> <ul style="list-style-type: none"> • <u>5.NS.4</u> Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal is multiplied or divided by the power of 10. Use whole - number exponents to denote powers of 10. • <u>5.C.8</u> Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.
<p><u>Proficiency Scales</u></p> <p><u>5.AT.5</u></p>	<p><u>Tiered Assessments</u></p>
<p><u>Enduring Understandings</u></p> <ul style="list-style-type: none"> • Students develop understanding of dividing decimals by powers of 10 using strategies based on place value, 	<p><u>Essential Questions</u></p> <ul style="list-style-type: none"> • What strategies can I use to divide decimals?

<p>properties of operations, and patterns in the quotients of powers of 10.</p> <ul style="list-style-type: none">● Students gain an understanding of estimation as a method to help determine the reasonableness of calculations involving decimal quotients.● Students use representations and the relations and the relationship between multiplication and division to better understand division of decimals by whole numbers.● Students build on their understanding of dividing decimals as they begin to notice generalizable patterns through visual representations.● Student build on their understanding of place value as they relate different strategies to dividing whole numbers by decimals.● Students build on their understanding of division as they notice and use patterns in dividing a decimal by decimal.		
<p><u>Learning Targets</u></p> <ul style="list-style-type: none">● I can use place-value patterns to divide a decimal by a power of 10.● I can explain patterns when dividing a decimal by a power of 10.● I can explain how to estimate quotients of decimals.	<p><u>Related Concepts</u></p> <ul style="list-style-type: none">● N/A	<p><u>Math Terms</u></p> <ul style="list-style-type: none">● Power of 10● Dividend● Divisor● Estimate● Quotient● Decimal● Place Value● Partial Quotients <p><u>Academic Terms</u></p>

<ul style="list-style-type: none"> • I can estimate quotients of decimals to determine if calculations are reasonable. • I can use an estimated quotient to make predictions about a calculated solution. • I can represent division of decimals by whole numbers using equal sharing or equal grouping. • I can use place-value understanding and equivalent representations to divide a decimal by a whole number. • I can use decimal grids to represent and solve a division equation. • I can write an equivalent equation with a whole-number divisor to solve a division equation. • I can write an equivalent equation containing whole numbers to solve a division equation. 		<ul style="list-style-type: none"> • Expand • Reflect • Support • Suggest • Negate • Variation • Analyze • Suggest • Infer • Transition • Reflect • Address • Advantage • Assert • Disadvantage
<u>Mathematical Processes</u> <ul style="list-style-type: none"> • Look for and make use of structure. • Reason abstractly and quantitatively. 	<u>Employability Skills</u>	

<ul style="list-style-type: none"> ● Use appropriate tools and strategy. ● Model with mathematics. ● Look for and express regularity in repeated reasoning. ● Use appropriate tools strategically. ● Make sense of problems and persevere in solving them. 	
<p><u>SEL Indicators</u></p> <ul style="list-style-type: none"> ● Responsible Decision-Making-Analyze Situations (Lesson 8-1): Students make sense through analysis, which helps them make informed decisions. ● Self-Management -Self Discipline (Lesson 8-2): Self-disciplined students can manage their impulses to focus on mathematical tasks. ● Relationship Skills -Build Relationships (Lesson 8-3): Building positive relationships can help establish a strong classroom community. ● Self-Awareness-Identify Emotions (Lesson 8-4) Students who can identify and understand their own feelings and emotions can better manage the reactions to those feelings and emotions. ● Social Awareness-Empathy (Lesson 8-5): Students who empathize with others are more able to build positive relations. ● Self-Management-Self Motivation (Lesson 8-6): Students who self-motivate can take initiative and persevere through challenging tasks. 	
<p style="text-align: center;"><u>Resources</u></p>	
<p style="text-align: center;"><u>Textbook</u></p> <p>Lesson 8-1 Lesson 8-2 Lesson 8-3 Lesson 8-4 Lesson 8-5 Lesson 8-6</p>	<p style="text-align: center;"><u>Materials</u></p> <ul style="list-style-type: none"> ● Base-ten blocks ● Calculators ● Hundred grids ● Number cubes ● Bills and coins ● Manipulatives ● Index Cards <p style="text-align: center;"><u>Digital</u></p> <ul style="list-style-type: none"> ●

