

WAKULLA COUNTY SCHOOL BOARD

Fifth Grade Florida Standards Math

Revised, 2014

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This is an update of the Fifth Grade Math Curriculum to align with changes in the Florida Standards. It includes emphases for instruction and a required order of instruction pacing guide.

Fifth Grade Florida Standards Math

The district-adopted text for math is Harcourt GOMATH for Florida Standards. Additional materials are available on the Harcourt ThinkCentral website. Math iXL is available at all elementary schools in the district.

MAFS.5

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems

Mathematical Practices: The eight Mathematical Practices describe HOW we do math. They must be infused into all math instruction. This is done by having students:

- explain their thinking;
- solve problems in different ways;
- use manipulatives to demonstrate and visualize problem solving;
- work on difficult problems that are accessible but challenging;
- solve fewer problems that require more thinking rather than focusing on working a lot of one-step problems;
- use different tools to make sense of math;
- focus on precision;
- look for patterns in numbers and problems.

In addition, teachers must:

- plan with the practices in mind. This means asking planning questions like: 'What mathematical practice will the students need to use to solve this problem?' or 'What mathematical practice will I be modeling when we are working on this concept?'
- model the practices.
- use the vocabulary of the practices.
- honor student problem solving by giving them time to work on problems without moving quickly to 'the answer', and giving students multiple opportunities to discuss their reasoning in the context of math.
- question and discuss answers.
- make mathematical tools visible by discussing appropriate and available tools for solving problems, and having the tools readily accessible for use.

Explanations of the Mathematical Practices from the Florida Standards for Mathematics:

MAFS.K12.MP.1.1 -- Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

MAFS.K12.MP.2.1 : Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

MAFS.K12.MP.3.1 : Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

MAFS.K12.MP.4.1 : Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MAFS.K12.MP.5.1 : Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

MAFS.K12.MP.6.1 : Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

MAFS.K12.MP.7.1 : Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y .

MAFS.K12.MP.8.1 : Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Lead teachers from across the district met to discuss changes that must be implemented in math instruction in order to appropriately prepare students for new requirements in math and assure students ongoing success. The following principles must be reinforced across grade levels.

District Expectations and Considerations for Instruction: (requirements)

1. Use of and instruction in correct math terminology is critical.

- a. Use the language of your standards.
- b. Do not substitute 'cute' words for accurate terminology.
- c. Have students use the vocabulary multiple times in a variety of contexts.
- d. Have students practice categorizing words and have them explain their rules for sorting.
- e. Mathematical vocabulary must be evident on Word Walls.
- f. Teach vocabulary to mastery.

2. Consistently use the High-Yield Routines.

These routines allow students to practice concepts with higher-order thinking. They incorporate writing with thinking about math.

3. Use the mathematical practices. They matter.

- a. Plan with the practices in mind. Sample questions to think about when planning: 'What mathematical practice(s) will I be using when I model this task?' 'What mathematical practice(s) will my students have to use to solve this problem?'
- b. Read the descriptions of what 'mathematically proficient' students do (see the previous two pages), and consistently check to see if your students are growing toward that goal.

4. Routinely practice having students justify their answers. Ex. 'Show us how you arrived at that answer. What math concepts did you use to arrive at that answer?'

5. Always reinforce number sense. Ask: 'Is this a reasonable answer? Why or why not?'

6. Teach and practice the basic facts to automaticity. No exceptions. This is foundational to later math success.

- a. By the end of second grade students should have developed fluency with the basic addition and subtraction facts. This means that they can quickly (with automaticity) give answers for problems like $2 + 6$ or $8 + 5$, even when those are embedded in more difficult problems. Turning problems around like $13 - 5 = 8$ because $8 + 5 = 13$ should make sense to them. In other words they should not be stumbling over the basic math.
- b. In third and fourth grades student must develop automaticity with basic multiplication facts. Third grade builds a strong conceptual foundation and begins moving toward fluency and fourth-grade assures that automaticity is reached.

7. Practice word problems at all levels in a variety of contexts. This goes well beyond teaching key words for solving word problems. Over teaching key words can hinder later math understanding.

- a. Teach them to understand the problem.
 - i. What does it say?
 - ii. What information does it provide?
 - iii. What is the question?
 - iv. What information do I need to answer the question (relevant vs. irrelevant)?
 - v. What math procedure(s) will I need to complete to answer the question?
 - vi. What tools are available to help me? (drawing, visualizing, graphing or charting, measuring, numberline, etc.)

8. Make tools visible. Talk about and practice using mathematical tools. Make them available in the classroom. Discuss which tools are appropriate in which situations.

Fifth Grade Florida Standards for Math

BODY OF KNOWLEDGE: OPERATIONS AND ALGEBRAIC THINKING			
Cluster 1: Write and interpret numerical expressions. <small>ADDITIONAL CLUSTER</small> <i>Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</i>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.OA.1.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. <u>Cognitive Complexity:</u> Level 1: Recall	<ul style="list-style-type: none"> Conventional order must be followed in order to reach the correct answer. (order of operations) You must have parentheses in a problem in order to have brackets and you must have brackets in order to have braces. <p>The student is able to:</p> <ul style="list-style-type: none"> Solve expressions with parentheses, brackets, and braces. 	<ul style="list-style-type: none"> I can evaluate/simplify (solve) numerical expressions by following the order of operations.
Key Vocabulary: parentheses, brackets, braces, sequential, analyze, numerical expressions, order of operations, evaluate, simplify			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.OA.1.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product. <u>Cognitive Complexity:</u> Level 1: Recall	<ul style="list-style-type: none"> Simple expressions can be written and interpreted but not evaluated. Applying the four operations as well as place value will aid in describing the relationship between numbers. Teaching Note: Writing numerical expressions will help them in the future when evaluating word problems. <p>The student is able to:</p> <ul style="list-style-type: none"> Construct an expression using numbers and symbols. Interpret numerical expressions. Distinguish the relationship between numbers and place value. Example: a. Describe how the expression $5(10 \cdot 10)$ relates to $10 \cdot 10$. b. Double 5 and then add 15. 	<ul style="list-style-type: none"> I can write simple expressions using numbers and symbols (=, -, x, /) without evaluating (solving). I can interpret simple expressions using numbers and symbols (=, -, x, /) without evaluating (solving). I can verbally describe what an expression represents using numbers and symbols (=, -, x, /).
Key Vocabulary: expressions, interpret, order of operations			
Resources:			
Cluster 2: Analyze patterns and relationships. <small>ADDITIONAL CLUSTER</small> <i>Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</i>			

Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.OA.2.3	<p>Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p> <p><u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts</p>	<ul style="list-style-type: none"> • Ordered pairs correspond to specific points on a coordinate plane. • Patterns can be used to form ordered pairs. • One value affects another in a pattern. <p>The student is able to:</p> <ul style="list-style-type: none"> • Generate number patterns using a given rule. • Form ordered pairs from number patterns. • Graph ordered pairs on a coordinate plane. • Explain and identify the relationship between the numbers (terms) in a pattern. 	<ul style="list-style-type: none"> • I can complete number patterns with given rules. • I can form ordered pairs using given rules and graph them on a coordinate plane. • I can explain the relationship between the numbers(terms) in a pattern. • I can name points as ordered pairs on a coordinate plane.
<p>Key Vocabulary: Ordered pairs, Function tables, Coordinate plane, Quadrants, x and y axes, Corresponding terms</p>			
<p>Resources:</p>			

