Sacramento City Unified School District

Curriculum Map

Common Core Mathematics Grade 6

Sacramento City Unified School District

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Unit #1: Number Sense with Fractions, Decimals, and Whole Numbers

(Approx. # Days)

Content Standards: 6.NS.1,2,3,4

Math Common Core Content Standards:

Domain: The Number System 6.NS

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?*

Compute fluently with multi-digit numbers and find common factors and multiples.

2. Fluently divide multi-digit numbers using the standard algorithm.
3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).*

Standards for Mathematical Practice:

SMP 4 – Model with mathematics

SMP 6 – Attend to precision

ELD Standards to Support Unit

[Add text]

SEL Competencies:

[Add text]

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
• What similarities are there between whole digit addition/subtraction and decimal addition/subtraction? • What are the multiple ways you can decompose 3.125 as fractions? • How can you use prime factorization to find the greatest common factor (GCF) and least common multiple (LCM) of two numbers at the same time? • Which method for dividing multi-digit whole numbers do you prefer – "scaffolded" or "stacking" –and why? • Why can you multiply by the reciprocal when dividing fractions? • How do you know what the denominator is when writing a decimal number as a fraction? • What would be a reasonable estimate for the product of 3.8 and 5.12? (extend this question to addition, subtraction, and division of decimals) • How would you explain the reason we can "move the decimal" to create whole numbers and perform long	Assessments/Tasks aligned to learning experiences: For learning experiences 1-4: http://map.mathshell.org/materials/lessons.php?taskid=578#task578 https://www.illustrativemathematics.org/illustrations/257 https://www.illustrativemathematics.org/illustrations/258 For learning experiences 5 – 9: https://www.illustrativemathematics.org/illustrations/273	Students will be able to… 1) Prime factor composite numbers up to 100 and use the prime factors to list all factor pairs. 2) Use prime factorization to create lists of factor pairs to find the greatest common factor of two numbers (1 – 100). 3) Use greatest common factor to solve real world problems. See example * 4) Find the least common multiple of two numbers (1-12) by creating organized lists of multiples of each number 5) Analyze a decimal number, representing it numerically and pictorially, as both a single fraction and as a sum of the place value pieces of the fraction (e.g. 6.32 = $6+\frac{32}{100}=6+\frac{30}{100}+\frac{2}{100}=6+\frac{3}{10}+\frac{2}{100}$) in order to recognize that ten or more of any place value can be re-written in a place value representing the next smaller power of ten. 6) Add and subtract multi-digit decimals with the same terminating place value (without re-grouping (e.g. 6.32 + 3.15), or borrowing, by decomposing the quantities into terms of whole numbers and fractions to understand place value. See link to strategy for teaching this learning experience. 7) Add and subtract multi-digit decimals with different terminating place value (e.g. 6.3 + 3.561), without re-grouping, by decomposing the quantities into terms of whole numbers and fractions to understand place value. 8) Add and subtract multi-digit decimals with re-grouping (e.g. 6.79 +3.54 or 6.3 – 4.83), by decomposing the quantities into terms of whole numbers and fractions to	Finding factor pairs through prime factorization (Google Doc) Using primes to find GCF As an extension to #2, students should make the connection to the fact that the GCF of two numbers is the product of all common prime factors. Study of GCF and LCM may provide opportunity for review of fraction operations learned in grades 4 and 5. *Nick baked 32 cupcakes and Gillian baked 48 cupcakes. They wanted to put the same number of cupcakes in each box. What is the greatest number of cupcakes that can fit in a box? How many boxes will they have altogether? Solution: 2 boxes of 16 and 3 boxes of 16 for a total of 5 boxes of 16 cupcakes. Writing Decimals as Fractions in multiple ways (experience 5-google doc):	25)	*CA Mathematics Framework Gr. 6* p. 20 – 31 *Progressions for the Common Core* – The Number System Gr. 6-8 North Carolina 6th Grade Math Unpacked Content: p. 14 – 22