	<ul style="list-style-type: none"> • Tenths and Hundredths Representations • Number Cubes • 10x10 Grids 	
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Unit 9- Add and Subtract Fractions

General Description of the Unit:

During this unit students begin estimating sums and differences of fractions. Students learn that they can round to a half if the numerator is about half of the denominator. Students learn to extend the work they did in Grade 4 as they work with fractions with unlike denominators. They further apply this process with mixed numbers, recognizing that the fractional parts need to be expressed with a common denominator to add or subtract. The student's task is to find a common denominator, students can add and subtract fractions by regrouping if necessary.

Priority Standards

- **5.NS.2 Explain different interpretations of fractions, including: as parts of a whole, parts of a set, and division of whole numbers by whole numbers.**
- **5.AT.2 Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators (e.g., by using visual fraction models and equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and assess whether the answer is reasonable.**

Supporting Standards

- 5.NS.1 Use a number line to compare and order fractions, mixed numbers, and decimals to thousandths. Write the results using $>$, $=$, and $<$ symbols.
- 5.C.4 Add and subtract fractions with unlike denominators, including mixed numbers.

Proficiency Scales

Tiered Assessments

<u>5.NS.2</u> <u>5.AT.2</u>	
<p><u>Enduring Understandings</u></p> <ul style="list-style-type: none"> • Students build understanding of estimation as they estimate sums and differences of fractions and determine the reasonableness of proposed answers. • Students develop their understanding of adding fractions with unlike denominators. • Students build on their understanding of operations with fractions. • Students interpret representations to develop their understanding of subtracting fractions with unlike denominators. . • Students extend on their basic understanding of operations with fractions. • Students build understanding of fraction concepts and addition of fractions and mixed numbers with unlike denominators. • Students interpret and use representations to develop their understanding of subtracting mixed numbers with unlike denominators. • Students build understanding of fraction concepts to add and subtract mixed numbers with unlike denominators. • Students and subtract mixed numbers involving unlike denominators to solve problems with real-world contexts. • 	<p><u>Essential Questions</u></p> <ul style="list-style-type: none"> • How do I add and subtract questions?
<u>Key Concepts</u>	<u>Related Concepts</u>
	<u>Math Terms</u>

<ul style="list-style-type: none"> • I can use benchmark numbers to estimate the sums and differences of fractions. • I can explain how to use an estimate to predict a calculated solution. • I can explain how to use an estimate to check the reasonableness of a calculated solution. • I can use a representation to add fractions with unlike denominators. • I can explain how to use a representation to add fractions with unlike denominators. • I can add fractions with unlike denominators. • I can explain how to add fractions with unlike denominators. • I can use a representation to subtract fractions with unlike denominators. • I can explain how to use representation to subtract fractions with unlike denominators. • I can subtract fractions with unlike denominators. 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Benchmark number • Estimate • Denominator • Equivalent Fractions • Fraction tiles • Like Denominators • Numerator • Multiple • Mixed Numbers <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> • Eliminate • Suggest • Correspond • Accurate • Condition • Establish • Valid • Reflect • Revelant • Assert • Debate
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<ul style="list-style-type: none">● I can explain how to subtract fractions with unlike denominators.● I can add mixed numbers with unlike denominators.● I can explain how to add mixed numbers with unlike denominators.● I can subtract mixed numbers with unlike denominators.● I can explain how to subtract mixed numbers with unlike denominators.● I can add and subtract mixed numbers with regrouping.● I can solve word problems involving fractions.		
<p><u>Mathematical Processes</u></p> <ul style="list-style-type: none">● Construct viable arguments and critique the reasoning of others.● Use appropriate tools strategically.● Make sense of problems and persevere in solving them.● Model with mathematics.● Look for and express regularity in repeated reasoning.● Reason abstractly and quantitatively.● Look for and make use of structure.● Make sense of problems and persevere in solving them.● Look for and make sense of structure.● Use appropriate tools strategically.	<p><u>Employability Skills</u></p>	
<p><u>SEL Indicators</u></p>		