BODY OF KNOWLEDGE: NUMBER AND OPERATIONS IN BASE TEN			
Cluster 1: Understand the place value system.			
<i>MAJOR CLUSTER</i> Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.1.1	Recognize that in a multi-digit number, a digit in one place represent 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. <i>Cognitive Complexity:</i> Level 1: Recall	<ul style="list-style-type: none"> Placement of a digit in our base 10 number system determines the value of that digit. The reason the magnitude of numbers Tens place is ten times as much as the ones place, and the ones place is 1/10 the size of the tens place... Multiples and Powers of 10. 	<ul style="list-style-type: none"> I can recognize that every time I multiply by 10, I add a zero to the end of the number. I can make a digit 10 times larger by moving it one place value to the left. I can make a digit 10 times smaller by moving it one place value to the right.
		The student is able to: <ul style="list-style-type: none"> Students will recognize that our number system is a base ten system. Recognize that moving a digit one place to the right or left will change it's value by 10. Use a model of one unit. Express understanding of place value using fractional language. 	
Key Vocabulary: digit, number, place value, exponent, powers of 10			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.1.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10. <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> The decimal point represents the power of ten when it is moved within a number and is represented using an exponent Connecting the pattern of the numbers of zeros in the product when you multiply by the powers of 10. The exponent above the 10 indicates how many places the decimal point is moving. 	<ul style="list-style-type: none"> I can explain patterns I found when multiplying by the power of 10. I can explain and relate how the decimal point moves when it is multiplied or divided by powers of ten. I can use exponents to show powers of ten. I can explain and compare the use of powers of ten and whole number exponents.
		The student is able to: <ul style="list-style-type: none"> model what a power of ten looks like explain the pattern when zeros are added or taken off explain what happens when the decimal point is moved to the right or left in a number use exponents to represent numbers in power of tens 	
Key Vocabulary: exponent, power of ten, product, quotient, placement			
Resources:			

Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.1.3	<p>Read, write, and compare decimals to thousandths.</p> <p>5.NBT.3a - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.</p> <p>5.NBT.3b - Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <p><u>Cognitive Complexity:</u> Level 2 Basic Application of Skills and Concepts</p>	<p>The student understands that:</p> <ul style="list-style-type: none"> Decimals represent a fraction of a whole number. Each place has a different value. The equivalence of decimals Example: $32/100 = 0.30 + 0.02$ $30/100 + 2/100 = .320$ $3/10 + 2/100 = 3(1 \times 10) + 2(1 \times 100)$ <p>The student is able to:</p> <ul style="list-style-type: none"> Read decimals using fractional language. Write decimals using fractional form. Write decimals in expanded form using symbol notation. Compare decimals to thousandths using symbol notation. Relate decimals to common benchmark decimals (.50, 1.0) 	<ul style="list-style-type: none"> I can read base 10 numbers using decimals up to the thousandths place with number names and expanded notation. I can write base 10 numbers using decimals up to the thousandths place with number names and expanded notation. I can compare base 10 numbers using decimals up to the thousandths place.
<p>Key Vocabulary: base-ten system, expanded form, thousandths, place value, digits vs. numbers symbols $<$, $=$, $>$, compare, tenths, hundredth, order</p>			
<p>Resources:</p>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.1.4	<p>Use place value understanding to round decimals to any place</p> <p><u>Cognitive Complexity:</u> Level 1: Recall</p>	<p>The student understands that:</p> <ul style="list-style-type: none"> The value of a digit in our number system is determined by its place value position The ability to go beyond the standard algorithm of procedure for rounding. Place value and number sense. <p>The student is able to:</p> <ul style="list-style-type: none"> Demonstrate rounding of decimal numbers. Explain the process of rounding decimals to any place value. Use benchmark decimals to round (0, 0.5, 1, 1.5) 	<ul style="list-style-type: none"> I can round decimals to any place. I can reason and explain the answer when I round. I can use the benchmarks (0, 0.5, 1, 1.5) to round.
<p>Key Vocabulary: tenths, hundredths, thousandths, place value, decimal, rounding, base 10 system</p>			
<p>Resources:</p>			

Cluster 2: Perform operations with multi-digit whole numbers and with decimals to hundredths. MAJOR CLUSTER <i>Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</i>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.2.5	Fluently multiply multi-digit whole numbers using the standard algorithm. <i>Cognitive Complexity:</i> Level 1: Recall	<ul style="list-style-type: none"> Using the standard algorithm with help them to multiply multi-digit numbers. <p>The student is able to:</p> <ul style="list-style-type: none"> Multiply fluently multi-digit numbers Use the standard algorithm Solve word problems using multiplication Understand the relationship between addition and multiplication 	<ul style="list-style-type: none"> I can multiply numbers with two or more digits in the traditional way.
Key Vocabulary: Algorithm, Multi-digit, Whole Number, Product, Factor			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.2.6	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. <i>Cognitive Complexity:</i> Level 2; Basic Application of skills and Concepts	<ul style="list-style-type: none"> There is a relationship between the properties of operations and solutions of division problems There are a variety of strategies used to divide numbers. Equations, rectangular arrays and area models can be used to find whole number quotients. There is a relationship between multiplication and division. <p>The student is able to:</p> <ul style="list-style-type: none"> Use multiplication to check division (inverse operations). Find whole number quotients with multi-digit dividends and 2-digit divisors. Explain strategies used to find quotients. Illustrate and explain division by using equations, rectangular arrays or area models. 	<ul style="list-style-type: none"> I can divide a multi-digit number by a two-digit number. I can show my work and explain how I got the answer through equations, rectangular array, and/or an area model. I can show how multiplication and division are related. I can check my work using multiplication. I can show how division is related to subtraction. I can use inverse operations. When problem solving I can apply concepts of a quotient, divisor and a dividend.
Key Vocabulary: Dividends, Quotients, Divisor, Inverse operation, Whole Number, Rectangular array, Area model, Equations, Place Value, Algorithm			
Resources:			

Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NBT.2.7	<p>Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p><u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts</p>	<ul style="list-style-type: none"> • Multiple strategies may be used to perform operations with decimals to the hundredths. • Multiplication is a series of addition problems and that division is a series of subtraction problems. • Fractions and decimals are all parts of a whole and are two different ways of recording the same number. • When multiplying decimals, placement of the decimal point in the product is determined by the placement of the decimal point within the factors. • The placement of the decimal point in the quotient is determined by the placement of the decimal point within the divisor and dividend. • When adding and subtracting decimals, the decimal point needs to align within the problem and the answer. <p>The student is able to:</p> <ul style="list-style-type: none"> • Use models, drawings, graph paper and other strategies to add, subtract, multiply, and divide decimals. • Communicate what strategy was used in the expression or equation and justify why that strategy was appropriate. • Read orally/write numbers with decimal points. 	<ul style="list-style-type: none"> • I can add, subtract, multiply, and divide numbers with decimals. • I can use drawings, models, and strategies to the hundredths to explain my thinking.
<p>Key Vocabulary: Relationship, Decimal, Inverse, Algorithms, Properties of Operation (Commutative, Associative, Distributive, Identity, Zero)</p>			
<p>Resources:</p>			

BODY OF KNOWLEDGE: NUMBER AND OPERATIONS - FRACTIONS

Cluster 1: Use equivalent fractions as a strategy to add and subtract fractions.

