Unified School District 247
Southeast Schools
Cherokee, Kansas

K-6 Math Curriculum Document

April 2017

Introduction:

USD 247 teachers of mathematics continually seek to teach our students with fidelity following a curriculum that aligns with the state standards and our district expectations. Through a review of the Kansas College and Career Readiness Standards and current district math instruction and curriculum, a new district curriculum document has been developed. Our district teachers worked many hours in teams and independently, with guidance from Dr. Diane Watkins, to compile a new USD 247 Math Curriculum Document. While this document is comprehensive, it is a living document that will be reviewed and revised as needed.

Debbie Clawson
Curriculum Director
Assistant Principal
USD 247

Southeast Lancers
Success Through Excellence: Everyone, Everywhere, Everyday

USD 247 Southeast Cherokee
Kindergarten Curriculum Document
Linked to Kansas College and Career Readiness Standards

Check if Completed	Southeast Elementary Kindergarten: 1st Quarter Standards and Learning Targets	Standard Identifier Code
	Counting and Cardinality	CCK1
	Know number names and the count sequence. 1. Count to 25 by ones and 100 by tens. Activity: Counting by ones parallel to days in school, focus is counting to 25, growing number line, read numerals to 25	Level 1
	Counting and Cardinality	CCK4
	Count to tell the number of objects. 4. Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger. Activity: Growing number line, creating a monthly calendar by adding the date each day to the calendar,	Level 1
	Counting and Cardinality	CCK5
	Count to tell the number of objects. 5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. Activity: Number sets, domino concentration, roll and record, create a graph	Level 1

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Kindergarten Curriculum Document
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Check if Completed	Southeast Elementary Kindergarten: 1st Quarter Standards and Learning Targets	Standard Identifier Code
	Measurement and Data	MDK1
	Describe and compare measurable attributes. 1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Activity: Nonstandard measurement: Various items used to measure various objects. (paper clips, unifix cubes) (21st century: 1c)	Level 1,2
	Measurement and Data	MDK2
	Describe and compare measurable attributes 2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. Activity: Body height comparisons: children compare their height to classroom objects.	Level 1,2
	Geometry	GK1
	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. Activity: shape scarecrows (21st Century: 1a), exploring pattern blocks	Level 1,2
	Geometry	GK2
	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 2. Correctly name shapes regardless of their orientations or overall size. Activity: Shape song: If your holding a circle please stand up. Sung to "If your happy and you know it clap your hands…" (21st century: 2a)	Level 1,2

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1st Quarter:

Vocabulary: count, ones, tens, greater than (more), pairing, group, number name, next, one to one matching, object, same numbers, measurement, compare, difference, less, measurable, describe, length, weight, shapes, circle, square, triangle, rectangle, ellipse, position direction (before, next), attributes, above, below, position, hexagon, size

AB pattern, pennies, tally marks, hour hand, time, clock, graph, symmetry

Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

For the activity refer back to individual cluster.

Resources:

Everyday Mathematics

Assessments/Specific Rubrics:

Skills Checklist

Teacher notes:

In the first 9 weeks, in addition to domain and clusters listed above, Kindergarten:
will tell time to the hour
name and count pennies
recognize and continue AB pattern
write and count tally marks
symmetry

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Check if Completed	Southeast Elementary Kindergarten: 2nd Quarter Standards/Learning Targets	Standard Identifier Code
	Counting and Cardinality	CCK1
	Know number names and the count sequence. 1. Count to 50 by ones and 100 by tens. Activity: Counting by ones parallel to days in school, focus is counting to 50, growing number line, read numerals to 50 and beyond.	Level 1
	Counting and Cardinality	CCK 3
	Know number names and the count sequence. 3. I can write numbers from 0 to 30. I can count objects and write the number. I an use zero to represent no objects. Activity: Write to 30 and beyond, write a number 0-30 to represent the number of manipulatives counted, growing number line	Level 1, 2, 3
	Counting and Cardinality	CCK 6
	Compare numbers. 6. Identify whether the number of objects in one group is great than, less than, or equal to the number of objects in another group. Activity: Students interact with manipulatives to determine more/greater, less/smaller, same/equal. Focus to 30.	Level 2
	Counting and Cardinality	CCK 7
	Compare numbers 7. Compare two numbers between 0 and 30 presented as written numerals. Activity: Monster Squeeze, Top It, counting manipulatives to tell how many and saying/writing number total.	Level 2, 3

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Check if Completed	Southeast Elementary Kindergarten: 2nd Quarter Standards/Learning Targets	Standard Identifier Code
	Measurement and Data	MDK3
	Classify objects and count the number of objects in each category. 4. Classify objects into given categories; count the number of objects in each category and count the categories by count. Activity: Students sort various namipulatives by different attributes: shape, color, size, ect...then count the objects in each group.	Level 4
	Geometry	GK 4
	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) 4. Analyze and compare two-and three- dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (number of sides and vertices/corners) and other attributes (having sides of equal length) Activity: Students sort various manipulatives by different attributes: shape, color, size, etc, then count them. How would you sort these buttons?	Level 4

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2nd Quarter:

Vocabulary:

ones, tens, count, numbers, objects, numerals, greater than, less than, equal, matching objects, counting strategies, value, categories, alike, same, group, different, sort, not alike, clssify, compare, sides, corners,measurement, length, weight, shapes, circle, square, triangle, rectangle, ellipse, direction, attributes

ABC pattern, pennies, tally marks, hour hand, time, clock, graph, symmetry, nickels, graphing,

Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

For the activity refer back to individual cluster.

Resources:

Everyday Mathematics

Assessments/Specific Rubrics:

Skills Checklist

Teacher notes:

In the second 9 weeks, in addition to domain and clusters listed above, Kindergarten:
will tell time to the hour
name and count pennies, nickels
recognize and continue ABC pattern
write and count tally marks
symmetry

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7 November, 2015

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Check if Completed	Southeast Elementary Kindergarten: 3rd Quarter Standards/Learning Targets	Standard Identifier Code
	Counting and Cardinality	CCK1
	Know number names and the count sequence. 1. Count to 75 by ones and 100 by tens. Activity: Counting by ones parallel to days in school, focus is counting to 75, growing number line, read numerals to 75 and beyond	Level 1
	Counting and Cardinality	CCK2
	Know number names in the count sequence 2. Count forward beginning from a given number. Activity: Child draws a number and counts on from that number.	Level 1
	Counting and Cardinality	CCK 3
	Know number names and the count sequence. 3. I can write numbers from 0 to 60. I can count objects and write the number. I can use zero to represent no objects. Activity: Write to 60 and beyond, growing number line.	Level 1, 2, 3
	Operations and Algebraic Thinking	OAK1
	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. 1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (claps), acting out situations, verbal explanations, expressions, or equations. Activity: Students act out addition and subtraction situations using personalized information (students in red shirts + students in blue shirts = students in red and blue shirts.) Activity: Students use manipulatives to demonstrate addition and subtraction. Students add to or join sets to show addition or take apart to take from to show subtraction.	Level 3

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	Operations and Algebraic Thinking	OAK2
	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. 2. Solve addition and subtraction word problems, and add and subtract within 10, by using objects or drawings to represent the problem. Activity: In small groups, students use story mats and sets of manipulatives to solve addition and subtraction word problems. Activity: Students use routine classroom situations to create, solve, and draw pictures of word problems (numbers of students, amounts of materials, lunch counts)	Level 3
	Operations and Algebraic Thinking	OAK5
	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. 5. Fluently add and subtract within 5. Activity: With partners, students use addition and subtraction flashcards to build fluency. Activity: Students play games to practice addition and subtraction facts to 5.	Level 3
	Geometry	GK5
	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 5. Model shapes in the world by building shapes from components (sticks, clay balls), and drawing shapes. Activity: Students build 2 and 3 dimensional everyday objects using provided materials (cans, stir sticks, play dough, pretzels, toothpicks, gum drops) Activity: Students build or draw pictures of everyday objects using shape cutouts or templates.	Level 3

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	Geometry	GK6
	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 6. Compose simple shapes to form larger shapes (Can you join these two triangles with full sides touching to make a rectangle?) Activity: Students use two or more attribute blocks or tangrams to make different shapes (2 squares = rectangle) Activity: Students cover larger shapes with two or more shape die cuts.	Level 6

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Vocabulary:
ones, tens, count, sequence, objects, numeral, number, subtraction, addition, represent, word problem, equal, less, all together, subtraction, drawings, more, fewer, total, model, components, circle, compare, compose, different, hexagon, rectangle, shape, similar, square, triangle, more, simple shapes

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:
For the activity refer back to individual cluster.

Resources:
Everyday Mathematics

Assessments/Specific Rubrics:
Skills Checklist

Teacher notes:
In the third 9 weeks, in addition to domain and clusters listed above, Kindergarten:
will tell time to the hour
name and count pennies, nickels, dimes
recognize and continue ABC pattern
write and count tally marks
symmetry
place value: 1's, 10's, 100's

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Check if Completed	4th Quarter Standards/Learning Targets	Standard Identifier Code
	Counting and Cardinality	CCK1
	Know number names and the count sequence. 1. Count to 100 by ones and 100 by tens. Activity: Counting by ones parallel to days in school, focus is counting to 100, growing number line, read numerals to 100 and beyond.	Level 1
	Counting and Cardinality	CCK2
	Know number names in the count sequence 2. Count forward beginning from a given number. Activity: Child draws a number and counts on from that number.	Level 1
	Counting and Cardinality	CCK 3
	Know number names and the count sequence. 3. I can write numbers from 0 to 100. I can count objects and write the number. I can use zero to represent no objects. Activity: Write to 100 and beyond, growing number line.	Level 1, 2, 3
	Operations and Algebraic Thinking	OAK3
	I can decompose numbers from 0-10 into pairs in more than one way. I can use drawings to decompose numbers. I can use number sentences to decompose numbers. Activity: 10 frames, story problems to 10, addition and subtraction to 10	Level 3
	Operations and Algebraic Thinking	OA.K.4
	I can make 10 by adding on to a number 1-9. I can record my thinking by using different ways. (using objects, drawings, equations, etc.) Activity: Ten frames, addition	Level 3

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	Number and Operations in Base Ten	NBT.K.1
	I can use objects to show how many tens and ones are in a number 11-19. I can use a drawing to show how many tens and ones are in a number 11-19. I can write an equation to show how many tens and ones are in a number 11.19. Activity: two sets of 10 frames, base 10 blocks	Level 4
	Geometry	GK3
	I can tell if a shape is two-dimensional or three-dimensional. Activity: Hands on with 2-3 dimensional shapes, compare 3D shapes with objects in the real world.	Level 2

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Vocabulary:
ones, tens, count, sequence, objects, numeral, numbers, record, decompose, equation, decomposition, drawing, answer, plus, compose, plane, flat, 2D, 3D, solid

Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:
For the activity refer back to individual cluster.