- **Self-Awareness-Recognize Strengths** (Lesson 9-1): When students recognize their own strengths, they can see themselves as resourceful and may be more willing to attempt to problem solve and help others.
- **Social Awareness-Respect Others** (Lesson 9-2) When students are respectful of one another, they strengthen their class community.
- **Relationship Skills-Communication** (Lesson 9-3): Students who can communicate effectively are more likely to build strong relationships and contribute to positive classroom culture.
- **Self-Management-Control Impulses** (Lesson 9-4): Students who can regulate their impulses and reactions are better able to navigate and solve problems.
- **Social Awareness- Appreciate Diversity** (Lesson 9-5): When students appreciate diversity, they create a strong, more inclusive classroom community.
- **Responsible Decision Making-Identify Problems:** (Lesson 9-6) A key step in problem solving is analyzing information to identify the task.
- **Relationship Skills -Teamwork** (Lesson 9-7): When students work effectively as a team, they establish a stronger learning community.
- **Responsible Decision-Making -Solve Problems** (Lesson 9-8): Efficient problem solvers can make informed decisions that lead to solutions.
- **Self-Awareness-Self-Efficacy** (Lesson 9-9): Students with high self-efficacy are more likely to persevere to complete a challenging task.

Resources

<u>Textbook</u>	<u>Materials</u>	<u>Digital</u>
Lesson 9-1 Lesson 9-2 Lesson 9-3 Lesson 9-4 Lesson 9-5 Lesson 9-6 Lesson 9-7 Lesson 9-8	<ul style="list-style-type: none"> ● Fraction circles ● Fraction tiles ● Number cubes ● <i>Benchmark Fraction Number Line</i> ● <i>Blank Open Number Line</i> 	<ul style="list-style-type: none"> ●

Lesson 9-9	<ul style="list-style-type: none"> ● Ruler ● <i>Fraction Number Lines</i> ● Index Cards ● Blank spinner ● <i>Explain and Show Your Strategies</i> ● <i>Problem-Solving Tool</i> 	
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Unit 10- Multiply Fractions

General Description of the Unit: In this unit students review & build on their work from fourth grade. They multiplied fractions and mixed numbers by whole numbers using models. Students will continue the practice of estimating to check the reasonableness of answers. Students will be scaling or resizing a number. Understanding this concept enables students to reason about the size of a product without having to multiply.

Priority Standards

- **5.AT.3** Solve real-world problems involving multiplication of fractions, including mixed numbers (e.g., by using visual fraction models and equations to represent the problem).

Supporting Standards

- 5.C.5 Use visual fraction models and numbers to multiply a fraction by a fraction or a whole number.
- 5.C.6 Explain why multiplying a positive number by a fraction greater than one results in a product greater than the given number. Explain why multiplying a positive number by a fraction less than 1 results in a product smaller than the given number. Relate the principle of fraction equivalence, $a/b = (n \times a)/(n \times b)$, to the effect of multiplying a/b by one.

	<ul style="list-style-type: none"> • 5.M.2 Find the area of a rectangle with fractional side lengths by modeling with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. • 5.C.3 Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
<u>Proficiency Scales</u> <u>5.AT.3</u>	<u>Tiered Assessments</u>
<u>Enduring Understandings</u> <ul style="list-style-type: none"> • Students interpret different representations used when multiplying fractions by whole numbers. • Students expand their understanding of multiplying fractions by discovering how to multiply the numerator by the whole number to find the product. • Students build on their understanding of multiplication as they use a representation to multiply two fractions. • Students notice and generalize a pattern that connects the area model to an equation. • Students build understanding about multiplying fractions using the concept of area. • Students build understanding of multiplying mixed numbers using representations. 	<u>Essential Questions</u> <ul style="list-style-type: none"> • How can I multiply fractions? • <i>What do you know about multiplying numbers?</i> • <i>How is multiplication related to addition?</i> • <i>How can I multiply fractions?</i>