MAJOR CLUSTER

Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.

Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.1.1	<p>Add and subtract with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)</i></p> <p><u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts</p>	<ul style="list-style-type: none"> There are multiple ways to find common denominators. Finding common denominators makes addition and subtraction of fractions possible. <p>The student is able to:</p> <ul style="list-style-type: none"> Solve to find equivalent fractions. Calculate the sum and difference of fractions. Create equivalent fractions by finding common denominators. Create a model showing equivalent fractions. 	<ul style="list-style-type: none"> I can add fractions with unlike denominators by finding common denominators. I can subtract fractions with unlike denominators by finding common denominators.

Key Vocabulary: numerator, denominator, common denominator, equivalent fractions, mixed numbers, improper fraction, simplify

Resources:

Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.1.2	<p>Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$</i></p> <p><u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts</p>	<ul style="list-style-type: none"> Fractions can be combined. Fractions with the same denominators can be combined. Fractions with different denominators can be combined. <p>The student is able to:</p> <ul style="list-style-type: none"> Calculate the sum of fractions with like and unlike denominators. Calculate the difference of fractions with like and unlike denominators. Use concepts to solve non-routine word problems involving addition and subtraction of fractions with unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. Interpret word problems and apply correct operation. 	<ul style="list-style-type: none"> I can add and subtract fractions with denominators that are the same when solving word problems. I can add and subtract fractions with denominators that are different when solving word problems.

Key Vocabulary: common denominator, unlike denominator, benchmark fractions, reasonableness, whole

Resources:

Cluster 2: Apply and extend previous understandings of multiplication and division to multiply and divide fractions. MAJOR CLUSTER Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.2.3	Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. e.g., by using visual fraction models or equations to represent the problem. For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie? <u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> There is a relationship between a fraction and a division problem. A remainder can be expressed as a fraction whose denominator is the divisor Fractions lie between two whole numbers. <hr/> The student is able to: <ul style="list-style-type: none"> Construct a fraction model showing the relationship between a fraction and division and vice versa. Recognize the remainder can be a fraction of the whole. Show how to change the remainder into a fraction. 	<ul style="list-style-type: none"> I can identify a fraction as a division problem. I can solve a whole number division word problem as a fraction I can write the quotient as a fraction or mixed number.
Key Vocabulary: Interpret, fraction, division, numerator, denominator, mixed numbers, visual fraction, model, remainder			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.2.4	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.) b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as	<ul style="list-style-type: none"> A whole number can be written as a fraction. A mixed number can be written as a fraction. A fraction is a part of a whole. When you double or triple fractions, you multiply the whole number times the numerator and divide the quotient by the denominator The area of a rectangle can be found by multiplying fractions. <hr/> The student is able to: <ul style="list-style-type: none"> Multiply a numerator times a numerator and a denominator times a denominator. (multiply a fraction by different representations of one) Convert whole numbers into improper fractions. Use a visual fraction model to interpret $(a/b) \times (c/d) = ac/bd$ Create a story problem to explain the visual fraction model. Multiply fractional side lengths of a rectangle to find the area. 	<ul style="list-style-type: none"> I can multiply a fraction or whole number by a fraction. I can find the area of a rectangle using fraction side lengths I can find the area of a rectangle by tiling it with unit squares.

	would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts		
Key Vocabulary: fraction, whole number, numerator, denominator, product, improper fraction, proper fraction, mixed number, area, equation, rectangle			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.2.5	Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	<ul style="list-style-type: none"> A product can be the result of scaling or resizing one factor to another. Scaling is a form of multiplication. Scaling/multiplying a number by a fraction greater than 1, results in a product greater than the original number. Scaling/multiplying a number by a fraction less than 1, results in a product less than the original number. Equivalent fractions can be made by multiplying the numerator and denominator by the same number. <p>The student is able to:</p> <ul style="list-style-type: none"> Compare in words or diagrams the relationship between the size of the product and the size of a factor that has been sized or rescaled. Describe how scaling is a form of multiplication. Explain the effect of multiplying a number by a fraction greater than 1. Explain the effect of multiplying a number by a fraction less than 1. Create equivalent fractions by multiplying the numerator and denominator by the same number. 	<ul style="list-style-type: none"> I can describe the relationship between scaling (resizing) and multiplication. I can describe how a factor changes when resized or scaled. I can explain why when I multiply a number by a fraction greater than 1, the product is greater than the original number. I can explain why when I multiply a number by a fraction less than 1, the product is less than the original number. I can create equivalent fractions.
Key Vocabulary: Scaling, resizing, comparing, interpret, factor, product, equivalence, multiplying, greater than, less than, fraction equivalence, relationship			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.2.6	Solve real world problems involving multiplication of fractions and mixed numbers, e.g. by using visual fraction models or equations to represent the problem. <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> Multiplying by a fraction less than one decreases the product. Multiplying by a whole number or a mixed number increases the product. A quantity can be represented as a mixed number or improper fraction. There is a relationship between a mixed number and an improper fraction as one can be converted to the other. 	<ul style="list-style-type: none"> I can use problem solving strategies/ideas to multiply fractions and mixed numbers in everyday life. I can use visual fraction models to show the solution.

		<ul style="list-style-type: none"> • There are various strategies to solving problems. • There is a correlation between a multiplication problem and an addition problem. 	
		<p>The student is able to:</p> <ul style="list-style-type: none"> • Apply/use multiplication of fractions to solve real world problems. • Apply/use multiplication of mixed numbers to solve real world problems. • Prove/explain solutions using manipulatives or models. 	
<p>Key Vocabulary: Mixed numbers, Improper fractions, Fractions, Numerator Denominator, Product, Simplify/Reduce, Correlations, Real world problems, Problem Solving Strategies</p>			
<p>Resources:</p>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.NF.2.7	<p>Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.¹</p> <p>a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</i></p> <p>b. Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i></p> <p>c. 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. <i>For example, how much chocolate will each person get if 3 people share $1/2$ lb. of chocolate equally? How many $1/3$-cup servings are in 2 cups of raisins?</i></p>	<ul style="list-style-type: none"> • Multiplication and division are inverse operations; if one is known for a given fact family, the other is also known. <p>The student is able to:</p> <ul style="list-style-type: none"> • Interpret division of a unit fraction by a whole number greater than 0. • Interpret division of a whole number greater than 0 by a unit fraction. • Compute the quotients. • Show the problems and solutions with visual fraction models. • Create a story for the problem. 	<ul style="list-style-type: none"> • I can divide a fraction (less than 0) by a whole number greater than 0 by using what I know about multiplication. • I can divide a whole number greater than 0 by a fraction (less than 0) by using what I know about multiplication. • I can use models to prove my answers. • I can use what I know in real world examples.

	d. Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade. <u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts		
Key Vocabulary: inverse operation/property, reciprocal, equation, quotient, fact family, unit fraction			
Resources:			