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
division? • When adding, why does "twelve-hundredths" get re-grouped as "one-tenth" and "two-hundredths"? • Why is finding a common denominator helpful for dividing fractions by fractions? • Why and when do we use common denominators with addition, subtraction, and division? • For multiplication, why is finding a common denominator not helpful?	For learning experiences 10-11: https://www.illustrativemathematics.org/illustrations/272 For learning experiences 12-18: https://www.illustrativemathematics.org/illustrations/50 https://www.illustrativemathematics.org/illustrations/549 https://www.illustrativemathematics.org/illustrations/275 https://www.illustrativemathematics.org/illustrations/259	understand place value. See link to strategy for teaching this learning experience. 9) Make connections to strategies for addition and subtraction with multi-digit whole numbers: decomposition, adding up, and finally, standard algorithms. 10) Estimate products of decimal numbers using front-end estimation and by rounding to the largest place value. Compare the results the estimations without finding the exact answer. 11) Write decimals as fractions and multiply, using the denominator of the product to determine place value. 12) Divide multi-digit whole numbers using scaffolded long division, recognizing the connection between division and repeated subtraction. 13) Divide multi-digit whole numbers using scaffolded long division, recognizing the connection between division and repeated subtraction. Write quotients as mixed numbers where appropriate. 14) Divide multi-digit whole numbers using stacked long division recognizing place value throughout the process. Write quotients as mixed numbers where appropriate. 15) Make connections between different strategies for long division of multi-digit whole numbers building towards fluency. (Framework p.26) Write quotients as mixed numbers where appropriate. 16) Divide fractions with common denominators with models. 17) Divide fractions without common denominators with models to find common denominator and to show that division means how many of one quantity goes into another.	Strategies for adding and subtracting decimals conceptually (Google Doc) Scaffolded Division (Google Doc) http://www.showme.com/sh/?h=Es0REK8 Stacked Division: http://www.youtube.com/watch?v=_MoYm_Y3QGc Model for dividing fractions by fractions. Start with common denominator, then denominators that are multiples and finally, uncommon. Only use models for building concept use easy fractions. When performing all operations with decimals and fractions, incorporate estimation into the experience throughout the problem. We need examples for 6-10 Adding and Subtracting. Nick Use rounding as a tool to		

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
	For learning experiences 19-21: https://www.illustrativemathematics.org/illustrations/1299 https://www.illustrativemathematics.org/illustrations/1300	18) Divide fractions by fractions "straight across" where the numerators are divisible and the denominators are divisible. (Example) Include the special case of common denominators. 19) Divide fractions by fractions "straight across" where only one pair, numerator or denominator, are originally divisible by finding a fraction equivalent to the dividend. 20) Divide fractions by fractions "straight across" where no pairs are originally divisible by finding a common denominator. 21) Analyze different cases of dividing fractions by fractions to generalize that one can multiply by the reciprocal. 22) Divide multi-digit decimals with the same terminating place values by writing as two fractions with common denominator, dividing straight across, and then performing long division with whole numbers.* 23) Divide multi-digit decimals with different terminating place values by writing as two fractions, finding a common denominator, then dividing straight across in order to perform long division with whole numbers*. 24) Analyze the process used for dividing decimals to generalize and create short-cuts of moving the decimal and dividing whole numbers*.	estimate reasonableness of decimal placement throughout multiplication of decimals Example of multiplying decimals (Google Doc) Multiple of examples of scaffolded division especially those where students don't make the best guess Examples of all methods of dividing fractions (Google Doc) "Teaching the invert and multiply model for dividing fraction without developing an understanding of why it works can confuse students and interfere with their ability to apply division of fractions to solve word problems." (Framework p.24) *In unit 1, all quotients in decimal division problems should be whole numbers. Study of long division with decimals will continue in unit 4 with quotients that are decimals.		

Unit #2: Ratio and Unit Rates

(Approx. # Days)

Content Standards: 6.RP.1, 2, 3

Math Common Core Content Standards:

Domain: Ratio and Proportional Relationships 6.RP

Understand ratio concepts and use ratio reasoning to solve problems

1. *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*

2. *Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*

3. *Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.*
   - *a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.*
   - *b. Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
   - *c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.*
   - *d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.*

Standards for Mathematical Practice of Emphasis:

SMP 2 – Reason abstractly and quantitatively
SMP 4 – Model with mathematics
SMP 6 – Attend to precision.
SMP 7 - Look for and make use of structure.