<ul style="list-style-type: none"> • Students build understanding of multiplying mixed numbers as they relate visual representations to equations. • Students build understanding of multiplication as they determine how the size of one factor impacts the size of the product relative to the other factor. • Students apply their understanding of multiplication strategies to solve and write fraction and mixed number multiplication problems with real-world contexts. 		
<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> • I can use a representation to multiply a whole number by a fraction. • I can explain how to use a representation to multiply a whole number by a fraction. • I can multiply a whole number by a fraction. • I can use a representation to multiply a fraction by a fraction. • I can explain how to use a representation to multiply a fraction by a fraction. • I can multiply a fraction by a fraction. • I can find the area of a rectangle with fractional side lengths by tiling it with unit squares with unit fraction side lengths. 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> • N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> • fraction model • multiplication • partition • denominator • numerator • area square unit • area model • decompose • mixed number • partial products • scaling • equation • unknown • variable <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> • reflect • suggest • citation

<ul style="list-style-type: none"> • I can find the area of a rectangle with fractional side lengths by multiplying the side lengths. • I can use an area model to represent multiplication of mixed numbers. • I can use partial products to multiply mixed numbers. • I can multiply mixed numbers by writing the mixed numbers as fractions and then multiplying fractions. • I can explain how the size of the factors impacts the size of the product without performing the multiplication. • I can explain why the product of a given number and a fraction greater than 1 is greater than the given number and why the product of a given number and a fraction less than 1 is less than the given number. • I can solve word problems involving fractions. 		<ul style="list-style-type: none"> • complex • procedure • speculate • expand • reflect • accurate • establish • transition • infer • assert
<p><u>Mathematical Processes</u></p> <ul style="list-style-type: none"> • Look for and express regularity in repeated reasoning. • Look for and make use of structure. • Reason abstractly and quantitatively. 	<p><u>Employability Skills</u></p>	

<ul style="list-style-type: none"> ● Model with mathematics. ● Make sense of problems and persevere in solving them. 		
<u>SEL Indicators</u> <ul style="list-style-type: none"> ● Self-Awareness - Self-Confidence ● Responsible Decision Making - Reflect ● Relationship Skills - Social Engagement ● Responsible decision Making - Solve Problems ● Self-Management - Organization Skills ● Social-Awareness - Develop Perspective ● Relationship Skills - Build relationships ● Self-Awareness- Identify Emotions ● Self-Management - Goal Setting 		
<u>Resources</u>		
<u>Textbook</u>	<u>Materials:</u>	<u>Digital</u>
Lesson 10-1 Lesson 10-2 Lesson 10-3 Lesson 10-4 Lesson 10-5 Lesson 10-6 Lesson 10-7 Lesson 10-8 Lesson 10-9	<ul style="list-style-type: none"> ● counters ● fraction circles ● fraction tiles ● grid paper ● index cards ● blank spinners ● rulers ● Problem-Solving Tool Teaching Resource 	<ul style="list-style-type: none"> ●

Unit 11 - Divide Fractions

General Description of the Unit: This unit builds on earlier work with division & fractions to establish that a fraction describes an indicated division. Students divide fractions, limited to division of a whole number by a unit fraction and division of a unit fraction by a non-zero whole number. Students use models to help determine quotients.

Priority Standards

- **5.AT.4** Solve real-world problems involving division of unit fractions by non-zero whole numbers, and division of whole numbers by unit fractions (e.g. by using visual fraction models and equations to represent the problem).

Supporting Standards

- **5.NS.2** Explain different interpretations of fractions, including: as parts of a whole, parts of a set, and division of whole numbers by whole numbers.
- **5.C.7** Use visual fraction models and numbers to divide a unit fraction by a non-zero whole number and to divide a whole number by a unit fraction.
- **5.AT.1** Solve real-world problems involving multiplication and division of whole numbers (e.g. by using equations to represent the problem). In division problems that involve a remainder, explain how the remainder affects the solution to the problem.

Proficiency Scales

5.AT.4

Tiered Assessments

Enduring Understandings

- Students build on their understanding of fractions as another way to write a division expression.
- Students build on their understanding of division and mixed numbers by determining how they should write a quotient for division problems.