BODY OF KNOWLEDGE: MEASUREMENT AND DATA			
<p>Cluster 1: Convert like measurement units within a given measurement system. SUPPORTING CLUSTER Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</p>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.MD.1.1	Convert among different-sized standard measurement units within a given measurement system (i.e. ,km, m, cm ,kg, g; lb, oz. ,l ,ml ,hr, min, ,sec) within a given measurements (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems <u>Cognitive Complexity:</u> Level 2: Basic Application of skills and Concepts	<ul style="list-style-type: none"> Converting among different-sized standard measurement units within a given measurement system is often necessary to solve multi-step, real world problems. There are different systems of measurement at work in our world. <p>The student is able to:</p> <ul style="list-style-type: none"> Convert among measurement systems and identify patterns of conversion within systems for length, weight and volume. Interpret and solve multi step real world problems involving conversions in various measurement situations. 	<ul style="list-style-type: none"> I can fluently convert measurement units within the same system. I can solve multi-step, real world problems, based on different measurement systems.
<p>Key Vocabulary: metric units of measurement, customary units of measurement</p> <p>Resources:</p>			
<p>Cluster 2: Represent and interpret data. SUPPORTING CLUSTER Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</p>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.MD.2.2	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally. <u>Cognitive Complexity:</u> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> The use of operations with fractions to solve problems. A line plot is and how to create one. How to collect and display data in a line plot. They can use operations of fractions to solve problems from data on a line plot. Knowing benchmark fractions like 1/2, 1/4 and 1/8 can help them visualize and solve problems. How to find the mean of fractions based on a line plot. <p>The student is able to:</p> <ul style="list-style-type: none"> Collect, display, and formulate conclusions in regards to data that is presented in fractions of 1/2, 1/4 and 1/8. Construct a line plot of consistent scale using fractional quantities. Interpret data in a line plot to solve problems. Distinguish the unit of measurement that is appropriate for the situation. Demonstrate and explain precision in measurement and choose appropriate tools for measurement. 	<ul style="list-style-type: none"> Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.
<p>Key Vocabulary: Line plot, fractions, operations, scale, weight, length, volume, (Customary and Metric Units), data, mean/average, precision, benchmark fractions</p>			

Resources:			
Cluster 3: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. <i>MAJOR CLUSTER</i> <i>Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</i>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.MD.3.3	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. <ul style="list-style-type: none"> a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<ul style="list-style-type: none"> • Volume is an attribute of solid figures and volume can be measured in cubic units. • A cubic unit measures one unit on each side. • Some examples of cubic units are cubic inches, cubic centimeters, cubic feet and cubic yards. • When finding the volume of a solid figure, unit cubes must be packed in the solid figure with no gaps or overlaps. <p>The student is able to:</p> <ul style="list-style-type: none"> • Recognize volume as an attribute of solid figures. • Identify a cube with side length of 1 unit as a ‘unit cube’. • Use manipulatives to model finding the volume of a solid figure by filling a solid figure with unit cubes. • Construct a model of a unit cube. 	<ul style="list-style-type: none"> • I can recognize that all solid figures have volumes. • I can demonstrate and explain that a cube that measures one unit on each side is called one cubic unit. • I can recognize that cubic units are used to measure volume. • I can explain that to measure volume means I pack a solid figure with cubic unit cubes without any gaps or overlaps. The number of unit cubes in the figure is its volume
Key Vocabulary: cubic units, volume, gaps, overlaps, unit, packed			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.MD.3.4	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<ul style="list-style-type: none"> • The volume of a solid is measured in cubic units and they can measure that volume in a variety of units. • They can develop an image of cubic units. <p>The student is able to:</p> <ul style="list-style-type: none"> • Design a new school playground using measurements in fractions, formulas, and a computer program. • Estimate the volume of a variety of rectangular prisms. • Calculate the volume of a variety of rectangular prisms by counting unit cubes. 	<ul style="list-style-type: none"> • I can measure volume using a unit cubes and improvised units. • I can measure the volume of combined rectangular prisms. • I can distinguish between which cubic measurements to use for a given situation.
Key Vocabulary: volume, measure, cubic unit, cubic in, cubic ft, cubic cm, formulas, face, estimate			
Resources:			

Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.MD.3.5	<p>Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.</p> <p>b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.</p> <p>c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>The student understands that:</p> <ul style="list-style-type: none"> Volume can be found in a variety of ways. Formulas can be used to find volume. The relationship between the total volume and the area of the base. Volume of an original figure can be found by adding the area of the bottom of the cube and adding layers of unit cubes to that bottom layer. <p>The student is able to:</p> <ul style="list-style-type: none"> Organize unit cubes to find the volume of right rectangular prisms. Calculate the volume of right rectangular prisms using the volume formulas. Decompose a 3-D figures into right rectangular prisms in order to find the volume of the entire 3-D figure. Compare area and volume and recognize volume as additive. 	<ul style="list-style-type: none"> I can use manipulatives to measure the volume of right rectangular prisms. I can use the volume formulas to determine the volume of right rectangular prisms. I can decompose solid figures into smaller right rectangular prisms. I can add the volumes of several right rectangular prisms to determine the volume of the original figure.
<p>Key Vocabulary: volume, right rectangular prism, length, width, height, formula, cubic units</p>			
<p>Resources:</p>			

BODY OF KNOWLEDGE: GEOMETRY			
Cluster 1: Graph points on the coordinate plane to solve real-world and mathematical problems.			
<i>ADDITIONAL CLUSTER</i> <i>Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</i>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.G.1.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate). <i>Cognitive Complexity:</i> Level 1: Recall	<ul style="list-style-type: none"> Each point on a coordinate plane has a specific set of ordered pair of numbers. The first number in an ordered pair points start at the origin (0,0) and moves right or left of it on the x-axis. The second number in ordered pair points moves up or down on the y-axis. <hr/> The student is able to: <ul style="list-style-type: none"> Locate an ordered pair of numbers on a coordinate plane. Locate the numbers of the ordered pair by starting at the origin (0,0). Explain that the intersecting lines that form the coordinate plane are number lines 	<ul style="list-style-type: none"> I can use the x and y axis to locate and identify points on a coordinate plane. I can identify the origin on a coordinate plane.
Key Vocabulary: number line, perpendicular lines, x-axis, y-axis, coordinates, origin, ordered pair of numbers, intersection			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.G.1.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> Places on maps can be located by using an ordered pair. <hr/> The student is able to: <ul style="list-style-type: none"> Plot ordered pairs in quadrant I of a coordinate grid. Determine distances between two ordered pairs. 	<ul style="list-style-type: none"> I can graph points in the first quadrant of a coordinate plane. I can represent real world math problems by graphing points on a coordinate plane.
Key Vocabulary: ordered pair, coordinate, quadrant 1			
Resources:			

Cluster 2: Classify two-dimensional figures into categories based on their properties. ADDITIONAL CLUSTER <i>Don't...sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.</i>			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.G.2.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles. <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> Two dimensional shapes can be in several categories based on their attributes. <hr/> The student is able to: <ul style="list-style-type: none"> Categorize two-dimensional figures Explain how attributes were used to categorize two-dimensional figures 	I can understand and explain that two-dimensional figures can be categorized multiple ways based on their attributes.
Key Vocabulary: attributes, categories, subcategories			
Resources:			
Standard Identifier	Standard with Complexity Rating	Conceptual and Procedural Understanding – The student understands that:	Student Friendly Language Learning Targets
MAFS.5.G.2.4	Classify two-dimensional figures in a Venn diagrams based on the attributes of the figures. <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	<ul style="list-style-type: none"> There are two-dimensional figures and three-dimensional figures. Geometrical figures have attributes. Venn Diagrams can be used to classify information. <hr/> The student is able to: <ul style="list-style-type: none"> Identify the attributes of two-dimensional figures. Classify two-dimensional figures in a Venn Diagram based on the attributes of the figures. 	I can classify two-dimensional figures in a Venn diagram based on the attributes of the figures
Key Vocabulary: Classify, sort, two-dimensional figures, properties, attributes, Venn Diagram			
Resources:			