Resources:
Everyday Mathematics

Assessments/Specific Rubrics:
Skills Checklist

Teacher notes:
In the fourth 9 weeks, in addition to domain and clusters listed above, Kindergarten:
will tell time to the hour
counting and combining pennies, nickels, dimes
recognize and continue ABC pattern
write and count tally marks
symmetry
place value: 1's, 10's, 100's

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Check if Completed	Standards/Learning Targets Reinforced Throughout the Year	Standard Identifier Code

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21st Century Learner Skills

1. **Creativity and Innovation (1a-d)**
   a. demonstrates originality and inventiveness in work;
   b. develops, implements, and communicates new ideas to others;
   c. is open and responsive to new and diverse perspectives; and
   d. acts on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs.

2. **Critical Thinking and Problem Solving (2a-f)**
   a. exercises sound reasoning in understanding;
   b. makes complex choices and decisions;
   c. understands the interconnections among systems;
   d. identifies and asks significant questions that clarify various points of view and lead to better solutions;
   e. frames, analyzes, and synthesizes information in order to solve problems and answer questions; and
   f. reflects critically on learning experiences and processes (metacognition).

3. **Communicating and Collaborating (3a-d)**
   a. understands, manages, and creates effective oral, written, and multimedia communication in a variety of forms and contexts and for a variety of purposes;
   b. demonstrates ability to work and communicate effectively with diverse teams;
   c. exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; and
   d. assumes shared responsibility for collaborative work.

4. **Information, Communication, Technology (ICT), and Media Literacy (4a-f)**
   a. accesses information efficiently and effectively, evaluates information critically and competently, and uses information accurately and creatively for the issue or problem at hand;
   b. understands how media messages are constructed, for what purposes and using which tools, characteristics, and conventions;
   c. examines how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors;
   d. uses digital technology, communication tools, and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy;
   e. uses technology as a tool to research, organize, evaluate, and communicate information; and

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f. possesses of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

5. Flexibility and Adaptability (5a-c)
- a. adapts to varied roles, responsibilities, schedules, and environments;
- b. works effectively in a climate of ambiguity and changing priorities; and
- c. seeks and embraces opportunities created by change.

6. Initiative and Self-Direction (6a-e)
- a. monitors his or her own understanding and learning needs;
- b. goes beyond basic mastery of skills and/or curriculum to explore and expand his or her own learning and opportunities to gain expertise;
- c. utilizes time efficiently and manages workload;
- d. initiates, prioritizes, and completes tasks with minimal oversight; and
- e. demonstrates initiative to advance skill levels towards a professional level and a commitment to learning as a lifelong process.

7. Social and Cross-Cultural Skills (7a-c)
- a. works appropriately and productively with others;
- b. leverages the collective intelligence of groups when appropriate; and
- c. bridges cultural differences and uses differing perspectives to increase innovation and the quality of work.

8. Productivity and Accountability (8a-c)
- a. demonstrates diligence and a positive work ethic (e.g., being punctual and reliable);
- b. self-monitors the process of developing quality work; and
- c. sets and meets high standards and goals for delivering quality work on time.

9. Leadership and Responsibility (9a-d)
- a. demonstrates integrity and ethical behavior;
- b. acts responsibly with the interests of the larger community in mind (civic awareness and responsibility);
- c. uses interpersonal and problem-solving skills to influence and guide others toward a goal; and
- d. leverages strengths of others to accomplish a common goal.

10. Employability and Career Development (10a-c)
- a. embraces the importance of employability skills;

b. effectively explores, plans, and manages career choices and goals; and
c. recognizes and acts upon requirement for career advancement by planning continuing education, training, and/or professional development.

USD 247 Southeast Lancers
1st Grade/Mathematics Curriculum Document
Linked to Kansas College and Career Readiness Standards

Code Key:

LT-Learning Target | #1-6: Bloom's Level | 21stCL-21st Century Learner Skills

DS-District Standard | RC-Rose Capacity

Check if Completed	Standards and Learning Targets	Standard Identifier Code
	Operations and Algebraic Thinking (1.OA)	
	Represent and solve problems involving addition and subtraction.	
	1. 1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g. by using objects, drawings, and equations with a symbol for the unknown number to represent the problems.	21stCL-2a
	LT: Apply appropriate math operations to solve number stories within 20. (3) (1.OA.1) (RC 1,6,7)	
	Essential Question: How would you solve this problem using a strategy of your choice?	
	2. 1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (1.OA.2) (RC 1,6,7)	21stCL 2a-b
	LT: Write number models to match number stories. (3, 5, 7)	
	Essential Question: How can I write a number model to match this number story?	

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DS-District Standard | RC-Rose Capacity

	Understand and apply properties of operations and the relationship between addition	
	3. **1.OA.3** Apply properties of operations as strategies to add and subtract. Examples: If 8+3=11 is known, then 3+8=11 is also known. (Commutative property of addition.) To add 2+6+4, the second two numbers can be added to make a ten, so 2+6+4=2+10=12. (Associative property of addition.) (RC 1,6,7)	21stCL 6a
	LT: Use a variety of addition fact strategies, for solving multi-addend addition problems and write a fact family for number groups.(5)(1.OA.3)	
	Essential Question: What math strategies can I use to help solve this problem?	
	4. **1.OA.4** Understand subtraction as an unknown-addend problem. For example, subtract 10-8 by finding the number that makes 10 when added to 8.	21stCL-2a
	LT: Identify basic addition facts and corresponding subtraction facts (fact families) (3)	
	Essential Question: How can you use addition to find the unknown number in this subtraction problem?	
	Add and subtract within 20.	
	5. **1.OA.5** Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	21stCL-2b, 6a
	LT: Adds and subtracts using various computational methods (e.g. number line, counting on,	

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	manipulative, drawings, mental math). (3)	
	Essential Question: *How would you use counting to solve an addition or subtraction problem?* *(skip counting)*	
	6. 1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g. 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to ten (e.g. 13 - 4 = 13 -3 -1 = 10 - 1 =9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums, (e.g. adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	21stCL-2b, 6a
	LT: Demonstrates fluency for addition and subtraction within 20. (3)(1.OA.6) (RC 1,6,7)	
	Essential Question: *What strategy would you use to solve this addition or subtraction problem?*	
	7. 1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6=6, 7=8-1, 5+2=2+5, 4+1=5+2	21stCL-2a-b

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DS-District Standard | RC-Rose Capacity

	LT: Determine which equations are true and which are false. (5)	
	Essential Question: How do you know which of the following equations are true and which are false?	
	8. 1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8+?=11, 5=? - 3, 6+6=?	21stCL-2a-b
	LT: Determine the unknown whole number in an addition or subtraction equation. (5)	
	Essential Question: How do you determine the missing number to make this problem true?	
	Number and Operations in Base Ten (1.NBT)	
	Extend the counting sequence.	
	1. 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	21stCL-2a, e
	LT: Determine numerals to represent objects or determine objects to represent numerals. (5)	

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DS-District Standard | RC-Rose Capacity

	Essential Question: How can you represent "this number" using numerals or objects? What numeral would represent "this object"?	
	Understand place value.	
	2. 1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: **2a. 1.NBT.2a.** 10 can be thought of as a bundle of ten ones-called a "ten". **2b. 1.NBT.2b** The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. **2c. 1.NBT.2c** The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	21stCL-2c,d,f
	LT: Identify how many tens and how many ones are in a given two digit number (2).	
	Essential Question: How many ten and ones are there in this two digit number?	
	3. 1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	21stCL-2a
	LT: Compare two whole numbers between 10-99 using >, <, or = ?	
	Essential Question: How can you compare "these" numbers using >, <, or =?	

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USD 247 Southeast Lancers
1st Grade/Mathematics Curriculum Document
Linked to Kansas College and Career Readiness Standards

Code Key:

LT-Learning Target | #1-6: Bloom's Level | 21stCL-21st Century Learner Skills

DS-District Standard | RC-Rose Capacity

	Use place value understanding and properties of operations to add and subtract.	
	4. 1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	21stCL-2a, c
	LT: Add two numbers together using place value strategies (i.e. models, drawings, multipliers of 10's). (2)	
	Essential Question: *How can you solve this addition problem using a strategy of your choice?*	
	5. 1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	21stCL-2b, c
	LT: Apply mental math strategies to solve a problem by adding or subtracting 10. (3)	
	Essential Question: Using mental math strategies to solve a problem by adding or subtracting 10. (3)	
	6. 1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the	21stCL-2b, c

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	range 10-90 (positive or zero differences), 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.	
	LT: Demonstrate and explain how you would solve a problem by subtracting multiple of 10 in the range of 10-90. (5) (strategies, # grid, base 10 blocks, dimes)	
	Essential Question: What steps would you take to subtract a group of 10 from "this" number?	
	Measurement and Data (1.MD)	
	Measure lengths indirectly and by iterating length units.	
	1. 1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.	21stCL-2b
	LT: Compare the length of 3 objects. (4)	
	Essential Question: How would you put these 3 "objects" in order from shortest to longest by comparing their lengths?	
	2. 1.MD.2 Express the length of an object as a whole number of length units, by laying	21stCL-2b, c

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	multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.	
	LT: Demonstrate how to measure an object by using multiple copies of a shorter object with no gaps or overlaps. (3)	
	Essential Question: How can you use this "object" to measure the length of a longer object?	
	Tell and write time.	
	3. 1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks.	21stCL-2b, c
	LT: Tell and write the time represented on the clock. (3)	
	Essential Question: What time is it? How do you write that time? Why is it important to know how to tell time?	
	Represent and interpret data.	
	4. 1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than another.	21stCL-2a, 6a

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	LT: Organize and compare data with up to 3 categories. (6) (graph, sorting, cubes)	
	Essential Question: How can you organize and compare this data? (i.e. graph)	
	Geometry (1.G)	
	Reason with shapes and their attributes.	
	1. 1.G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.	21stCL-2b, 6a
	LT: Demonstrate how to use defining and non-defining attributes to build and draw shapes. (3)	
	Essential Question: How can you draw or build a shape with "these" attributes?	
	2. 1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	21stCL-2c, d
	LT: Create a composite shape and determine what shapes are in the composite figure. (6)	
	Essential Question: How can you use "these" shapes to create a new shape?	

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	3. 1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves, fourths,* and *quarters,* and *use the phrases half of, fourth of,* and *quarter of.* Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	21stCL-2c, d
	LT: Divide circles and rectangles into halves, fourths, quarters, whole. (2)	
	Essential Question: How can you divide this shape into smaller, equal pieces?	

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*To shade: Highlight row; right click on row to be shaded (or unshaded); click on Borders and Shading, style 10% or clear; then *OK*.

Vocabulary:

Essential and/or Compelling Questions:

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21stCL-21st Century Learner Skills

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed		Standard Identifier Code

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Vocabulary:

Essential and/or Compelling Questions:

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Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Vocabulary:

Essential and/or Compelling Questions:

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Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Vocabulary:

Essential and/or Compelling Questions:

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Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed	Standards/Learning Targets Reinforced Throughout the Year	Standard Identifier Code

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21st Century Learner Skills

1. **Creativity and Innovation (1a-d)**
   a. demonstrates originality and inventiveness in work;
   b. develops, implements, and communicates new ideas to others;
   c. is open and responsive to new and diverse perspectives; and
   d. acts on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs.