Essential Questions

- How can I divide fractions?
- *What does it mean to divide?*
- *What do you know about fractions?*

<ul style="list-style-type: none"> Students build their understanding of division of whole numbers by unit fractions as they relate the concept to different representations. Students build on their understanding of the relationship between multiplication and division as they justify the quotient of a whole number divided by a unit fraction. Students extend their understanding of division with fractions by representing division of unit fractions by non-zero whole numbers. Students build their understanding of dividing unit fractions by non-zero whole numbers by using multiplication to justify their solutions. Students extend their understanding of operations with fractions by solving word problems. 		
<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> I can represent the quotient of a division equation as a fraction or mixed number. I can explain why the quotient of a division equation can always be expressed as a fraction. I can explain why division of whole numbers can be written as a multiplication expression. I can determine whether a quotient should be written with a remainder or as a mixed number. 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> denominator dividend divisor numerator quotient mixed number remainder division fraction model unit fraction equation unknown variable

<ul style="list-style-type: none">● I can use a representation to divide whole numbers by unit fractions.● I can use the meaning of multiplication as equal groups to divide whole numbers by unit fractions.● I can check if a calculated quotient is correct using a related multiplication equation.● I can use a representation to divide unit fractions by non-zero whole numbers.● I can divide unit fractions by non-zero whole numbers.● I can check if a calculated quotient is correct using a related multiplication equation.● I can solve word problems involving division of fractions.		<p><u>Academic Terms</u></p> <ul style="list-style-type: none">● prove● reflect● analyze● evaluate● arguably● speculate● suggest● accurate● establish● relevant
<p><u>Mathematical Processes</u></p> <ul style="list-style-type: none">● Model with mathematics.● Make sense of problems and persevere in solving them.● Attend to precision.● Reason abstractly and quantitatively.● Look for a make use of structure.		<p><u>Employability Skills</u></p>
<p><u>SEL Indicators</u></p> <ul style="list-style-type: none">● Self-Management - Manage Stress● Self-Awareness - Recognize Strengths		

- **Social Awareness - Respect Others**
- **Self-Management - Organizational Skills**
- **Responsible Decision- Making - Evaluate**
- **Self-Awareness - Accurate Self-Perception**
- **Relationship Skills - Communication**

Resources

<u>Textbook</u>	<u>Materials</u>	<u>Digital</u>
Lesson 11-1 Lesson 11-2 Lesson 11-3 Lesson 11-4 Lesson 11-5 Lesson 11-6 Lesson 11-7	<ul style="list-style-type: none"> • fraction circles • number cubes • number cards • Problem-Solving Tool Teaching Resource • fraction tiles • number cube • spinners • Unit Fraction & Whole Numbers Teaching Resource • Dividing Fractions Puzzle Pieces Teaching Resource • Problem-Solving Tool Teaching Resource 	<ul style="list-style-type: none"> •

Unit 12- Measurement and Data

General Description of the Unit: In this unit, students create line plots for a variety of data sets and solve problems based on the data using operations appropriate for 5th grade. The line plot is an efficient way to display, compare, and interpret data. Students also learn that the same measure can be expressed in different units. Students learn to convert between units within a measurement system using their previously-learned skills in multiplication & division.

Priority Standards

- **5.M.1** Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step real-world problems.
- **5.DS.2** Understand and use measures of center (mean and median) and frequency (mode) to describe a data set.

Supporting Standards

- **5.DS.1** Formulate questions that can be addressed with data and make predictions about the data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, bar graphs, and line graphs. Recognize the differences in representing categorical and numerical data.

Proficiency Scales

5.M.1

5.DS.2

Tiered Assessments

Enduring Understandings

- Students develop proficiency with multiplying and dividing to convert among customary units of measure.
- Students apply knowledge of multiplying and dividing with fractions to convert among metric units of measure.
- Students build their proficiency with multiplication involving whole numbers and fractions, and in converting units of measurement.

Essential Questions

- How can I convert measurement units and represent measurement data?
- *What types of measurements have you made before?*
- *What units have you used to measure?*
- *What kinds of data have you used?*
- *What graphs have you used to represent data?*