Fifth Grade MATH Pacing Guide

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Overarching Concepts	Numbers and Operations, Algebra, Fractions	Division, Measurement, Decimals with multiplication	Dividing decimals, multiply and divide fractions, geometry	Review of skills and 6 th grade preparation
Standards/ Learning Targets	MAFS.5.OA11 MAFS.5.OA12 MAFS.5.NB.1.1 MAFS.5.NBT.1.2 MAFS.5.NBT.2.5 MAFS.5.NBT.2.6 Chapter 1 MAFS.5.NBT1.1 MAFS.5.NBT.1.3a MAFS.5.NBT.1.3b MAFS.5.NBT.1.4 MAFS.5.NBT.2.7 Chapter 3 MAFS.5.NF.1.1 MAFS.5.NF.1.2 Chapter 6 MAFS.5.OA.2.3 MAFS.5.MD.2.2 MAFS.5.G.1.1 MAFS.5.G.1.2 Chapter 9 *Start on 9.2 instead of the first lesson. Option to come back to it later in the chapter.	MAFS.5.NBT.2.6 MAFS.5.NF.2.3 Chapter 2 MAFS.5.MD.1.1 Chapter 10 MAFS.5.NBT.1.2 MAFS.5.NBT.2.7 Chapter 4	MAFS.5.NBT.1.2 MAFS.5.NBT.2.7 Chapter 5 MAFS.5.NF.2.4a MAFS.5.NF.2.4b MAFS.5.NF.2.5a MAFS.5.NF.2.6 Chapter 7 MAFS.5.NF.2.3 MAFS.5.NF.2.7a MAFS.5.NF.2.7b MAFS.5.NF.2.7c Chapter 8 MAFS.5.MD.3.3 MAFS.5.MD.3.3a MAFS.5.MD.3.3b MAFS.5.MD.3.4 MAFS.5.MD.3.5a MAFS.5.MD.3.5b MAFS.5.MD.3.5c MAFS.5.G.2.3 MAFS.5.G.2.4 Chapter 11	Review DEA data. Data driven remediation/acceleration based on assessment and progress monitoring results; Math Project (ex: survival math) - Plan and budget for a family vacation - Design your dream room. Create dimensions, floor plan - Compare time zones; what would a student in China be doing at the same time students are at school, on the bus, going to bed, etc.
High-Yield Routine(s) (Provided Spiraled Review)	Application Problems – See next section	Application Problems –	Application Problems	Applications Problems
Target Vocabulary	<ul style="list-style-type: none"> Sequential Evaluate Simplify Expressions Expanded Form Exponent Power of Ten 	<ul style="list-style-type: none"> Precision Algorithm Interpret Metric Customary Inverse Coordinate 	<ul style="list-style-type: none"> Classify Origin Cubic Attributes 	Review difficult terms depending on data driven remediation; terms they will see in 6 th grade math.
Essentials to Remember	Use of eight math practices	Use of eight math practices	Use of eight math practices itools (think central)	Use of eight math practices

High-Yield Routine for Fifth Grade

The spiraled review sheet is to be completed each week. 15 – 20 minutes of daily math time is spent on this spiraled review. The following routine is followed:

Step 1: **Monday** – Distribute the sheet for the week. Students begin work. On **Monday/Tuesday**, students complete the front page of number sense/operations/algebraic thinking. Students work as teacher circulates. Teacher coaches by asking questions when students are stuck. Example: What about this problem do you know how to do? What would be your next step? What tools could you use to help? Teacher does not provide the answer.

Step 2: **Wednesday/Thursday** – Students complete the back page of word problems. Students may work in pairs, groups, or alone.

Step 3: **Friday** – This may take up to one hour; it cannot be left out. Whole group discussion with teacher reviewing concepts in the problems. Teacher asks questions, asks to students to explain and justify thinking, compare how problems are solved, etc. The focus is on student thinking.

Step 4: Work is placed in notebook for recording of data.

WEEK 1

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 6,404,385 \\ + 6,789,588 \\ \hline \end{array}$$

$$\begin{array}{r} 5,890,709 \\ - 2,425,859 \\ \hline \end{array}$$

$$\begin{array}{r} \$ 8.52 \\ + \$ 7.89 \\ \hline \end{array}$$

$$\begin{array}{r} 6.25 \\ - 2.88 \\ \hline \end{array}$$

Evaluate each expression and bubble the circle for each expression that shows 15:

$10 + 5$

$20 - 10$

$\times 5$

$36 \div 6$

$3.50 + 1.50$

Continue the pattern: 1, 3, 9, 27, _____, _____, _____

Fill in the table using the pattern:

A	1	2	3	4	5	7
B	1/2	1	1 1/2	2		

Numbers and Operations in Base Ten

Write **36.15** in word form:

Use symbols $>$, $<$, $=$ to compare the whole numbers and decimals:

1.309 _____ 1.315 5.029 _____ 5.128 7.250 _____ 7.25 2.001 _____ 2.1 9.401 _____ 9.309

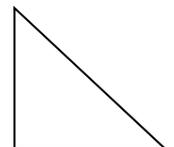
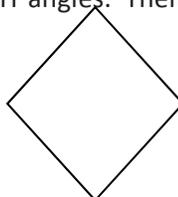
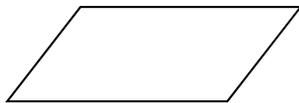
Use symbols $>$, $<$, $=$ to compare the fractions and decimals:

$\frac{1}{8}$ _____ $\frac{3}{4}$ $\frac{1}{2}$ _____ .50 $\frac{3}{10}$ _____ .75 $\frac{2}{4}$ _____ $\frac{1}{2}$.8 _____ .80

Measurement, Data, and Geometry

1 foot = 12 inches _____ feet = 24 inches 7 feet = _____ inches 12 feet = _____ inches

For each polygon identify the number of RIGHT angles. Then write that number inside the polygon.



Spiral Standards Review with Word Problems: **For each problem write an equation, solve, and explain your answer.**

A skyscraper is 7,321 feet tall. It is 3,420 feet taller than the office building next door. How tall is the office building?

Heather read 18 books. Tyler read one third as many books as Heather. How many books did Tyler read?

A zookeeper is in charge of taking care of rabbit families. Each rabbit family has a mom rabbit, a dad rabbit and 7 baby rabbits. If there are 4 rabbit families at the zoo, how many rabbits are there?

A stadium has 70,000 seats in it. Each section can hold 700 people. How many sections are there in the stadium?

Gabe and Justus are arranging books on shelves. They have 36 books to arrange and they want to have an equal number of books on each shelf. They want to use more than 6 shelves but less than 12. How many shelves should they use? How many books will be on each shelf? Draw it.