SEL Competencies

{ADD TEXT}

ELD Standards to Support Unit

[Add text]

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
• What kind of problems can I solve with ratios? • When is it useful to be able to relate one quantity to another? • How can I compare two different quantities? • How are ratios and rates similar and different? • Why is unit rate important? What does unit rate mean? • Which model makes the most sense to you? Why? • How do you choose a model that is appropriate for solving a problem? • How do you find unit rate if it's not given to you? • When creating a unit rate, which quantity do you want the 1 in the unit rate to be? • What's the connection between percentages, rates, fractions and decimals? • Why and how do you use benchmark percentages? • What does a percentage more than 100% mean? How is it different from a percentage less than 100%?	Assessments/Tasks aligned to learning experiences: https://www.illustrativemathematics.org/illustrations/76 https://www.illustrativemathematics.org/illustrations/498 https://www.illustrativemathematics.org/illustrations/135 https://www.illustrativemathematics.org/illustrations/193 https://www.illustrativemathematics.org/illustrations/1641	Students will be able to… 1) Use ratio and rate language, orally and in writing to describe the relationship between two quantities including for each, per, to, each, 1/5, 1:5, etc. 2) Use, tape diagrams/bar models, table of equivalent values, double number lines and equations to solve real world problems. 3) Make and manipulate tables of equivalent ratios to solve real world problems paying special attention to the additive and multiplicative relationships within the table. 4) Use tables of equivalent ratios to plot pairs of values on the coordinate plane to solve real world problems paying special attention to the additive and multiplicative relationships on the graph. 5) Convert between measurement units given the unit rate for conversion using bar models, double number lines and equations. 6) Solve real-world problems involving unit rate, including those with constant speed, with a variety of models. Discuss the meaning and usefulness of unit rate when solving problems. 7) Solve real-world problems by first finding the unit rate with a variety of models, in particular tables and double number lines. Include problems of unit pricing to find the best value. 8) Represent percents as a rate per 100. Compare values written as fractions, decimals and percents. Use double number lines and unit rate reasoning to reinforce the idea that percents are per 100 and to solve percent problems. 9) Recognize benchmark percentages (1%, 10%, 25%, 50%) as a fraction of 100%. Use benchmark	No % in beginning Hold off on unit rate until experience 5 For 2 all problems are "simple" Equations – Should be solved as equivalent fraction problems (p19 Framework) tape diagrams/bar model with all question stems for a situation Tables of equiv ratios Coordinate plane – pre-slope Address unit rate as per 1 and as 1 per Use benchmarks for		*CA Mathematics Framework Gr. 6* p. 20 – 31 *Progressions for the Common Core* – The Number System Gr. 6-8 North Carolina 6th Grade Math Unpacked Content: p. 14 – 22

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
		percentages to build any percentage. (e.g. 60% = 50% + 10%) 10) Solve percentage problems involving unknown part, unknown percentage and unknown whole using a variety of strategies. (Framework p.18)	estimation Include percentages greater than 100%.		

Unit #3: Algebraic Expressions

(Approx. # Days)

6.EE.1-4

Math Common Core Content Standards:

Domain: Expressions and Equations 6.EE

Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Write and evaluate numerical expressions involving whole-number exponents.
2. Write, read, and evaluate expressions in which letters stand for numbers.
    a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.*
    b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.*
    c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.*
3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.*
4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*

Standards for Mathematical Practice:

SMP 1 – Make sense of problems and persevere in solving them
SMP 2 – Reason abstractly and quantitatively
SMP 3 – Construct viable arguments and critique the reasoning of others
SMP 4 – Model with mathematics
SMP 6 – Attend to precision.