2. **Critical Thinking and Problem Solving (2a-f)**
   a. exercises sound reasoning in understanding;
   b. makes complex choices and decisions;
   c. understands the interconnections among systems;
   d. identifies and asks significant questions that clarify various points of view and lead to better solutions;
   e. frames, analyzes, and synthesizes information in order to solve problems and answer questions; and
   f. reflects critically on learning experiences and processes (metacognition).

3. **Communicating and Collaborating (3a-d)**
   a. understands, manages, and creates effective oral, written, and multimedia communication in a variety of forms and contexts and for a variety of purposes;
   b. demonstrates ability to work and communicate effectively with diverse teams;
   c. exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; and
   d. assumes shared responsibility for collaborative work.

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4. Information, Communication, Technology (ICT), and Media Literacy (4a-f)

a. accesses information efficiently and effectively, evaluates information critically and competently, and uses information accurately and creatively for the issue or problem at hand;
b. understands how media messages are constructed, for what purposes and using which tools, characteristics, and conventions;
c. examines how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors;
d. uses digital technology, communication tools, and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy;
e. uses technology as a tool to research, organize, evaluate, and communicate information; and
f. possesses of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

5. Flexibility and Adaptability (5a-c)

a. adapts to varied roles, responsibilities, schedules, and environments;
b. works effectively in a climate of ambiguity and changing priorities; and
c. seeks and embraces opportunities created by change.

6. Initiative and Self-Direction (6a-e)

a. monitors his or her own understanding and learning needs;
b. goes beyond basic mastery of skills and/or curriculum to explore and expand his or her own learning and opportunities to gain expertise;
c. utilizes time efficiently and manages workload;
d. initiates, prioritizes, and completes tasks with minimal oversight; and
e. demonstrates initiative to advance skill levels towards a professional level and a commitment to learning as a lifelong process.

7. Social and Cross-Cultural Skills (7a-c)

a. works appropriately and productively with others;
b. leverages the collective intelligence of groups when appropriate; and
c. bridges cultural differences and uses differing perspectives to increase innovation and the quality of work.

8. Productivity and Accountability (8a-c)

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a. demonstrates diligence and a positive work ethic (e.g., being punctual and reliable);
b. self-monitors the process of developing quality work; and
c. sets and meets high standards and goals for delivering quality work on time.

9. Leadership and Responsibility (9a-d)

a. demonstrates integrity and ethical behavior;
b. acts responsibly with the interests of the larger community in mind (civic awareness and responsibility);
c. uses interpersonal and problem-solving skills to influence and guide others toward a goal; and
d. leverages strengths of others to accomplish a common goal.

10. Employability and Career Development (10a-c)

a. embraces the importance of employability skills;
b. effectively explores, plans, and manages career choices and goals; and
c. recognizes and acts upon requirement for career advancement by planning continuing education, training, and/or professional development.

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Math, 2nd Grade Curriculum Document
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BT-Blooms Taxonomy(1-6) **DS-District Standard** **Rose-Rose Capacities (1-7)** **21st Century Skills**

Check if Completed	1st Quarter Standards and Learning Targets	Standard Identifier Code
	Numbers and operations in base ten	2.NBT.2
	Vocabulary: skip-count, tens, hundreds, number line **Essential Question:** How would you count by 5's, 10's, and 100's within the range of 0-1000? **Learning Target: Count** with number exceeding 1,000; skip count by 5's, 10's, and 100's (number lines, count on from a given point, **using** a calculator to skip count or find missing values). **(1,3)(2.NBT.2)** **Specific Skills:** Analytical thinking, identifying patterns, sequencing **21st 1a Rose 1,6**	BT 1 Remembering BT 3 Applying
	Number and Operations in base ten	2.NBT.9
	Vocabulary: place value, fact family **Essential Question:** Using place value and the properties of operations, how can I make addition and subtraction strategies work? **Learning Target: Explain** why addition and subtraction strategies work, using place value and the properties of operations (fact families)**(2)(2.NBT.9)** **Specific Skills:** Analytical (setting criteria), creative (elaboration) **21st 1a Rose 1, 6**	BT 2 Understanding
	Operations and Algebraic Thinking	2.OA.2
	Vocabulary: sum, add, addends, subtract, subtraction, difference, equals, patterns, estimate **Essential Question:** Using mental math, how would you solve addition and subtraction problems when the digits are between 0 and 20? **Learning Target: Restate** from memory all sums of two one-digit numbers. Fluently add and subtract within 20 using mental strategies, by the end of Grade 2. **(DS) Determine** if a number goes up or down, and how much the number has changed. Use estimation skills to determine reasonableness of an answer. **(2, 5)(2.OA.2)** **Specific Skills:** Analytical thinking **21st 1 a-b Rose 1, 6**	BT 2 Understanding BT 5 Evaluating

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	Number and Operations in Base Ten: Understand place value	2.NBT.4
	Vocabulary: ones, greater than, less than, equal to, compare, order **Essential Question:** How would you compare the value of each digit in a three-digit number, using >, <, and = symbols to record the results of comparisons? **Learning Target: Compare** two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, <, and = symbols to record the results of comparisons. (order numbers least to greatest, and greatest to least)**(4)(2.NBT.4)** **Specific Skills:** Analytical thinking, comparing/contrasting **21st 2a-b Rose 1, 6**	BT 4 Analyzing
	Measurement and Data: Work with money	2.MD.8
	Vocabulary: 1 dollar bill, 5 dollar bill, half dollar, quarter, dimes, nickel, penny, cent, money, coins **Essential Question:** Why is it important to count change correctly? How do you count change? Do I have enough money to purchase an item? **Learning Target: Solve** word problems involving dollars, half dollars, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. **(3, 4, 5)(2.MD.8)** **Specific Skills:** Analytical skills, problem solving **21st 2a-c Rose 1, 6, 7**	BT 3 Applying BT 4 Analyzing BT 5 Evaluating
	Operations and Algebraic Thinking	2.OA.3
	Vocabulary: odd numbers, even numbers, equation, equal **Essential Question:** How could you show whether a group of objects is even or odd? What is a number model you could use to show equal groups? **Learning Target: Determine** whether a group of objects (up to 20) has an odd or even number of members e.g. by pairing objects or counting them by 2's; write an equation to express an even number as a sum of two equal addends.**(5)(2.OA.3)** **Specific Skills:** Critical thinking (making decisions, deductive reasoning, examining viewpoints) creativity (originality, finding problems, solving problems) **21st 1-2 Rose 1, 6**	BT 5 Evaluating
	Measurement and Data: Work with time	2.MD.7

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	Vocabulary: am, pm, analog clock, digital clock, hour, minute **Essential Question:** How do you tell time on an analog clock? How do you tell time on a digital clock? **Learning Target: Identify** and **write** time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.**(3,1)(2.MD.7)** **Specific Skills:** Critical thinking (making decisions) **21st Century 2 a-b Rose 1, 6**	BT 3 Applying BT 1 Remembering

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Check if Completed	2nd Quarter Standards/Learning Targets	Standard Identifier Code
	Geometry: reason with shapes and their attributes	2.G.1
	Vocabulary: angle, face, attribute, square, rectangle, triangle, pentagon, hexagon, rhombus, trapezoid, kite, quadrilaterals, cube, spheres, cones, cylinder, rectangular prism **Essential Question:** How are triangles, quadrilaterals, pentagons, hexagons, and cubes (etc.) similar and different? **Learning Target: Recognize** and **draw** shapes having specified attributes, such as a given number of angles or a given number of equal faces. **Identify** triangles, quadrilaterals, pentagons, hexagons, and cubes, (etc.). (lines of symmetry)**(2,3)(2.G.1)** **Specific Skills:** Analytical thinking (identifying attributes) **21st 2a** **Rose 1, 6, 7**	BT 2 Rememb. BT 3 Applying
	Number and operations in base ten: understand place value	2.NBT.1
	Essential Question: How would you name the value of each digit in a 3-digit number? How could you use manipulatives to show 3-digit numbers? **Learning Target: Breakdown** the three digits of a three-digit number representing amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens—called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). **(4)(2.NBT.1)** **Specific Skills:** Critical thinking, analytical thinking **21st 2a** **Rose 1, 6**	BT 4 Analyzing
	Operations and Algebraic Thinking: Work with equal groups of objects to gain foundations for multiplication. **Vocabulary: rows, columns, array** **Essential Question:** How can you use addition to find the total number of objects in an array? What equation could you use to show the sum? **Learning Target: Use** addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.**(3)(2.OA.4)**	2.OA.4

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	Specific Skills: Problem solving, analytical thinking **21st 2a Rose 1, 6**	BT 3 Applying
	Operations and Algebraic Thinking: represent and solve problems involving addition and subtraction	2.OA.1
	Essential Question: How do you solve 1 and 2 step word problems with an unknown number? **Learning Target: Use** addition and subtraction within 100 to solve one-and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and **comparing** with unknowns in all positions, e.g. by using drawings and equations with a symbol for the unknown number to **represent** the problem. (Story Problems) **(3,4)(2.OA.1)** **Specific Skills:** Creative problem solving, analytically identify relationships **21st 2a-c Rose 1, 6**	BT 4 Analyzing BT 3 Applying

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed	3rd Quarter Standards/Learning Targets	Standard Identifier Code
	Number and operations in base ten	2.NBT.5
	Vocabulary: place value, addition, subtraction, regrouping **Essential Question:** How many ways can you add or subtract to reach the sum or difference of 100? **Learning Target: Use** strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, fluently add and subtract within 100 (regrouping)**(3)(2.NBT.5)** **Specific Skills:** Analytical skills **21st 2a Rose 1, 6**	BT 3 Applying
	Numbers and operations in base ten	2.NBT.8
	Vocabulary: ten, hundred, add, subtract, patterns **Essential Question:** How would you mentally add or subtract a given number? Why is mental math important to be able to do? **Learning Target: Solve** a problem, mentally, where you add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900. Find a pattern on a number grid. **(3)(2.NBT.8) (DS-See 2.OA.2 for patterns)** **Specific Skills:** creative (solving problems), analytical (identifying patterns) **21st 2a Rose 1, 6**	BT 3 Applying
	Measurement and Data	2.MD.1
	Vocabulary: measure, length, ruler, yardstick, meter stick, meter, yard, standard unit **Essential Question:** How do you determine which tool to use when you are measuring the length of an object? **Learning Target: Measure** the length of an object by **selecting** and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.**(5,1)(2.MD.1)** **Specific Skills:** Analytical thinking, estimation **21st 2a-c Rose 1, 6, 7**	BT 5 Evaluating BT 1 Remembering