WEEK 2

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 45 \\ \times 19 \\ \hline \end{array}$$

$$\begin{array}{r} 321 \\ \times 123 \\ \hline \end{array}$$

$$\begin{array}{r} \$28.52 \\ + \$14.89 \\ \hline \end{array}$$

$$\begin{array}{r} 36.25 \\ - 15.48 \\ \hline \end{array}$$

Evaluate each expression and bubble the circle for each expression that shows 108:

- $60 + (8 \times 6)$ $353 - 247$ $97.5 + 10.5$ $324 \div 3$ $90 \frac{1}{2} + 16 \frac{1}{2}$

Continue the pattern: 1, 5, 25, 125, _____, _____, _____

Fill in the table using the pattern:

A	1	2	3		5	7
B	1.25	2.5	3.75	5		

Numbers and Operations in Base Ten

Write **72.034** in word form:

Use symbols $>$, $<$, $=$ to compare the whole numbers and decimals:

4.086 _____ 4.09 1.253 _____ 1.523 9.35 _____ 9.350 7.06 _____ 7.061 11.23 _____ 11.237

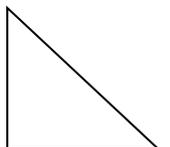
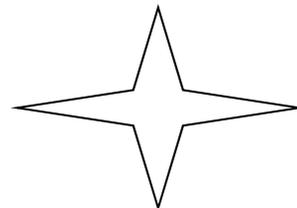
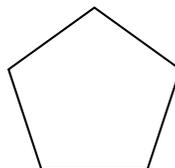
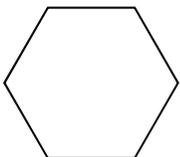
Use symbols $>$, $<$, $=$ to compare the fractions and decimals:

$\frac{5}{6}$ _____ $\frac{1}{3}$ $\frac{6}{12}$ _____ $.75$ $\frac{4}{10}$ _____ $.4$ $\frac{12}{16}$ _____ $\frac{3}{4}$ $.2$ _____ $\frac{2}{5}$

Measurement, Data, and Geometry

1 yard = 3 feet _____ feet = 5 yards 21 feet = _____ yards 12 yards = _____ feet

Write the name of each polygon underneath it. Then write the number of sides it has inside the polygon.



Spiral Standards Review with Word Problems: **For each problem write an equation, solve, and explain your answer.**

We are planning for the 5th grade field trip. Each student will have to pay \$25.00 to attend. There are eighty total students in fifth grade who plan to go on the trip. Forty-three of these students are boys. How many girls are planning to go on the trip?

Lia and three friends went to a play. They paid for candy and tickets. They shared a large bag of candy that cost \$5.00. If they spent a total of \$33.00, how much did one ticket cost?

Dominic missed five questions on a quiz and scored an 85%. How many points was each question worth?

Brooke is on a 28 mile hike. If she journeyed 9.82 miles on Monday and 6.5 miles on Tuesday, how far does she have left to travel?

Logan practices running 4 sprints across the baseball field every day during the summer. It takes him 13 seconds to walk onto the field and then he practices running for a total of 213 seconds. How long does it take him to run one sprint?

WEEK 3

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 76 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 420 \\ \times 156 \\ \hline \end{array}$$

$$\begin{array}{r} \$ 473.26 \\ - \$ 294.89 \\ \hline \end{array}$$

$$\begin{array}{r} 236.05 \\ - 79.48 \\ \hline \end{array}$$

Evaluate each expression and bubble the circle for each expression that shows 156:

- $2^4 \times 10$
 $48 + (12 \times 9)$
 $624 \div 4$
 $(9 \times 10) + (5 \times 10) + (6 \times 1)$
 $104 \frac{1}{4} + 51.75$

Continue the pattern: 4, 4, 8, 12, _____, _____, _____

Fill in the table using the pattern:

A	1	2	3	4	5	7
B	1	8	27	64		

Numbers and Operations in Base Ten

Write **312.521** in word form:

Use symbols >, <, = to compare the whole numbers and decimals:

14.526 _____ 14.256
 91.203 _____ 91.023
 17.35 _____ 17.530
 327.6 _____ 327.60
 82.45 _____ 82.045

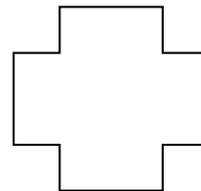
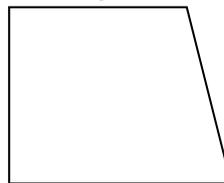
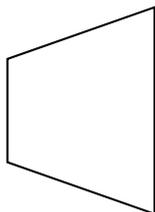
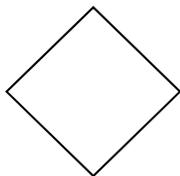
Use symbols >, <, = to compare the fractions and decimals:

$\frac{9}{10}$ _____ $.09$
 $\frac{12}{4}$ _____ 3.75
 $\frac{6}{20}$ _____ $.30$
 $\frac{18}{24}$ _____ $\frac{8}{12}$
 $.2$ _____ $\frac{2}{5}$

Measurement, Data, and Geometry

1 gallon = 4 quarts _____ gallons = 20 quarts 10 gallons = _____ quarts _____ gallons = 96 quarts

Circle all the shapes that are also classified as parallelograms:



Spiral Standards Review with Word Problems: For each problem write an equation, solve, and explain your answer.

A seamstress is sewing buttons onto jackets. 6 buttons go on one jacket. **If she has 327 buttons, how many jackets can she complete? If she gets paid \$2.00 per completed jacket, how much money will she make?**

Emma needs 4 gallons of water for a science experiment. Her classroom has nothing to measure gallons with, but they do have pitchers that hold exactly 1 quart of water. **How many full pitchers of water does Emma need for her science experiment?**

A vet measured the mass of two birds. The mass of the first bird was 52.94 grams and the mass of the second bird was 103.21 grams. **What is the difference in the masses of the two birds?**

Jon had a 14.25 pound block of clay. He used 5.3 pounds of clay to make a sculpture of a building. **How much clay does Jon have left?**

Johnny bought a football for \$12.46, a helmet for \$19.23 and some new cleats for \$45.96. **What is the total amount of money Johnny spent on all three items?**

WEEK 4

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 678 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 3,962 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} \$99.01 \\ + 3.59 \\ \hline \end{array}$$

$$\begin{array}{r} 0.84 \\ - 0.56 \\ \hline \end{array}$$

Create the following expressions using numbers and symbols:

Divide 10 by 2, then subtract 3. _____ Subtract 6 from 9, then divide by 3. _____

Chance and Eli are creating patterns.

- Chance uses the rule “multiply by 2” and starts at 5.
- Eli uses the rule “add 8” and starts at 16.

For which term is Chance’s number equal to Eli’s number?

Numbers and Operations in Base TenWrite **329.5** in word form:Write **329.5** in expanded form:

Write the value of the following expressions:

10^2 _____ 5.23×10^2 _____ 0.0759×10^2 _____ 632.841×10^3 _____

Select all the numbers that round to 4.3 when rounded to the nearest tenth.

- 4.25 4.24 4.21 4.35 4.34 4.31 4.41 4.29 4.38

Measurement, Data, and Geometry

4 quarts = 1 gallon _____ gallons = 36 quarts _____ quarts = 23 gallons 26 quarts = _____ gallons

Select all of the properties that both rectangles and parallelograms share.