<ul style="list-style-type: none"> • Students represent measurement data by labeling a number line and placing an X to represent each data value above the number line. • Students build procedural skills and proficiency with fraction operations and fluency in interpreting data on line plots to solve problems. 		
<p><u>Learning Targets</u></p> <ul style="list-style-type: none"> • I can convert customary units of measure and time. • I can explain which operation to use when converting. • I can convert metric units of measure. • I can explain which operation to use when converting. • I can solve multi-step problems by identifying and answering a hidden question and using that answer to solve the initial problem. • I can create line plots of data sets involving measurement data. • I can interpret line plots. • I can solve problems using data in a line plot and perform operations on the data. • I can determine the mode, median, and range of a data set. 	<p><u>Related Concepts</u></p> <ul style="list-style-type: none"> • N/A 	<p><u>Math Terms</u></p> <ul style="list-style-type: none"> • capacity • convert • customary system • length • weight • mass • metric system • data • line plot • outlier • median • mode • range • mean <p><u>Academic Terms</u></p> <ul style="list-style-type: none"> • accurate • infer • emphasize • note • analyze • procedure

<ul style="list-style-type: none"> I can determine the mean of a data set. 		<ul style="list-style-type: none"> reflect suggest variation precise
<u>Mathematical Processes</u> <ul style="list-style-type: none"> Make sense of problems and persevere in solving them. Use appropriate tools strategically. Model with mathematics. Look for and express regularity in repeated reasoning. Reason abstractly and quantitatively. Attend to precision. Construct viable arguments and critique the reasoning of others. 		<u>Employability Skills</u>
<u>SEL Indicators</u> <ul style="list-style-type: none"> Self-Awareness - Self-Efficacy Self-Management - Self-Motivation Responsible Decision-Making - Analyze Situations Relationship Skills - Social Engagement Social Awareness - Appreciate Diversity 		
<u>Resources</u>		
<u>Textbook</u> Lesson 12-1 Lesson 12-2 Lesson 12-3 Lesson 12-4 Lesson 12-5 Lesson 12-6	<u>Materials</u> <ul style="list-style-type: none"> Customary Conversion Tables Teaching Resource 	<u>Digital</u> <ul style="list-style-type: none">

Lesson 12-7	<ul style="list-style-type: none"> ● Customary Measurement Cards Teaching Resource ● base-ten blocks (ones & tens only) ● Metric Conversion Tables Teaching Resource ● number cubes ● Index cards ● Problem-Solving tool Teaching Resource ● dry spaghetti noodles ● Water Remaining Line Plot Teaching Resource ● blank number cubes ● centimeter rulers ● grid paper ● counters ● fraction circles ● paper bags 	
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IN Unit: More Data

General Description of the Unit: In this unit, students collect and organize data.

<u>Priority Standards</u> <ul style="list-style-type: none"> ● <u>5.DS.2</u> Understand and use measures of center (mean and median) and frequency (mode) to describe a data set. 		<u>Supporting Standards</u> <ul style="list-style-type: none"> ● <u>5.DS.1</u> Formulate questions that can be addressed with data and make predictions about the data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, bar graphs, and line graphs. Recognize the differences in representing categorical and numerical data. ●
<u>Proficiency Scales</u> <u>5.DS.2</u>		<u>Tiered Assessments</u>
<u>Enduring Understandings</u> <ul style="list-style-type: none"> ● Students collect & organize data. ● 		<u>Essential Questions</u> <ul style="list-style-type: none"> ●
<u>Learning Targets</u> <ul style="list-style-type: none"> ● I can take a survey. ● I can collect and organize data. ● I can construct line graphs. ● I can describe line graphs. ● I can make predictions from data. ● I can analyze data in a line graph. ● I can interpret data in a line graph. 	<u>Related Concepts</u> <ul style="list-style-type: none"> ● N/A 	<u>Math Terms</u> <ul style="list-style-type: none"> ● data ● frequency ● frequency table ● survey ● line graph ● <u>Academic Terms</u> <ul style="list-style-type: none"> ● ● ●

<u>Mathematical Processes</u> <ul style="list-style-type: none"> • Reason abstractly and quantitatively. • Construct viable arguments and critique the reasoning of others. • Model with mathematics. • Make sense of problems and persevere in solving them. • Attend to precision. • Look for and express regularity in repeated reasoning. 		<u>Employability Skills</u>
<u>SEL Indicators</u> <ul style="list-style-type: none"> • 		
<u>Resources</u>		
<u>Textbook</u> More Data: Lesson IN-Collect and Organize Data Lesson IN - Line Graphs Lesson IN - Making Predictions from Data Lesson IN - Analyze Line Graphs	<u>Materials</u> <ul style="list-style-type: none"> • index cards • pencils • graph paper • paper • ruler or straightedge • grid paper • various examples of line graphs 	<u>Digital</u> <ul style="list-style-type: none"> •

Unit 13- Geometry

General Description of the Unit: In this unit, students use coordinates (an ordered pair) to identify a location on the coordinate plane. Students graph ordered pairs, interpret coordinate values of points in the context of a situation, and draw a line to connect points.