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	Measurement and Data	2.MD.2
	Essential Question: How do you decide the best unit of measurement to use when measuring? **Learning Target: Measure** the length of an object twice, using length units of different lengths for the two measurements; **describe** how the two measurements relate to the size of the unit chosen.**(5,1)(2.MD.2) 21st 2a Rose 1, 6, 7** **Specific Skills:** Analytical (comparing/contrasting, identifying attributes, discriminating same/different)	BT 5 Evaluating BT 1 Remembering
	Measurement and Data	2.MD.3
	Vocabulary: centimeter, feet, inches, area, perimeter, capacity, gallon, ½ gallon, liter, ½ liter, quart, pint, cup, pound, ounces, gram **Essential Question:** How is measurement/capacity used in the real world? **Learning Target: Estimate** lengths using units of inches, feet, centimeters, and meters. **Calculate** perimeter or area for given shapes. **Recognize** gallon, ½ gallon, liter, ½ liter, quart, pint, and cup. **(2)(2.MD.3) DS 1 cup= 8 ounces, Recognize liter, ½ liter, pound, ounce, gram** **Specific Skills:** Analytical thinking **21st 2a-b Rose 1, 6, 7**	BT 2 Understanding
	Measurement and Data	2.MD.4
	Vocabulary: measure, length, standard unit of length, **Essential Question:** Why is it important to measure correctly? **Learning Target: Measure** to **determine** how much longer one object is than another, expressing the length difference in terms of a standard length unit.**(5)(2.MD.4)** **Specific Skills:** Creative (standard solving problems), analytical (observing, discriminating, same/different, comparing/contrasting) **21st 2 a-c Rose 1, 6, 7**	BT 5 Evaluating
	Measurement and Data: relate addition and subtraction to length	2.MD.6
	Vocabulary: number line **Essential Question:** How can you create your own number line using numbers within 100? **Learning Target: Represent** whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0,1,2 … and represent whole-number sums and differences within 100 on a number line diagram.**(3)(2.MD.6)** **Specific Skills:** Creative thinking (originality), analytical thinking (sequencing) **21st 1a-b Rose 1, 6**	BT 3 Applying

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Check if Completed	4th Quarter Standards/Learning Targets	Standard Identifier Code
	Number and Operations in Base Ten: understand place value	2.NBT.3
	Vocabulary: base ten, numeral, expanded form, place value **Essential Question:** How would you read and write numbers from 0-1,000 using base ten number, number names, or expanded form? **Learning Target: Read** and **write** numbers to 1,000 using base-ten numerals, number names, and expanded form.**(1)(2.NBT.3)** **Specific Skills:** Analytical Thinking **21st 1 Rose 1, 6**	BT 1 Remembering
	Number and Operations in Base Ten: understand place value	2.NBT.6
	Essential Question: In what ways can you add these numbers using place value? **Learning Target: Relate** strategies to place value when adding up to four two-digit numbers using place value and properties of operations.**(3)(2.NBT.6)** **Specific Skills:** Analytical skills **21st 2 Rose 1, 6**	BT 3 Applying
	Number and operations in Base Ten: understand place value	2.NBT.7
	Vocabulary: compose, decompose **Essential Question:** Using manipulatives, how would you show and explain how to solve an addition or subtraction problem? **Learning Target: Relate** the strategy to a written method when adding and subtracting within 1,000 using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction;. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens, ones and ones: and sometimes it is necessary to **compose** or decompose tens or hundreds. **(2,6)(2.NBT.7) 21st 1-2 Rose 1, 6** **Specific Skills:** Analytical (identifying relationships), critial (judging accurately, determining relevance)	BT2 Remembering BT 6 Creating
		2.G.2

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	Geometry: reason with shapes and their attributes	
	Vocabulary: row, column **Essential Question:** How would you divide a rectangle up into equal, same-size squares using manipulatives? **Learning Target: Construct** and **organize** a rectangle into rows and columns of same-size squares and count to find the total of them.**(3)(2.G.2)** **Specific Skills:** Creative thinking, problem solving **21st 1-2 Rose 1, 6**	BT 3 Applying
	Geometry: reason with shapes and their attributes	2.G.3
	Vocabulary: equal shares, whole, halves, thirds, fourths **Essential Question:** How do you write and illustrate fractions such as halves, thirds, half of, a third of, etc? **Learning Target: Assemble** circles and rectangles into two, three, or four equal shares, **explain** the shares using the words halves, thirds, half of, a third of, etc…and **describe** the whole as two halves, three thirds, four fourths. **Recognize** that equal shares of identical wholes need not have the same shape.**(2,6)(2.G.3) DS Introduce finding parts of a whole group. Example: What is ⅔ of 15? Introduce comparing two fractions to decide if they are greater than, less than, or equal to one another.** **Specific Skills:** Analytical thinking (compare/contrast) **21st 2b Rose 1, 6**	BT 6 Creating BT 2 Understanding
	Measurement and Data: represent and interpret data	2.MD.9
	Vocabulary: unit, line plot **Essential Question:** How do you measure objects to the nearest whole unit? How do you create a line plot to display data? **Learning Target: Generate** measurement data by **measuring** lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. **Model** the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.**(5,3)(2.MD.9)** **Specific Skills:** Analytical (Identifying relationships), critical thinking (drawing conclusions), creative (elaboration) **21st 1-2 Rose 1, 6, 7**	BT 5 Evaluating BT 3 Applying
	Measurement and Data: represent and interpret data	2.MD.10

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	Vocabulary: picture graph, bar graph, bar diagram, compare, data **Essential Question:** Why do we use graphs? How do you create a bar graph? How do you create a picture graph? When would you use these types of graphs? **Learning Target: Draw** a picture graph and a bar graph (with single-unit scale) to **represent** a data set with up to four categories. **Solve** simple put-together, take-apart, and **compare** problems using information presented in a bar graph.**(3,5)(2.MD.10)** **Specific Skills:** Analytical, (identifying relationships), critical thinking (drawing conclusions), creative (elaboration) **21st 1, 2 Rose 1, 6**	BT 3 Applying BT 5 Evaluating

Resources:

Assessments/Specific Rubrics:

Teacher notes:

Check if Completed	Standards/Learning Targets Reinforced Throughout the Year	Standard Identifier Code

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21st Century Learner Skills

1. **Creativity and Innovation (1a-d)**
   a. demonstrates originality and inventiveness in work;
   b. develops, implements, and communicates new ideas to others;
   c. is open and responsive to new and diverse perspectives; and
   d. acts on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs.

2. **Critical Thinking and Problem Solving (2a-f)**
   a. exercises sound reasoning in understanding;
   b. makes complex choices and decisions;
   c. understands the interconnections among systems;
   d. identifies and asks significant questions that clarify various points of view and lead to better solutions;
   e. frames, analyzes, and synthesizes information in order to solve problems and answer questions; and
   f. reflects critically on learning experiences and processes (metacognition).

3. **Communicating and Collaborating (3a-d)**
   a. understands, manages, and creates effective oral, written, and multimedia communication in a variety of forms and contexts and for a variety of purposes;
   b. demonstrates ability to work and communicate effectively with diverse teams;
   c. exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; and
   d. assumes shared responsibility for collaborative work.

4. **Information, Communication, Technology (ICT), and Media Literacy (4a-f)**
   a. accesses information efficiently and effectively, evaluates information critically and competently, and uses information accurately and creatively for the issue or problem at hand;
   b. understands how media messages are constructed, for what purposes and using which tools, characteristics, and conventions;
   c. examines how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors;
   d. uses digital technology, communication tools, and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy;
   e. uses technology as a tool to research, organize, evaluate, and communicate information; and
   f. possesses of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

5. **Flexibility and Adaptability (5a-c)**

a. adapts to varied roles, responsibilities, schedules, and environments;
b. works effectively in a climate of ambiguity and changing priorities; and
c. seeks and embraces opportunities created by change.

6. Initiative and Self-Direction (6a-e)

a. monitors his or her own understanding and learning needs;
b. goes beyond basic mastery of skills and/or curriculum to explore and expand his or her own learning and opportunities to gain expertise;
c. utilizes time efficiently and manages workload;
d. initiates, prioritizes, and completes tasks with minimal oversight; and
e. demonstrates initiative to advance skill levels towards a professional level and a commitment to learning as a lifelong process.

7. Social and Cross-Cultural Skills (7a-c)

a. works appropriately and productively with others;
b. leverages the collective intelligence of groups when appropriate; and
c. bridges cultural differences and uses differing perspectives to increase innovation and the quality of work.

8. Productivity and Accountability (8a-c)

a. demonstrates diligence and a positive work ethic (e.g., being punctual and reliable);
b. self-monitors the process of developing quality work; and
c. sets and meets high standards and goals for delivering quality work on time.

9. Leadership and Responsibility (9a-d)

a. demonstrates integrity and ethical behavior;
b. acts responsibly with the interests of the larger community in mind (civic awareness and responsibility);
c. uses interpersonal and problem-solving skills to influence and guide others toward a goal; and
d. leverages strengths of others to accomplish a common goal.

10. Employability and Career Development (10a-c)

a. embraces the importance of employability skills;
b. effectively explores, plans, and manages career choices and goals; and
c. recognizes and acts upon requirement for career advancement by planning continuing education, training, and/or professional development.

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Check if Completed	1st Quarter Standards and Learning Targets	Standard Identifier Code
	Use place value understanding and properties of operations to perform multi-digit arithmetic.	3.NBT.1
	Round whole numbers to the nearest 10. (3,4) (3.NBT.1)	
	Round whole numbers to the nearest 100. (3,4) (3.NBT.1)	
	Order whole numbers within 1000. (1) (3.NBT.1)	
	ESSENTIAL QUESTION: Why is understanding place value important?	
	Understand rounding is a form of estimation (2) (3.NBT.1) (3.NBT.2)	
	ESSENTIAL QUESTION: When would you estimate in your everyday life?	
	Investigate number patterns to perform multi-digit arithmetic (number patterns; 10 more/10 less) (4) (3.NBT.1)	
	ESSENTIAL QUESTION: What kind of patterns can you find in the world around you?	
	VOCABULARY: estimate	
	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	3.NBT.2
	Decompose and compose numbers (expanded notation) (4) (3.NBT.2)	
	Fluently add within 1000 using a variety of strategies (3) (3.NBT.2)	
	Fluently subtract within 1000 using a variety of strategies (3) (3.NBT.2)	
	Explain the commutative and associative property in relation to addition and subtraction strategies (2) (3.NBT.2)	
	ESSENTIAL QUESTION: How do mathematical operations relate to each other?	
	VOCABULARY: commutative property, associative property, algorithm	
	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes.	3.MD.1
	Identify time to the nearest minute (3) (3.MD.1)	
	Write time to the nearest minute (2) (3.MD.1)	
	ESSENTIAL QUESTION: Why is it important to be able to tell time to the nearest minute?	
	VOCABULARY: quart hour, quarter past, quarter til	