- 4 right angles 4 sides of equal length 2 pairs of parallel sides 2 pairs of sides with equal length

Which could be the name of a parallelogram that has four equal sides and four right angles?

- kite trapezoid square quadrilateral

Spiral Standards Review with Word Problems: For each problem write an equation, solve, and explain your answer.

Heather is helping with the school play by measuring fabric for the costumes. She needs 9 yards of fabric. She has 12 feet of fabric. How many more feet of fabric does she need?

During the first race, 12 people ran a 1.5 mile race. During the second race, 4 people ran a 2.2 mile race. How many more total miles were run during the first race compared to the second race?

Allie has one coin that weighs 11 grams. If Allie's nine friends each have the same coin, what is the total weight of all the coins?

Ethan says that when you divide a number by 10^3 you move the decimal point 3 places to the left. Alex says that you move the decimal point 3 places to the right. Who is correct?

Elliana is collecting strips of ribbons for an art project as shown below. Create a line plot to show the ribbon lengths that Elliana has in her collection.

Ribbon Lengths (inches)
12
$14 \frac{1}{2}$
12
13
$13 \frac{1}{2}$
12
$14 \frac{1}{2}$
11



WEEK 5

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 2,873 \\ \times 64 \\ \hline \end{array}$$

$$\begin{array}{r} 785 \\ \times 17 \\ \hline \end{array}$$

$$579 \div 3 =$$

$$27.95 + 11.7 =$$

$$10.39 - 4.2 =$$

$$618 \div 6 =$$

Grace, Hannah, and Laural are creating patterns. Each pattern starts at 1.

- Austin uses the rule “multiply by 2, then add 4.”
- Mackenzie uses the rule “subtract 2, then multiply by.”
- Kinsley uses the rule “add 5, then multiply by 9.”

Complete the table to show the next numbers in each pattern.

Austin’s Pattern		Mackenzie’s Pattern		Kinsley Pattern	
Term	Number	Term	Number	Term	Number
1		1		1	
2		2		2	
3		3		3	

Numbers and Operations in Base Ten

Write **1.726** in word form:

Write **1.726** in expanded form:

An expression is described in words. Add 5 and 14, triple the sum, and then add four-fifths. Create the expression using numbers and symbols.

Evaluate the numerical expressions below.

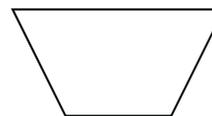
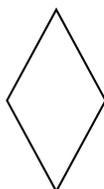
$$6 \times (4 + 2) + 100$$

$$6 \times (4 + 2 \times 4) + 10$$

$$\frac{1}{2} \times [4 + 6 \times 3] - 9$$

Measurement, Data, and Geometry

List all the possible categories for each of the following shapes:



Spiral Standards Review with Word Problems: For each problem write an equation, solve, and explain your answer.

Aden has ten coins that weigh a total of 25 grams. If all the coins are the same mass, how many grams does 1 of his coins weigh?

Brooke multiplies and divides original numbers by powers of 10 to create new numbers. Which original numbers were multiplied by 10^3 to create the new number?

Original Number	New Number
5.23	523,000
0.005	5
100	0.001
600	60,000
4.56	4,560
37.6	3,760

Shakya brought $\frac{1}{4}$ cup of chocolate chips to Lia's house so they can bake cookies for Lia's birthday party. Lia already has $\frac{3}{8}$ cup of chocolate chips. How many cups of chocolate chips do they have altogether?

John Garrett and Shelby each bought a pizza. The pizzas are the same size. Richard cut his pizza into 12 slices. Shelby cut her pizza into 6 slices, and ate 2 slices. Together, John Garrett and Shelby ate $\frac{9}{12}$ of one pizza. How many slices of his pizza did John Garrett eat?

Two newspapers are comparing sales from last year. The Tallahassee Democrat sold 34,859 copies. The Wakulla News sold $34,859 \times \frac{1}{2}$ copies. Write a statement that compares the numbers of newspapers sold.

WEEK 6

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$2,873$

$$\begin{array}{r} X \quad 64 \\ \hline \end{array}$$

785

$$\begin{array}{r} x \quad 17 \\ \hline \end{array}$$

$579 \div 3 =$

$27.95 + 11.7 =$

$10.39 - 4.2 =$

$618 \div 6 =$

Grace, Hannah, and Laural are creating patterns. Each pattern starts at 1.

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- Kinsley uses the rule “add 5, then multiply by 9.”

Complete the table to show the next numbers in each pattern.

Austin’s Pattern		Mackenzie’s Pattern		Kinsley Pattern	
Term	Number	Term	Number	Term	Number
1		1		1	
2		2		2	
3		3		3	

Numbers and Operations in Base Ten

Write **1.726** in word form:

Write **1.726** in expanded form:

An expression is described in words. Add 5 and 14, triple the sum, and then add four-fifths. Create the expression using numbers and symbols.

Evaluate the numerical expressions below.

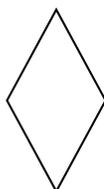
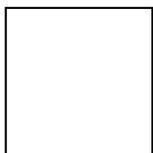
$6 \times (4 + 2) + 100$

$6 \times (4 + 2 \times 4) + 10$

$\frac{1}{2} \times [4 + 6 \times 3] - 9$

Measurement, Data, and Geometry

List all the possible categories for each of the following shapes:



Spiral Standards Review with Word Problems: For each problem write an equation, solve, and explain your answer.

Aden has ten coins that weigh a total of 25 grams. If all the coins are the same mass, how many grams does 1 of his coins weigh?

Brooke multiplies and divides original numbers by powers of 10 to create new numbers. Which original numbers were multiplied by 10^3 to create the new number?

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WEEK 7

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 8,004,622 \\ - \underline{914,675} \end{array}$$

$$\begin{array}{r} 5,368 \\ \times \underline{9} \end{array}$$

$$\begin{array}{r} 12.3 \\ + \underline{11.46} \end{array}$$

$$\begin{array}{r} 21.4 \\ - \underline{16.97} \end{array}$$

Draw a fraction strip model to find the sum of the 2 fractions. Write your answer in simplest form.

$$\frac{2}{3} + \frac{1}{6} =$$

Fill in the table using the pattern:

A	\$2.00	\$3.25	\$4.50	\$5.75	\$9.50	\$10.00
B	\$3.25	\$4.50	\$5.75			

Numbers and Operations in Base Ten

Write the **value** of the underlined digits in each number:

7,346,199 _____ 45,778,305 _____

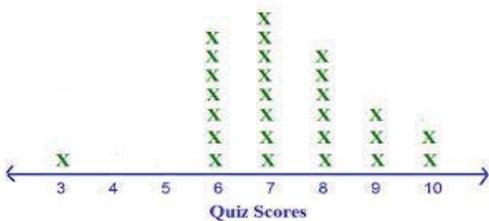
Order these decimal amounts from least to greatest:

2.007; 2.09; 2.714; 2.97 _____ 0.386; 0.6; 0.683;
0.31 _____

Use symbols >, <, = to compare the decimals:

5.678 ○ 5.786 4.34 ○ 4.341 7.20 ○ 7.200 9.4 ○ 0.94 0.12 ○ 0.120

Measurement, Data, and Geometry : Use the line plot to answer the questions.



How many total students took the quiz? _____
 What score did the largest number of students get and how do you know that?