ELD Standards to Support Unit

[Add text]

SEL Competencies

{ADD TEXT}

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
• What does x^5 mean? • How do you determine the order in which you simplify an expression? • How do you identify the terms in an expression? • What is the difference between an expression and an equation? • What are all the ways you can write a given expression (such as 5x + 2y)? • What are all the different ways to represent multiplication? • Why don't we use x as a symbol for multiplication? • Why is 3x + 2 not equal to 5x? • When evaluating the expression 4x for x = 5, why doesn't it create the number 45? • What is the coefficient for x in the expression (2 + x)? • Why is 2x + 3x not equal to $5x^2$? • Explain why 5(6 + 3x) is equal to 30 + 15x? • How do you determine if two or more expressions are equivalent? • Why does substituting a value not always work for determining equivalence of expressions?	Assessments/Tasks aligned to learning experiences: https://www.illustrativemathematics.org/illustrations/532	Students will be able to… 1) Express any term of the form x^n as n factors of x (e.g. 4^3 = 4·4·4). Evaluate terms of the form x^n as the product of n factors in real-world and mathematical contexts. The base(s) should be whole numbers, positive decimals or positive fractions. 2) Evaluate numerical expressions with exponents, factors and terms by identifying the structure of the expression: simplify the exponents, factors, then the terms. 3) Translate the expression into words, given an expression with one of the four operations, including at least one variable, (5 – y describes subtracting y from 5). Also, given a description in words, write an appropriate mathematical expression. 4) Understand the structure of a term as a product of factors and as a sum of terms in order to generate equivalent expressions (3y = 3 · y = y + y + y and $3x^2$ = $3 \cdot x^2$ = $x^2 + x^2 + x^2$) 5) Combine like terms by decomposing the terms into groups of the same quantity in order to generate equivalent expressions (i.e. $3x + 2x + 2y = (x + x + x) + (x + x) + (y + y)$= 5 terms of x and 2 terms of y = 5x + 2y). 6) Identify the structure of an expression by identifying the terms, describing each term using mathematical language (*sum, difference, product, factor, quotient, term, constant, variable, coefficient, base, exponent*) and then make meaning of each term using decomposition. (Framework – Examples of Expression Language pg. 39-40) 7) Evaluate expressions that arise from formulas used in real world problems by substituting for the appropriate	Compare and contrast the meaning of 4(3) as the sum of 4 terms of 3 (3 + 3 + 3 + 3) and 4^3 as the product of 3 factors of 4 (4·4·4) For learning experience 2 - Google Doc Notice that PEMDAS was not used here, because students may develop misconceptions when using PEMDAS. For example, student always multiplies before dividing. Address misconceptions early in unit – LINK TO SHEET		

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
		variables and simplifying the expression using the structure established in learning experience 2. 8) Describe a numerical expression, such as 2(8+7), as a product of factors 2(15) and as a sum of terms (8+7) + (8+7). 9) Use the sum of terms (learning experience 7) to rewrite 2(8+7) as (8+7) + (8+7) and then regroup into (8+8) + (7+7) for the purpose of discovering the distributive property 2(8) + 2(7). 10) Decompose an expression such as 2(3 + x) into (3+x)+(3+x) in order to regroup like terms (3+3)+(x+x) = 6 + 2x. Use this process to discover the short cut of multiplying by the coefficient (the distributive property). 11) Use previous learning experiences, the distributive property, and combining like terms to determine if two expressions are equivalent. (Example – Are the two following expressions equal? $5(n+3)+7n \; and \; 12n+15$ Justify your answer.) 12) Compare a given expression to multiple other expressions, to identify those that are equivalent and justify their reasoning using the structures of simplifying expressions including combining like terms and the distributive property.	As students are dealing with equivalent expressions, choosing numbers to plug in and test is wise.		

Unit #4: Equations and Inequalities

(Approx. # Days)

Content Standards: 6.EE.5-9

Math Common Core Content Standards:

Domain: Expressions and Equations 6.EE

Reason about and solve one-variable equations and inequalities.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.
8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

Represent and analyze quantitative relationships between dependent and independent variables.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*

Standards for Mathematical Practice:

[List # and title of any SMPs that are a *focus* for this unit]

SEL Competencies

{ADD TEXT}

ELD Standards to Support Unit

[Add text]