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	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	3.OA.8
	Solve two-step word problems using addition and subtraction. (3) (3.OA.8)	
	Write and equation using a letter to represent an unknown. (3) (3.OA.8)	
	Use mental math to check the reasonableness of answers. (2) (3.OA.8)	
	ESSENTIAL QUESTION: How do I make a reasonable estimation?	
	VOCABULARY: equation, variable	
	Identify arithmetic patterns (including in the addition or multiplication tables) and explain them using properties of operations.	
	Identify and describe arithmetic patterns in number charts and addition tables. (3) (3.OA.9)	
	Explain patterns using properties of operations (2) (3.OA.9)	
	ESSENTIAL QUESTION: How do I know which mathematical operation (+, -, x, ÷, exponents, etc.) to use?	
	VOCABULARY: arithmetic pattern, properties of operations, odd, even	
	District Skills	
	Represent equivalent equations. (3) (3.DS.Q1.1)	
	Calculate change needed from $10.00. (4) (3.DS.Q1.2)	

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

21st Century- 10A - time management
2A, E- problem-solving

Resources:

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Assessments/Specific Rubrics:

Teacher notes:

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	Interpret products of whole numbers.	3.OA.1
	Arrange objects into equal groups and understand the product (3) (3.OA.1)	
	Write an equation & number story to represent the model (6) (3.OA.1)	
	Interpret products in multiplication (5X7 could be 5 groups of 7 objects, an array with 5 rows of 7, the area of a 5-by-7 rectangle) (5) (3.OA.1)	
	ESSENTIAL QUESTION: What are the properties of multiplication?	
	ESSENTIAL QUESTION: How do we use multiplication to solve problems?	
	VOCABULARY: multiplication, factor, product	
	Interpret whole-number quotients of whole numbers.	3.OA.2
	Divide a set of objects into equal shares (3) (3.OA.2)	
	Identify parts of division equations (dividend, divisor, quotient) (1) (3.OA.2)	
	Write an equation and number story about equal shares (6) (3.OA.2)	
	Interpret quotients in division (50/10=5 can be 5 groups with 10 in each group or 10 groups with 5 in each group) (5) (3.OA.2)	
	ESSENTIAL QUESTION: What are the properties of division?	
	ESSENTIAL QUESTION: How do we use division to solve problems?	
	VOCABULARY: division, dividend, divisor, quotient	
	Determine the unknown whole number in a mulitplication or division equation relating three whole numbers.	3.OA.4

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	Relate multiplication and division as fact families. (2) (3.OA.4)	
	Identify a missing number in a multiplication or division problem to make the number sentence true using a calculator. (The missing number is identified with a letter.) (5) (3.OA.4)	
	ESSENTIAL QUESTION: How are multiplication and division related?	
	Vocabulary:	
	Apply properties of operations as strategies to multiply and divide.	3.OA.5
	Model the cummunitative property. (6X4 and 4X6) (2) (3.OA.5)	
	Model the associative property. (3X5X2 can be figured out by doing 15X2 or 3X10) (2) (3.OA.5)	
	Model the distributive property. (8X7 can be figured by 8X(5+2) or (8X5)+(8X2)) (2) (3.OA.5)	
	ESSENTIAL QUESTION: How can knowing the different properties help use understand multiplication and division?	
	VOCABULARY: distributive property, parenthesis	
	Understand division as an unknown-factor problem.	3.OA.6
	Explain the relationship between multiplication and division. (2) (3.OA.6)	
	Turn a division problem into a multiplication problem with an unknown factor. (3) (3.OA.6)	
	ESSENTIAL QUESTION: How do mathematical operations relate to each other?	
	VOCABULARY:	
	Fluently multiply and divide within 100.	3.OA.7
	Multiply with ease by picking and using strategies that will get to the answer fairly quickly. (3) (3.OA.7)	
	Divide with ease by picking and using strategies that will get to the answer fairly quickly. (3) (3.OA.7)	
	Instantly recall from memory the product of any two one-digit numbers. (1) (3.OA.7)	
	ESSENTIAL QUESTION: How are multiplication and division related?	
	VOCABULARY:	
	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	3.OA.8
	Solve two-step word problems using multiplication and division. (3) (3.OA.8)	
	Write and equation using a letter to represent an unknown. (3) (3.OA.8)	

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	Use mental math to check the reasonableness of answers. (2) (3.OA.8)	
	ESSENTIAL QUESTION: When else would you need to check the reasonableness of your answers?	
	VOCABULARY:	
	Identify arithmetic patterns (including in the addition or multiplication tables) and explain them using properties of operations.	3.OA.9
	Identify and describe arithmetic patterns in number charts and addition tables. (3) (3.OA.9)	
	Explain patterns using properties of operations (2) (3.OA.9)	
	ESSENTIAL QUESTION: Where do you see other types of patterns?	
	VOCABULARY:	
	Multiply one-digit whole numbers by multiples of 10 in the range 10-90	3.NBT.3
	Multiply a one-digit number by a multiple of 10. (2) (3.NBT.3)	
	Develop a strategy to multiply based on place value or properties of operations as they relate to multiples of 10. (4) (3.NBT.3)	
	ESSENTIAL QUESTION: What pattern do you see when you multiply by 10?	
	VOCABULARY: multiples of ten	
	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes.	3.MD.1
	Measure time intervals in minutes. (elapsed time) (2) (3.MD.1)	
	Solve word problems involving addition and subtraction of time in hours and minutes. (elasped time) (4) (3.MD.1)	
	Create a number line diagram to solve an elasped time. (4) (3.MD.1)	
	ESSENTIAL QUESTION: Why should you learn how to tell time?	
	VOCABULARY: time intervals, elapsed time	
	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two- step problems using information presented in scaled bar graphs.	3.MD.3
	Use a tally chart to gather a data set. (2) (3.MD.3)	
	Draw a scaled bar graph to represent a data set with several categories. (6) (3.MD.3)	
	Draw a scaled picture graph to represent a data set with several categories. (6) (3.MD.3)	
	Solve one- and two- step problems using information presented in a scaled bar graph or picture graph. (4) (3.MD.3)	

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	ESSENTIAL QUESTION: In other areas of your education when do you see graphs?	
	VOCABULARY: scaled picture graph, scaled bar graph, data	
	Generate measurement data by measuring lengths using rulers marked in halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units - whole numbers, halves, or quarters.	3.MD.4
	Measure to the nearest inch. (3) (3.MD.4)	
	Measure to the nearest half inch. (3) (3.MD.4)	
	Measure to the nearest quarter inch. (3) (3.MD.4)	
	Convert measurements with the customary unit of measure and the metric unit of measure. (4,5) (3.MD.4)	
	Measure to the nearest millimeter. (3) (3.MD.4)	
	Measure to the nearest centimeter. (3) (3.MD.4)	
	Measure to the nearest decimeter. (3) (3.MD.4)	
	Measure to the nearest meter. (3) (3.MD.4)	
	Select appropriate unit of measure for various objects from inch to mile (mm to km) (2) (3.MD.4)	
	Make a line plot, where the horizontal scale is marked off in appropriate units using data that has been collected. (6) (3.MD.4)	
	ESSENTIAL QUESTION: When would you need to use more precise measurements?	
	VOCABULARY: line plot, horizontal scale, quarter, fourth	
	Understand that shapes in different catergories may share attributes and that the shared attributes can define a larger category. Recognize rhombuses, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcatergories.	3.G.1
	Identify common attributes between shapes (2) (3.G.1)	
	Use common attributes amoung shape to define a larger group (3) (3.G.1)	
	Identify rhombuses, squares and rectangles as quadilaterals/quadrangles (2) (3.G.1)	
	Draw quadilateral that is not a rhombus, rectangle or square (i.e. parallellogram, trapezoid, kite) (6) (3.G.1)	
	ESSENTIAL QUESTION: Why is it important to know the different attributes of shapes?	
	VOCABULARY: quadrilateral, rhombus, parallelogram, kite	
	District Standards	

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	Identify 2D shapes based on attributes i.e. naming polygons based on prefixes (quad-, tri-, hex-, pent-) (2) (3.DS.Q2.1)	
	ESSENTIAL QUESTION: Where else have you seen these prefixes?	
	Explain minimum, maximum, range, mode, and median from a set of data. (2) (3.DS.Q2.2)	
	ESSENTIAL QUESTION: How would you create a data set?	
	Calculate mean from a set of data. (4) (3.DS.Q2.3)	
	ESSENTIAL QUESTION: How does mean affect your grade?	

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

Check if Completed	3rd Quarter Standards/Learning Targets	Standard Identifier Code
	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. *denominators are limited to 2, 3, 4, 6, 8	3.NF.1
	Explain any unit fraction (1/b) as one part of a whole. (2) (3.NF.1)	

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	Explain any fraction (a/b) as the numerator being the number of parts and the denominator as the total number of equal parts in the whole. (2) (3.NF.1)	
	ESSENTIAL QUESTION: How are fractions used in your daily life?	
	VOCABULARY: numerator, denominatior, fraction, unit fraction	
	Understand a fraction as a number on the number line; represent fractions on a number line diagram.	3.NF.2
	Explain and show how 1/b can be represented on a number line as a number that is located a distance of 1/b to the right of 0 or as the size of each of the parts when a whole is partitioned into b equal parts. (2) (3.NF.2)	
	Explain and show how a/b can be represented on a number line as a nubmer that is located a distance of a/b to the right of 0 or as the size of a parts when a whole is partitioned into b equal parts. (2) (3.NF.2)	
	Represent a unit fraction on a number line. (3) (3.NF.2)	
	Represent any fraction on a number line. (3) (3.NF.2)	
	ESSENTIAL QUESTION: What are different types of fractions?	
	VOCABULARY:	
	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	3.G.2
	Partition (divide) a shape into equal parts with equal areas. (3) (3.G.2)	
	Explain any unit fraction (1/b) as one part of a whole divided into b equal parts. (2) (3.G.2)	
	ESSENTIAL QUESTION: Why do we use fractions?	
	VOCABULARY: area, partition	
	Recognize area as an attribute of plane figures and understand concepts of area measurement.	3.MD.5
	Define a square with side length 1 unit as a "unit square". (1) (3.MD.5)	
	Use "unit square" to cover a plane figure without gaps or overlaps to find the area of the plane figure. (3) (3.MD.5)	
	ESSENTIAL QUESTION: When would you use area in real life?	
	VOCABULARY:	
	Measure areas by counting unit squares (square cm, square m, square in, square ft).	3.MD.6
	Count the unit squares inside a shape or flat surface to determine area. (3) (3.MD.6)	
	Label the area using the appropriate units. (1) (3.MD.6)	
	ESSENTIAL QUESTION: When would you use area in real life?	
	VOCABULARY: square unit (cm2, m2, in2, etc.)	