Spiral Standards Review with Word Problems: For each problem write an equation, solve, and explain your answer.

Joe is running a 26 mile race. In the first hour he ran 6.4 miles. In the second hour he ran 7.135 miles. **How many miles does he have left to go?**

A tiger and tiger kitten were being studied at the Jacksonville zoo. At last measurement, the kitten was $\frac{1}{3}$ the height of the tiger when they both stood on their hind legs. If the tiger was 6 feet tall, **What was the height, in inches, of the kitten?**

Jada made a special pie for the festival. She cut her pie into equal sized pieces and when she put three pieces of her pie together, they formed a right angle. **What type of angle would she form if she put 6 pieces together? Draw a picture to model your answer.**

A basketball team has 10 players on it. Each contributed \$20.00 to buy new uniforms. In total they spent \$183 of the \$200 they brought in. The coach decided to give them back the leftover money. **About how much money, to the nearest whole dollar amount, will each player get back?**

Mr. Ward's truck weighs 3 tons. **How many ounces does his truck weigh?**

WEEK 8

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Solve each problem. In the space next to it, use inverse operations to check your work.

$$\begin{array}{r} 34,678,214 \\ + 6,034,898 \\ \hline \end{array}$$

$$\begin{array}{r} 670,0000 \\ - 348,0621 \\ \hline \end{array}$$

$$\begin{array}{r} 126 \\ \times 53 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{\hspace{2cm}} \\ 7 \overline{)497} \end{array}$$

Write an expressions to match the words:

Tria has 10 fewer pencils than Seth and Clare combined. Seth has 15 and Clare has 12.

Sara washes 4 cars for \$8.00 each, 3 days in a row.

Write a rule for the sequence, then find the unknown term.

3/10, 2/5, _____, 3/5, 7/10

1/8, 1/2, _____, 1 1/4, 1 5/8

Rule _____

Rule _____

Numbers and Operations in Base Ten

Write the **value** of the underlined digits in each number:

657,334,912 _____ 60,012,843 _____

Write this number in **two** other forms: $(4 \times 100,000) + (6 \times 10,000) + (3 \times 100) + (9 \times 10)$

Evaluate the expressions:

$10^2 + (6 \times 8) - 12$

$16 + (7 \times 2)$

$10^0 \times (23 - 8) + 18$

Measurement, Data, and Geometry : Use the data to complete the line plot, then answer the questions.



The chef used different amounts of cream when making omelets, depending on how many she was making at one time. Here are the amounts: 1/4 c., 1/4 c., 3/4 c., 1 c., 1/2 c., 1/2 c., 1/2 c., 1 c., 3/4 c., 1/2 c.
 What is the total amount of cream used?

 Which amount was used the most?

Spiral Standards Review with Word Problems: **For each problem write an equation, solve, and explain your answer.**

At a recent dog show, a German Shepherd and a Chihuahua took first and second place, respectively. The German Shepherd weighed 96 pounds and the Chihuahua's weight was equal to $\frac{1}{12}$ of that of the German Shepherd's. **What was the weight, in ounces, of the Chihuahua?**

Our school is walking in Relay-for-Life. Our goal is to walk a total of 300 miles. If we walk 25.6 miles in the first hour, 153.9 miles in the second hour and 52 miles in the third hour, **how many miles will we still have to walk to reach our goal?**

Mrs. Roddenberry's science class combined $\frac{1}{4}$ cup of water, $\frac{3}{8}$ cups of vinegar and $\frac{4}{16}$ cups of oil. **How much liquid do they have in total?**

Andrew read a book that was 1,548 pages long. Seth read a book that was $\frac{1}{6}$ the length of Andrew's book (6 times shorter). How many pages were in Seth's book? **Solve and model your solution.**

Leslie has $4\frac{3}{4}$ pounds of clay. She uses $1\frac{1}{10}$ pounds to make a plate, and another 2 pounds to make a vase. **How many pounds of clay does she have left?**

Ethan is studying for his math test. He spent $\frac{3}{4}$ of an hour studying on Monday, $\frac{2}{3}$ of an hour studying on Wednesday and $\frac{1}{4}$ of an hour on Friday morning. **How many hours did Ethan study on those 3 days?**

WEEK 9

Name _____ Date _____ Mon. & Tues. FRONT, Wed. & Thur. BACK

Operations, Algebraic Thinking, and Fractions

Find the sum or difference. Write your answer in simplest form.

$$5/12 + 1/3$$

$$9/10 - 1/4$$

$$5/7 - 2/3$$

$$3/10 + 1/6$$

Evaluate each expression and bubble the circle for each expression that shows 12:

- 24-12
 $60 \div 5$
 $10^\circ + 12$
 $1.35 + 10.55$
 $36 \div 1/3$

Write the first four terms for the sequence. **Rule: Start at $2 \frac{1}{2}$ then add $2 \frac{1}{4}$**

_____ , _____ , _____ , _____

Numbers and Operations in Base Ten

Use benchmarks to estimate; 0, 0.25, 0.50, 0.75 and 1

$$2.34 + 1.9 + 5.23$$

$$10.39 - 4.28$$

$$0.93 + 0.17$$

$$7.41 - 3.88$$

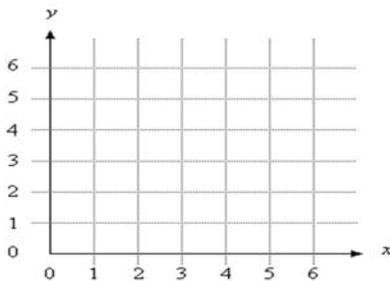
Round each amount to the nearest whole dollar or whole number:

\$27.95 _____ 3.4 _____ \$4.19 _____ 8.56 _____

\$17.03 _____ 2.88 _____ \$6.25 _____ \$5.76 _____

Measurement, Data, and Geometry

Coordinate Grid



Plot and label each of the following points on the coordinate grid.

- | | | |
|----------|----------|----------|
| M (2, 3) | N (4, 7) | O (6, 0) |
| P (3, 2) | Q (6, 3) | R (0, 5) |

Spiral Standards Review with Word Problems: **For each problem write an equation, solve, and explain your answer.**

The William Tower is 3,296 feet tall. Around the corner there is a bakery that is eight times shorter than the height of the William Tower. How tall is the bakery? **Solve and model your solution.**

Mrs. Driggers' summer vacation lasted 67 days. At the beginning of her vacation she spent 3 weeks in England, then 10 days camping in Georgia and 2 weeks visiting family in South Carolina. **How many vacation days are remaining?**

Julie, Andrew, Mark and Courtney are painting a booth for the festival. They are all going to work together to get the booth painted. Julie volunteered to paint 30% of the booth. Mark is going to paint .25 of the booth. Andrew is going to paint $\frac{1}{4}$ of the booth. Courtney is going to do the rest of the work. **What fraction of the booth, expressed in simplest form, will Courtney need to paint?**

Hunter bought five pizzas to share with his class. He cut each pizza into 10 slices. He gave 20 slices to the girls and 15 slices to the boys. He is going to give the rest of the pizza to the teachers. **How much pizza, expressed in a decimal, will the teachers get?**

Kara works as a dog walker. She earns \$50 for every 2 hours that she works. How much does Kara earn in one week if she works 40 hours per week? Draw a table to show your work and write a rule.