In this unit, students classify two-dimensional shapes based on properties. Students build hierarchies of two-dimensional triangles and quadrilaterals. Triangles are sorted and classified by the lengths of their sides & angles. Quadrilaterals are placed into hierarchies based on side length, congruency, & angle type.

Priority Standards

- **5.G.2** Identify and classify polygons including quadrilaterals, pentagons, hexagons, and triangles (equilateral, isosceles, scalene, right, acute and obtuse) based on angle measures and sides. Classify polygons in a hierarchy based on properties.

Supporting Standards

- **5.AT.6** Graph points with whole number coordinates on a coordinate plane. Explain how the coordinates relate the point as the distance from the origin on each axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
- **5.AT.7** Represent real-world problems and equations by graphing ordered pairs in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
- **5.G.1** Identify, describe, and draw triangles (right, acute, obtuse) and circles using appropriate tools (e.g., ruler or straightedge, compass and technology). Understand the relationship between radius and diameter.

Proficiency Scales

5.G.2

Tiered Assessments

Enduring Understandings

- Students develop understanding of the coordinate plane, its parts, & how to plot points on it.

Essential Questions

- **How can I use the coordinate plane to plot points?**
- **How do I identify and classify triangles?**
- **How do I identify & classify quadrilaterals?**

<ul style="list-style-type: none"> Students develop understanding of the attributes used to classify two-dimensional figures in a hierarchy. 			
<u>Key Concepts</u> <ul style="list-style-type: none"> I can identify and describe features of a coordinate plane I can use a coordinate plane to determine the ordered pair associated with a given point. I can identify & classify triangles I can identify & classify quadrilaterals. 	<u>Related Concepts</u> <ul style="list-style-type: none"> N/A 	<u>Math Terms</u> <ul style="list-style-type: none"> Coordinate Plane Ordered pair Origin A-axis X-coordinate Category Hierarchy Attribute Parallelogram Properly Quadrilateral Rectangle Equilateral triangle acute obtuse right scalene isosceles 	<u>Academic Terms</u> <ul style="list-style-type: none">
<u>Mathematical Processes</u> <ul style="list-style-type: none"> 		<u>Employability Skills</u>	

<ul style="list-style-type: none"> • 		
<u>SEL Indicators</u> <ul style="list-style-type: none"> • Relationship Skills-Teamwork • Responsible Decision-Making-Reflect • Self Management -Organizational Skills • Self-Awareness-Accurate Self-Perception • Social Awareness-Develop Perspective • Responsible Decision-Making Evaluate 		
<u>Resources</u>		
<u>Textbook</u>	<u>Materials</u>	<u>Digital</u>
Lesson 13-1 Lesson 13-2 Lesson 13-3 Lesson 13-4 Lesson 13-5 Lesson 13-6	<ul style="list-style-type: none"> • <i>Understanding the Coordinate Plane</i> • Blank number cubes • <i>Coordinate Place</i> • Plastic Straws • <i>Properties of Triangles</i> • <i>Classifying Quadrilaterals</i> • <i>Venn Diagram</i> 	<ul style="list-style-type: none"> •

IN Unit: More Geometry

<u>General Description of the Unit</u>	
<u>Priority Standards</u>	<u>Supporting Standards</u>