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
	Assessments/Tasks aligned to learning experiences:	Students will be able to… 1) Represent real-world situations by writing expressions of the form x + p. Clearly define the meaning of the variable and the expression. Framework p.42. 2) Write and evaluate expressions representing real-world situations for multiple values of the variable. Use bar models and numeric representations. Define the meaning of the variable and expression. 3) Write equations in the form x + p = q and create bar models to represent real-world situations. Clearly define the meaning of the variable and the both expressions in the equations. 4) Solve equations of the form x + p = q using bar models and tables to facilitate guess and check. Use substitution to prove that a solution makes the equation true. 5) Solve equations of the form x + p = q using inverse operations. Use substitution to prove that a solution makes the equation true. 6) Represent real-world situations by writing expressions of the form px. Clearly define the meaning of the variable and the expression. Framework p.42. 7) Write and evaluate expressions representing real-world situations for multiple values of the variable. Use bar models and numeric representations. Define the meaning of the variable and expression. 8) Write equations in the form px = q and create bar	Create a worksheet with examples for learning experience 1 and 2 including bar modeling Make a note to teachers explaining that we are dealing with expressions in 1 and 2 and will then move to equations in 3. Possible explanation of the difference between expressions and equations may be appropriate here. Worksheet with permutations of p + x = q In p + x = q, keep in mind that p, x and q are rational numbers but student work should begin with whole numbers Include examples of how to use bar models and tables for guess and check. (Note to TS –		

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
		models to represent real-world situations. Clearly define the meaning of the variable and the both expressions in the equations. 9) Solve equations of the form px = q using bar models and tables to facilitate guess and check. Use substitution to prove that a solution makes the equation true. 10) Solve equations of the form px = q using inverse operations, where p is a whole number and then a fraction. Use substitution to prove that a solution makes the equation true. 11) Divide a decimal number by a whole number where the quotient is a decimal (e.g. 56.58 ÷ 3 = 18.86) using the algorithms developed in unit 1, paying close attention to place value. 12) Divide a decimal number by a decimal number where the quotient is a decimal (e.g. 16.728 ÷ 3.4 = 4.92) using the algorithms developed in unit 1, multiplying by powers of 10 to make the divisor a whole number. 13) Divide a decimal number by a decimal number where the quotient is a decimal (e.g. 3.3 ÷ 1.2 = 2.75) using the algorithms developed in unit 1, extending the place value of the dividend by adding zeroes. 14) Solve equations of the form px = q using inverse operations, where p is a decimal. Use substitution to prove that a solution makes the equation true. 15) Solve equations of the form px = q using inverse operations, where p is a decimal. Use substitution to	use whole and rationals) Inverse operations In px = q, keep in mind that p, x and q are rational numbers but student work should begin with whole numbers px=q bar model worksheet, p is whole, p<1, p>1 What does inverse operations mean for solving px = q? In 7, no need to move decimal - Examples of algorithms for 56.58÷ 3 = 18.86 Explain 11-13 progression Verify that extending the place value by adding zeroes does not change the value of the dividend		

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
		prove that a solution makes the equation true. 16) Distinguish between real-world situations represented by p + x = q and px = q, solving problems of each type using inverse operations. 17) Write inequalities to represent real-world situations and identify possible solutions, recognizing that there can be infinitely many solutions. 18) Represent inequalities on a number line numerically and in real-world situations, representing constraints appropriately. (Framework p. 44) 19) Analyze a real-world situation for the purpose of identifying the two quantities that change in relationship to one another, defining them with variables, and determining which variable is dependent upon the other variable in the relationship (dependent and independent variables). 20) Create a table of values to represent a real-world situation with independent and dependent variables and represent the relationship with a list of values for the independent variable and corresponding values for the dependent variable. 21) Represent a series of values for independent (x axis) and corresponding dependent variables (y axis) on quadrant 1 of a coordinate plane and determine whether the points should be discrete or continuous based on the context of the problem. 22) Model the relationship between independent and dependent variables by creating a table, graphing the	Experiences 17 and 18 involve inequalities represented by the symbols > and < only. Students should make sense of why an open circle is used to represent that the boundary number is not a solution to the inequality. Experiences 19 – 22 may be taught concurrently rather than as distinct learning experiences in order to relate the situation, table, graph, and equation of a given real-world problem. The use of multiple representations simultaneously is key here. Translating between multiple representations helps students understand that each form represents the same relationship and provides different		

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Experiences	Strategies for Teaching and Learning	Differentiation (EL/SpEd/GATE)	Resources
		coordinates, and analyzing the relationship between the two variables in the table and graph in order to write the associated equation.	perspective on the relationship.		