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	Relate area to the operations of multiplication and addition.	3.MD.7
	Calculate area of a rectangle by multiplying the side lengths. (2) (3.MD.7)	
	Explain the relationship between tiling and multiplying the side lengths to find the area. (5) (3.MD.7)	
	Explain the distributive property using area models. (5) (3.MD.7)	
	Decompose an irregular figure into non-overlapping rectangles. Find the areas of each smaller rectangle to calculate the area of the irregular figure. (4) (3.MD.7)	
	Solve real world problems concerning area. (3) (3.MD.7)	
	ESSENTIAL QUESTION: Why would you want to use a math equation to find area?	
	VOCABULARY:	
	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same areas and different perimeters.	3.MD.8
	Define perimeter. (1) (3.MD.8)	
	Find perimeter of polygon when all lengths of sides are given. (2) (3.MD.8)	
	Find unknow side lengths of polygons when given the perimeter. (3) (3.MD.8)	
	Demonstrate how rectangles with the same area can have different perimeters. (4) (3.MD.8)	
	Demonstrate how rectangles with the same perimeter can have different areas. (4) (3.MD.8)	
	ESSENTIAL QUESTION: When would you calculate area and perimeter in real life?	
	VOCABULARY: perimeter, polygon	
	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays and measurement quantities.	3.OA.3
	Determine when to multiply and divide in word problems. (4) (3.OA.3)	
	Represent multiplication and division word problems using drawings and equations with unknowns in all positions. (3) (3.OA.3)	
	Solve word problem involving equal groups, arrays and measurement quantities (3) (3.OA.3)	
	ESSENTIAL QUESTION: How do manipulatives help you solve word problems?	
	VOCABULARY: arrays	

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	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	3.OA.8
	Solve two-step word problems using multiplication, division, addition, and subtraction. (3) (3.OA.8)	
	Write and equation using a letter to represent an unknown. (3) (3.OA.8)	
	Apply the Order of Operations when solving two-step word problems. (3) (3.OA.8)	
	Use mental math to check the reasonableness of answers. (2) (3.OA.8)	
	ESSENTIAL QUESTION: Why would you want to use symbols for missing data when you are writing equations?	
	VOCABULARY:	
	District Skills	
	Identify decimals as they relate to money. (1) (3.DS.Q3.1)	
	ESSENTIAL QUESTION: What does a decimal mean in relationship to money?	
	Create 3D shapes: cylinder, cone, sphere, prism, cube, pyramid (6) (3.DS.Q3.3)	
	ESSENTIAL QUESTION: Where would you find 3D shapes in the real world?	
	Identify the number of faces, bases, corners, edges of 3D shapes (2) (3.DS.Q3.2)	
	ESSENTIAL QUESTION: Why is it important to be able to identify different parts of 3D shapes?	

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

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4th Grade Math Curriculum Document
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Check if Completed	1st Quarter Standards and Learning Targets	Standard Identifier Code
	Operations and Algebraic Thinking (4.OA)	4.OA
	Use the four operations with whole numbers to solve problems. (3) (4.0A)	
#1	Interpret a multiplication equation. 35+5x7 and that 35 is 5 times as many as 7. (5) (4.0A.1)	4.OA.1
	----Explain how a multiple equation can be interpreted as a comparison such as Jason is 4 times as old as Ben (5)	
	----Write an equation for a situation involving multiplicative comparison (6)	
	ESSENTIAL QUESTION: Write a multiplication equation to match each comparison statement. 21 days is 3 times longer than 7 days. (6)	
#2	Multiply or divide to solve problems involving multiplicative comparison by using drawings and equations with a symbol for the unknown number to represent the problem (3) (4.OA.2)	4.OA.2
	-----Explain difference between multiplicative (as many times as), and additive (more) comparisons (2)	
	-----Determine when to multiply or divide in word problems. (5)	
	ESSENTIAL QUESTION: Joey weighs 45 pounds. His older brother Scott weights 3 times as much as Joey and 5 times as much as their little brother, Nick. List the weight of each brother.	
#3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. (3) (4.0A.3)	4.OA.3
	-----Choose the correct operation multi-step problem. (3)	
	-----Interpret the meaning of the remainder in a word problem. (5)	
	ESSENTIAL QUESTION: East Elementary has 5 fourth grade classes with 21 students in each class. West Elementary has 3 fourth grade classes with 31 students. Describe and answer the equation of how many more fourth grade students are at East Elementary than West Elementary?	
#4	Gain familiarity with factors and multiples. ( ) (4.OA.4)	

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	Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range of 1-100 is a prime or composite number. (1) (4.OA.4)	4.0A.4
	------Define factors and multiples. List the factor pairs of any number between 1 and 100.	
	------Define prime and composite numbers and determine if a number is prime or composite.	
	ESSENTIAL QUESTION: Divide the group of numbers into prime and composite columns: 3,, 4, 5, 12, 17, 22, 21, 42.	
	Number and Operations in Base Ten (4.NBT)	
	Generalize place value understanding for multi-digit whole numbers. (4.NBT)	
#1	Recognize that in a multi-digit whole number, a digit in one place represents 10 times what it represents in the place to its right. *For example, recognize that 700/70=10 by applying concepts of place value and division.* (2) (4.NBT.1)	
	-----Display the Place Value Chart to Billions wit the power of 10s under it.	
	-----Differentiate the place is 10x more or 10x less.	
	ESSENTIAL QUESTION: Tom wrote the number 45,378. Bill wrote the number 36,721. How many times greater is the 7 in Bill's number than the 7 in Tom's number?	
#2	Read and write multi-digit whole numbers using base-ten numerals, number names and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, < symbols to record the results of comparisons. (1) (4.NBT.2)	
	-----Read and write numbers in word form, standard form, and expanded form. (1)	
	-----Compare numbers using place value and symbols. (5)	
	ESSENTIAL QUESTION: 1,709 This number in expanded form is? 10,000 more than tis number is? The value of the underlined digit is? The place value of the the underlined digit is?	
#3	Use (Utilize) place value understanding to round multi-digit whole numbers to any place. (3) (4.NBT.3)	
	-----Breakdown extended facts - addition and multiplication.(4)	

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	21st Century - <2> - Critical Thinking and Problem Solving a. Exercise sound reasoning in understanding b. Understands the interconnections among systems e. Frames, analyzes, and synthesizes information in order to solve problems and answer questions.	
	----Explain how to use digits to round a number. (5)	
	----Write a multi-digit number rounded to any place. (6)	
	ESSENTIAL QUESTION: When rounded to the nearest thousand, an elephant's weight in 5,000 pounds. What is the least amount that the elephant could weigh? Use pictures, numbers, and words to represent your thinking.	
#4	Fluently form addition and subtraction multi-digit whole numbers using the standard algorithm (4.NBT.4)	
	-----Generate the correct answers through carrying and borrowing. (6)	
	21st Century - <2> - Critical Thinking and Problem Solving e. Frames, analyzes, and synthesizes information in order to solve problems and answer	
	-----Add multi-digit numbers use the standard algorithm (starting in the ones place, then moving to the tens place) -----Subtract multi-digit numbers use the standard algorithm (starting in the ones place, then moving to the tens place) (3)	
	ESSENTIAL QUESTION: Solve this subtraction problem 5,305 - 2,622?	
#5	Multiply a whole number of up to four digits by a one-digit whole number x two-digit numbers. Use strategies based on place value and the properties of operations. Illustrate and explain the calculations by using equations, rectangular arrays and/or area models. (4.NBT.5)	
	---- Multiply two digit numbers by a one-digit number. (2)	
	----Demonstrate two digit numbers by a one digit number - using rectangular arrays, place value and the area model. (3)	

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	ESSENTIAL QUESTION: Solve the following problem two ways. - There are 1,647 students at Forest Ridge Elementary School. Sixty-eight students shopped at the Eagle's Nest school store each day. How many students shopped after 5 days?	
#6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and /or area models.(4.NBT.6)	
	----Demonstrate division of a multi-digit number using place value, rectangular arrays, and are models. DIVIDE 2 DIGIT BY 1 DIGIT NUMBERS (2)	
	ESSENTIAL QUESTION: Write a story problem for $48 \div 6$. *Show how you would solve the problem.*	
	Number and Operations - Fractions	
	Extend fraction equivalence and ordering. (2)	
#1	Explain why a fraction a/b is equivalent to a fraction (n x a) x (n x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.(5) (4.NF.1)	
	-----Explain why fractions are equivalent. (5)	
	-----Create equivalent fractions. (6)	
	-----Use models to explain why different fractions are equivalent. (3)	
	ESSENTIAL QUESTION: Divide a rectangle into 4 equal parts. Shade some of the parts. What fraction did you create? Draw additional lines to create an equivalent fraction. What equivalent fraction did you create?	
	Compare two fractions with different and different denominators, e.g. by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2 . Recognize that comparisons are valid only when two fractions refer to the same whole. Record the results of comparisons with symbols <, =, >, and justify the conclusions, by using a visual fraction model. (2)	
	-----Explain that comparing 2 fractions must refer to the same whole. (2)	
	-----Compare two fractions by reasoning about their size.	

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	-----Compare two fractions by creating equivalent fractions with a common denominator. (5)	
	-----Order fractions using <,=,>. They can justify the comparison. (3)	
	ESSENTIAL QUESTION: Write two different fractions that could replace the question mark. ¼ <1 ½ < ? <2 4/5	

Vocabulary:

sum	**symmetry**							

Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

Check if Completed	**2nd Quarter Standards/Learning Targets**	Standard Identifier Code

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	Number and Operations in Base Ten	
#5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two digit numbers, using strategies based on place value and properties of operations.	
	-----Multiply a multidigit number by a one-digit number. Demonstrate multiplication of two digit numbers using rectangular arrays, place value and the area model. (3)	
	ESSENTIAL QUESTION: Write a multiplication problem with one 3 digit factor and one 1 digit factor with a resulting product that falls between 4,000 and 5,000. Show your work.	
#6	Find whole number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and or are models. (2)	
	Demonstrate division of a multi-digit number using place value, rectangular arays, and area models. DIVIDE 3 - DIGIT BY 1 DIGIT NUMBERS AND 4 DIGITS BY 1 DIGIT NUMBERS. (3)	
	Numbers and Operations - Fractions	
	Extend understanding of fraction equivalence and ordering.	
#1	Explain why a fraction a/b is equivalent to a fraction (nxa) x (nxb) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. REVIEW	
	-----Explain why fractions are equivalent. REVIEW (3)	
	-----Create equivalent fractions. REVIEW(3)	
	-----Model why different fractions are equivalent. (3)	
#2	Compare two fractions with different numerators and different denominators, e.g. by creating common denominators or by comparing to a benchmark fraction such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, <,=, and justify the conclusions. (4)	
	-----Explain that comparing 2 fractions must refer to the same whole. REVIEW (5)	
	-----Compare 2 fractions by reasong about their size. REVIEW (4)	

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	-----Create equivalent fractions with a different denominator. (6)	
	-----Form fractions using >,>,=. They can justify the comparison with different denominator. (6)	
	ESSENTIAL QUESTION: Write two different fractions that could replace the question mark. ¼ < 1 ½ < ? 2 ⅘.	
#3	A.Show addition and subtraction of fractions as joinging and separating parts referring to the same whole. (2)	
	B. Assemble a fraction into a sum of fractions with the same denominator in more than one way. Recording each decomposition by an equation. (6)	
	C. Rephrase mixed numbers with like denominators, replacing each mixed number with an equivalent fraction, and or by using properties of operations and the relationship between addition and subtraction. (2).	
	D. Solve word problems involving addition and subtraction of fractions referring to the same whole, and having like denominators, by using visual fractions models. (2)	
	Use models to add and subtract fractions. (3)	
	Use models to compose a fraction. For example 7/12 = 4/12 + 1/12 + 1/12 +1/12. (3)	
	Add or subtract mixed numbers. (5)	
	Solve word problems with fractions. (6)	
	ESSENTIAL QUESTION: John, Dana, and Douglas painted their bedroom. John painted 2/8 of a wall in his bedroom. Dana and Douglas painted the rest of the wall, and they painted the same amount. How much of the wall did Douglas and Dana paint together?	
#5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. Example 3/10 as 30/100, and add 3/10 + 4/100= 34/100. (2)	
	Write a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100. (6)	
	Formulate two fractions with denominators 10 and 100. (6)	
	ESSENTIAL QUESTION; A dime is 1/10 of a dollar and a penny is 1/100 of a dollar. What fraction of a dollar is 6 dimes and 3 pennies?	