<ul style="list-style-type: none">● 5.M.3 Develop and use formulas for the area of triangles, parallelograms, and trapezoids. Solve real-world and other mathematical problems that involve perimeter and are of triangles, parallelograms and trapezoids, using appropriate units for measures.		<ul style="list-style-type: none">● 5.G.1 Identify, describe and draw triangles (right, acute, obtuse) and circles using appropriate tools (e.g. ruler or straightedge, compass, and technology). Understand the relationship between radius and diameter.	
<u>Proficiency Scales</u> 5.M.3		<u>Tiered Assessments</u>	
<u>Enduring Understandings</u> <ul style="list-style-type: none">●●		<u>Essential Questions</u> <ul style="list-style-type: none">●	
<u>Learning Targets</u> <ul style="list-style-type: none">● I can identify parts of circles.● I can describe parts of circles.● I can find the perimeters of polygons.● I can recognize the area of figures.● I can find and estimate the area of figures by counting squares.● I can find the area of triangles.● I can find the area of trapezoids.● I can find the area of parallelograms.● I can select the appropriate formulas to measure perimeter, area, and volume.		<u>Related Concepts</u> <ul style="list-style-type: none">● N/A	
		<u>Math Terms</u> <ul style="list-style-type: none">● center● chord● circle● circumference● diameter● radius● perimeter● area <u>Academic Terms</u> <ul style="list-style-type: none">●●●	

<ul style="list-style-type: none"> I can use the appropriate formulas to measure perimeter, area, and volume. 		
<u>Mathematical Processes</u> <ul style="list-style-type: none"> Make sense of problems and persevere in solving them. Reason abstractly and quantitatively. Construct viable arguments and critique the reasoning of others. Model with mathematics. Look for and make use of structure. Attend to precision. 		<u>Employability Skills</u>
<u>SEL Indicators</u> <ul style="list-style-type: none"> 		
<u>Resources</u>		
<u>Textbook</u> More Geometry: Lesson IN- Circles Lesson IN - Perimeter of Polygons Lesson IN - Area Lesson IN - Area of Triangles Lesson IN - Area of Trapezoids and Parallelograms Lesson IN - Select Appropriate Measurement Formulas	<u>Materials</u> <ul style="list-style-type: none"> paper pencils rulers compasses number cubes pieces of string yardstick chenille stems square attribute blocks connecting cubes triangle shaped objects in the classroom 	<u>Digital</u> <ul style="list-style-type: none">

	<ul style="list-style-type: none"> • congruent right triangle attribute blocks • grid paper • scissors • construction paper • markers 	
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Unit 14- Algebraic Thinking

<u>General Description of the Unit:</u> In this unit, students use the order of operations when evaluating expressions. Also, students generate and extend numerical patterns and identify relationships between each set of corresponding terms.	
<u>Priority Standards</u> <ul style="list-style-type: none"> • 5.AT.8 Define and use up to two variables to write linear expressions that arise from real-world problems, and evaluate them for given values. 	<u>Supporting Standards</u> <ul style="list-style-type: none"> • 5.C.9 Evaluate expressions with parentheses or brackets involving whole numbers using the commutative properties of addition and multiplication, associative properties of addition and multiplication, and distributive property.
<u>Proficiency Scales</u> 5.AT.8	<u>Tiered Assessments</u>
<u>Enduring Understandings</u> <ul style="list-style-type: none"> • • 	<u>Essential Questions</u> <ul style="list-style-type: none"> • What do you know about variables and expressions? • What do you know about graphing on the coordinate plane?

<u>Key Concepts</u> <ul style="list-style-type: none">•••••	<u>Related Concepts</u> <ul style="list-style-type: none">• N/A	<u>Math Terms</u> <ul style="list-style-type: none">• expression• grouping symbol• numerical expression• parenthesis• evaluate• order of operations• corresponding term• numerical pattern• rule (of a pattern) <u>Academic Terms</u> <ul style="list-style-type: none">• reflect• suggest• complex• valid• accurate• contradiction• emphasize• transition• inference
<u>Mathematical Processes</u> <ul style="list-style-type: none">••	<u>Employability Skills</u>	
<u>SEL Indicators:</u> <ul style="list-style-type: none">• Relationship Skills - Communication• Social Awareness - Empathy		

- **Self-Management - Self-Discipline**
- **Self-Awareness - Recognize Strengths**
- **Social-Awareness - Respect Others**
- **Responsible Decision-Making - Ethical Responsibility**

Resources

Textbook

Lesson 14-2
Lesson 14-3
Lesson 14-4
Lesson 14-5
Lesson 14-6

Materials

- number cubes
- index cards
- cardstock
- two-color counters
- number cubes
- blank cubes
- Coordinate Plane Teaching Resource

Digital

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