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#6	Use decimal notation for fractions with denominators 10 or 100. Rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line. (3)	
	Explain the relationship between a fraction and a decimal. (2)	
	Show a fraction with a denominator of 10 or 100 as a decimal. (2)	
	Identify the tenths and hundredths place. (3)	
	Show a decimal on a number line. (2)	
	ESSENTIAL QUESTION; 1 tenth + 4 hundredths =	
#7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols <, =,>. And justify the conclusions. (4)	
	Justify the comparison of two decimals by reasoning about their size and using a model. (5)	
	Compare decimals to the hundredths place. (2)	
	ESSENTIAL QUESTION: Place the numbers on the line that are greater than 42.0 and less than 43.0.	
	Measurement and Data	
	Solve problems involving measurement and conversion of measurement from a larger unit to a smaller unit. (3)	
#4	Make a line plot to display a data set of measurement in fractions of a unit (½, ¼, ⅛). Solve problems involving addition and subtraction of a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection. (6)	
	Create a line plot with fractions. (6)	
	Use the information on the line plot to answer addition and subtraction problems. (3)	
	ESSENTIAL QUESTION; Zach's teacher asked the class to plot the listed lengths of the five crayons in their box.	

Vocabulary:

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Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

Check if Completed	3rd Quarter Standards/Learning Targets	Standard Identifier Code
	Number and Operations in Base Ten	
	Use place value understanding and properties of operations to perform multi-digit arithmetic. (4.NBT.5)	

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#5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays and or area models.	
	-----Multiply a multidigit number by a one digit number. -----Demonstrate multiplication of two digit numbers using rectangular arrays, place value and the area model. MULTIPLY 2-DIGIT NUMBERS BY 2 DIGIT NUMBERS (3)	
	ESSENTIAL QUESTION: Jackson used an area model to show how he multiplied 37 x 16. Draw lines and write numbers to show how he might have multiplied the 2 numbers. Explain how your model shoes 37 x 16.	
#6	Find whole numbers quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equation, rectangular arrays, and/or area models.	
	------Demonstrate division of a multi-digit number using place value, rectangular arrays, and area models. DIVIDE 3 DIGIT BY 1 DIGIT NUMBERS; 4 DIGITS BY 1 DIGIT NUMBERS (3)	
	ESSENTIAL QUESTION: Write a division problem using a 4-digit dividend and a 1-digit divisor that results in an even quotient. Show your work.	
	Number and Operations - Fractions	
	Extend understanding of fraction equivalence and ordering (4.NF)	
#I	Explain why a fraction a/b is equivalent to a fraction (a x a)/(a x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. REVIEW (6) (4.NF.1)	
	-----Elaborate why fractions are equivalent. REVIEW (6)	
	-----Create equivalent fractions. REVIEW (6)	
	-----Model to explain why different fractions are equivalent. (3)	

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	ESSENTIAL QUESTION: Divide a rectangle into 4 equal parts. Shade some of the parts. What fraction did you create? Draw additional lines to create an equivalent fraction. What equivalent fraction did you create?	
#2	Compare two fractions with different numerators and different denominators, e.g. by creating common denominators or numerators, or by comparing to a benchmark fraction such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the result of comparisons with symbols <. >, or = and justify the conclusions, by using a visual fraction model (5) (N.4F.2)	
	-----Explain that comparing 2 fractions must refer to the same whole. REVIEW (5)	
	-----Compare 2 fractions by reasoning about their size. REVIEW (5)	
	-----Compare 2 fractions by creating equivalent fractions with *DIFFERENT* denominator. (5)	
	-----Organize fractions using <, >, and =. They can justify the comparison with *DIFFERENT* denominator. (6)	
	ESSENTIAL QUESTION: Write two different fractions that could replace the question mark. ¼ < 1 < ? < 2	
	STUDENTS CAN WRITE A FRACTION (6)	
#3a	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. REVIEW (N.4F.3a)	
#3b	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. EX - ⅜ = ⅛ + ⅛ + ⅛ REVIEW (6) 4.NF.3b)	
#3c	Add and subtract mixed numbers with like denominators, replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between. (6) (4.NF.3c)	
#3d	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. e.g. by using visual fraction models and equations to represent the problem. (3) (4.NF.3d)	
	-----Use models to add and subtract fractions. REVIEW (3)	
	-----Use models to compose a fraction. EXAMPLE: 4/12 = 4 X1/12 + 1/12 + 1/12 +1/12 (3)	
	-----Invent addition or subtraction mixed number facts. REVIEW (6)	

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	-----Solve word problems with fractions. (3)	
	-----Add or subtract mixed numbers. REVIEW (6)	
	-----Add two fractions with denominators 10 and 100. REVIEW (3)	
	ESSENTIAL QUESTION: John, Dana, and Douglas painted their bedroom. John painted ⅜ of a wall in his bedroom. Dana and Douglas painted the rest of the wall, and they painted the same amount. How much of the wall did Douglas and Dana paint together?	
	ESSENTIAL QUESTION: A dime is 1/0 of a dollar and a penny is 1/100 of a dollar. What of a dollar is 6 dimes and 3 pennies.	
#4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. (3) (4.NF.4)	
#4a	Understanding a fraction a/b as a multiple of 1/b. Example 5/4 = 5 x ¼ . (2) (4.NF.4a)	
#4b	Understand a multiple of a/b as a multiple 1/b and use this understanding to multiply a fraction by a whole number. e.g. 3 x (⅖) as 6 x (⅕), recognizing this product is 6/5. (2) (4.NF.4b)	
#4c	Solve word problems involving multiplication of a fraction by a whole number. e.g. If each person at a party will eat ⅜ of a pound of roast beef, and there will be 5 people at the party how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? (3) (4.NF.4c)	
	-----Explain why a/b - a x 1/b using models. (5)	
	-----Design a fraction into multiple unit fractions. (6)	
	-----Solve word problems that involve a whole number and a fraction. (6)	
	ESSENTIAL QUESTION: A cookie recipe calls for ¾ cups of butter. I made the recipe 3 times. Give three examples of how to work this problem ¾ + ¾ + ¾; 3 x ¾ and ¼ x 9.	
	Understand decimal notation for fractions, and compare decimal fractions.	
#5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example - 3/10; as 30/100, and add 3/10 + 4/100 = 34/100.* REVIEW (2) (4.NF.5)	
	Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.	

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	Measurement and Data	
	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. (3)	
#1	Know relative sizes of measurement units within one system of units including km; m; cm; kg; g; lb; oz; l; ml; hr; min; sec. Know that 1ft. is 12 times as long as 1 inch. Express the length of a 4 ft. snake is the same as a 48 inch snake. (1) (4.MD.1)	
	-----Describe the relative size of units (100 meters are in a km, 100 cm are in a meter; 16 oz. are in a lb.) (2)	
	-----Represents a larger unit with smaller units (36 meter = 360 cm) or 4 feet = 48 inches) (3)	
	ESSENTIAL QUESTION: A corn snake is 6 ft. long, how many inches is that?	
#2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals and problems that require expressing measurements given a larger unit in terms of a smaller unit. (3) (4.MD/2)	
	-----Solve measurement word problems that include whole numbers, fractions, and decimals. (3)	
	-----Choose larger units into equivalent smaller units to solve a problem. (6)	
	ESSENTIAL QUESTION: Jack and Abby are in swim class together. They challenged each other to see who could hold their breath underwater the longest. Jack stayed underwater for 10 ¼ seconds, while Abby was able to stay underwater 14 seconds. How much longer could Abby stay underwater than Jack.	
#3	Apply the area and perimeter formulas for rectangle in real world and mathematical problems. (3) (4.MD.3)	
	-----Explain area and perimeter formula. (2)	
	-----Use formulas to solve problems. (3)	
	ESSENTIAL QUESTION: The rectangle's area is 32 square centimeters and its length is 4 centimeters more than its width. What is the width and length of the rectangle?	
	Geometric measurement: understand concepts of angle and measure angles.	
#5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, understand concepts of angle measurements. (2)	

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#5a	An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering that fraction of the circular are between the points where the rays intersect the circle. An angle that turns through 1/360 of a circle is called a one degree angle.(2) (4.MD.5a)	
#5b	An angle that turns through n one-degree angle is said to have an angle measure of n degrees. (2) (4.MD.5b)	
	-----Identify the parts of an angle and define what degree the angle is.(2)	
	-----Explain that an angle is measured in degrees. (2)	
	ESSENTIAL QUESTION: Draw and Label a 90 degree angle.	
#6	Measure angles in whole number degrees using a protractor. Sketch angles of specified measure. (5) (4.MD.6)	
	-----Measure an angle using a protractor. (5)	
	-----Sketch angles when given a measurement. (6)	
	-----Build a given angle -with and without a protractor. (6)	
	ESSENTIAL QUESTION: Use a protractor to measure the angles.	
#7	When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find the unknown angles on a diagram. (4.MD.7)	
	-----Explain that the angle measurement is the sum of its decomposed angles. (5)	
	-----Write an equation with an unknown angle measurement. (6)	
	-----Solve word problems involving unknown angles. (6)	
	ESSENTIAL QUESTION: Justin wanted to cut a piece of cake that would be 17 degrees. The cake measured 40 degrees. What was the measure of the left over cake?	
	Geometry	
	Draw and identify lines and angles, classify shapes by properties of their lines and angles.	
#1	Draw points, lines, line segments, rays, angles (right, acute, obtuse) and perpendicular and parallel lines. Identify these in two dimensional figures. (6) (4.G.1)	

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	-----Identify, draw and design an example of a point, line, line segment, ray, angle parallel lines and perpendicular lines. (2,3, 6)	
	ESSENTIAL QUESTION: Circle the angles below that are right angles. Circle the acute angles. Draw a square around the obtuse angles.	
#2	Classify two dimensional figures based on the presence or absence of parallel or perpendicular line. (4) (4.G.2)	
	-----Classify two dimensional shapes into categories. (4)	
	-----Classify shapes by angles. (4)	
	ESSENTIAL QUESTION: Please sort the triangles by its type of angle.	

To shade: Highlight row; right click on row to be shaded (or unshaded); click on Borders and Shading, style 10% or clear; then *OK*.

Vocabulary:

Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

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Resources:

Assessments/Specific Rubrics:

Teacher notes:

Check if Completed	4th Quarter Standards/Learning Targets	Standard Identifier Code
	Geometry	
	Draw and identify lines and angles and classify shapes by properties of their lines and angles. (3)	
	Identify and draw the line of symmetry. (3)	
	Define symmetry. (1)	
	ESSENTIAL QUESTION: Not every shape has a line of symmetry. Which of the four shapes below have line of symmetry.	
	Operations and Algebraic Thinking	
	Use the four operations with whole numbers to solve problems. (3)	
#5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. Generate terms in the resulting sesquence and observe that the terms appear to alternate between odd and even. (6)	
	-----Generate a pattern that follows a given rule. (6)	
	-----Identify additional patterns within a pattern that go beyond the rule. (3)	

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	ESSENTIAL QUESTION; Which numbers are multiples of 16 and 24?	

Vocabulary:

Essential and/or Compelling Questions:

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

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Check if Completed	1st Quarter Standards and Learning Targets	Standard Identifier Code
	Number and Operations in Base Ten	5.NBT
	Understand the Place Value System (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. • Explain and illustrate the difference between 8 and .8 and .08 (3,4,5) (5.NBT.1)	5.NBT.1
	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10. Use whole-number exponents to denote powers of 10. (3,4,5) (5.NBT.2)	5.NBT.2
	Read, write, and compare decimals to thousandths. (through millions) a. Read and write decimals to thousandths using base--ten numerals, number names, and expanded form, e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000). (1,2,3,4) (5.NBT.3a) b. Compare two decimals to thousandths based on meanings of the digits in each place, using>, =, and < symbols to record the results of comparisons. (2) (5.NBT. 3b) • Explain our base 10 system in their own words using math vocabulary such as digit, place value, powers of 10, etc. (5) (5.NBT) • Analyze a number line and determine which numbers can be found in between two numbers. (4) (5.NBT.3.b) • Illustrate a decimal number using base 10 blocks. (2,3) (5.NBT.3a) • Use money as a concrete model in understanding place value. (3) (District Standard)	5.NBT.3.a.b
	Use place value understanding to round decimals to any place. • Explain the process of rounding decimals to any place value up to 0.001 (5) (5.NBT.4) • Demonstrate comparing and rounding of decimal numbers. (3) (5.NBT.4) • Apply knowledge of rounding to create numbers that can round to a designated number ex. 7.5 (4,5) (5.NBT.4) • Represent fractions as decimals and decimals as fractions that are 0.1, 0.01, .0.001 (3) (5.NBT.4)	5.NBT.4
	Number and Operations in Base Ten	

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	Perform operations with multi-digit whole numbers and with decimals to hundredths.	5.NBT
	Add and subtract decimals to hundredths • Estimate sums and differences (3) (5.NBT.7) • Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction (fact families) (3) (5.NBT.7) • Relate the strategy to a written method and explain the reasoning used. (4,5) (5.NBT.7)	5.NBT.7
	Fluently multiply multi-digit whole numbers using the standard algorithm. • Multiply whole numbers by power of 10. (3) (5.NBT.2) • Multiply with 3 and 4 digits by 1 digit and gradually increasing to 4 digit by 2 digit multiplication. (3) (5.NBT.5)	5.NBT.2 and 5
	Multiply decimals to hundredths • Estimate products (3) (5.NBT.2) • Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction (fact families) (3) (5.NBT.7) • Relate the strategy to a written method and explain the reasoning used. (4,5) (5.NBT.7)	5.NBT.7

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Vocabulary whole numbers, place value, exponent, base, expanded form, power, exponent, equivalent, place value names from millions to thousandth, power of 10, base 10, rounding, estimation, compatible numbers, sum, difference, standard algorithm, product, factor

Essential and/or Compelling Questions:
Can you create a number between 0.4 and 0.5?
How is the digit 8 represented in each scenario? What is happening to 8 as it changes places? Can you continue the pattern? 0.08, 0.8, 8, 80, 800
How are the numbers 24 hundredths and 24 the same and different?

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Why is 35 x 10 = 350? Draw pictures and/or use number sentences to illustrate your explanation. Explain why 6 ÷ 10 = .6 Draw pictures and or use number sentences to illustrate your explanation.
How is adding and subtracting with decimals similar to adding and subtracting with whole numbers? How are they different? Why does "lining up the decimal points" when you are adding and subtracting with decimals help when finding the answers? Why is estimation important for knowing if we have a reasonable answer?

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:
Start an interactive math journal; Create a number line that goes from 0 to 1. Use box when rounding. Beat the teacher card game for comparing decimals.
http://mrnussbaum.com/drag-and-drop-math/
Elmer's Multiplication Error, Place It Right, Gobs of Goo, Lemonade Stand Project (uses +, -, x and / of decimals), scoot and scavenger hunt games for extra practice (can be used as review in other quarters.) Multiplication Squares game, Multiplication Race game; http://www.prongo.com/math/multiplication.html

Resources:
Illustrativemathematics.org

Assessments/Specific Rubrics:
Beginning of year, all students will take a grade level assessment (V-Math). All units will be assessed with curriculum based unit tests and homework.

Teacher notes:
We need a very solid base on the place value system and powers of 10. We will be speaking, writing, comparing, drawing pictures of, ordering, and rounding numbers to the thousandths place. Our number system is the Hindu-Arabic system. This means that the digits used are 0 - 9. The position of the digit in a number defines its value.
This is a base-ten system. In a base-ten system, the place value is 10 times as great as the place value immediately to its right and 1/10

as great as the place value to the immediately left. Rounding is not the same as estimating. Estimating is grounded in reasoning and consideration of number, benchmarks, and context. Rounding is grounded in procedure and rule. Rounding can be useful. When rounding decimals, a number line can be a helpful tool.

Multiplication can be represented by arrays, area models, or by equal jumps on a number line. In order to teach the multiplication algorithm with understanding, models must be used to explain the procedure for using the standard algorithm. Use the area model showing partial products to explain the standard algorithm. When computing with decimals, it is important to ask the students to estimate the answers. Prior to computing ask the students to make estimates by rounding to nice whole numbers. Estimating helps students focus on the meaning of the numbers and operations and not on counting decimal places. Students will need a solid understanding of decimal place value prior to computing with decimals.

When multiplying decimals, connect their understanding to fractions. So when multiplying .3 x .4, you are multiplying 3/10 x 4/10 which equals 12/100. This helps students make sense that .3 x .4 = .12. Students need to understand that when multiplying two numbers less than one, the product may be smaller than both the factors. We can think of this type of multiplication as finding part of, this helps them make sense that the product will be smaller. Often times students try to apply a misunderstanding that when you multiply, the answer "gets bigger". This is true in whole numbers but does not apply to fractions and decimals. We apply this same thinking to division of decimals. When dividing two decimals less than one (such as $0.5 \div 0.1$) the quotient will be greater than either decimal. So the quotient will be 5. Students may be confused by this if they are under the misconception that when you divide the quotient will be smaller.

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Check if Completed	2nd Quarter Standards/Learning Targets	Standard Identifier Code
	Numbers and Operations in Base Ten (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Perform operations with multi-digit whole numbers and with decimals to hundredths.	
	Find Whole-number quotients of whole numbers with up to four-digit dividends and two digit divisors. • Estimate quotients (3) (5.NBT.6) • Use concrete models or drawings; strategies based on place value; properties of operations; and relationship between multiplication and division (Inverse, fact families) (3) (5.NBT.6) • Illustrate and explain calculations by using equations, rectangular arrays, and/or area models. (3) (5.NBT.6)	5.NBT. 6
	• Use a calculator to find multiples of 2 digit numbers to help with multi-digit division, to see relationship between dividing equivalent fractions, and to help determine reasonable of answers. (3) (District Standard)	DS
	• Divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations (3,4,) (5.NBT.7) • Relate the strategy to a written method and explain the reasoning used. (5) (5.NBT.7)	5.NBT.7
	• Use money as a concrete model to help divide decimals. (3) (District Standard) • Use estimation to determine reasonableness of an answer (3) (District Standard)	DS
	Numbers and Operations - Fractions	
	Use equivalent fractions as a strategy to add and subtract fractions.	
	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. • Understand, demonstrate, compare, and defend multiple ways to find a common denominator including manipulatives such as fraction cards, fraction strips, etc. (2,3,4,5) (5.NF.1) • Create number lines from 0 to 1. (6) (5.NF.1)	5 NF. 1
	Solve word problems involving addition and subtraction of fractions referring to the same whole, including	5.NF.2

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	cases of unlike denominators (3,4) (5.NF.2)	
	Use visual fraction models or equations to represent the problem. (3) (5.NF.2)	5.NF.2
	Use benchmark fractions (0, 1/2, and 1) and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2 (3,5) (5.NF.2)	5.NF.2
	• Use a ruler (number line) to measure to the 1/16" and determine when using an equivalent measurement is reasonable. (3) (District Standard)	DS

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Vocabulary:
dividend, divisor, quotient, partial quotients, volume, unit, cubic unit, formula

Essential and/or Compelling Questions:
What is the relationship between multiplication and division? Provide examples to show your thinking. Use two different division strategies to solve 9,754 ÷ 5. How does understanding place value help when solving 439 ÷14 with the partial quotient strategy? Explain by using examples.

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

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Resources:

Assessments/Specific Rubrics:

Teacher notes:
Continue to practice adding and subtracting decimals and multiplying (whole and decimal numbers) using reciprocal paired partners and other activities such as color by numbers, scavenger hunts, scoot games, etc.

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Check if Completed	3rd Quarter Standards/Learning Targets	Standard Identifier Code
	Number and Operations - Fractions (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	
	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. • Interpret the product (a/b) x q as equivalent to a x q / b and for (a/b) x (c/d) = ac/bd (3,4) (5.NF.4)	5.NF.4a
	• Find the area of rectangles with fractional side lengths by tiling it with unit squares to show that the area is found the same way as multiplying the sides lengths. • Multiply fractional side lengths to find area. • Represent fraction products as rectangular areas. (3) (5.NF.4b)	5.NF.4b
	Interpret multiplication as scaling (resizing) (2,3) (5.NF.5)	5.NF.5
	• Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. (3,4) (5.NF.5a)	5.NF.5.a
	• Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number; 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×a)/(n×b) to the effect of multiplying a/b by 1. (4,5) (5.NF.3) (I have a candy bar {one whole} and I share half of {x} my candy bar with my son. Before I can eat my 1/2 candy bar, my two other children come in and want a share. So now I have only 1/3 of my 1/2 candy bar. Will I get more or less of the candy bar?)	5.NF.3
	Solve real world problems involving multiplication of fractions and mixed numbers. (3,4) (5.NF.6) • Use visual models or equations to represent the problem. (Students must understand it is not simply multiplying the whole numbers and then the fractions.) (3,4) (5.NF.6) (Used in conjunction with (5.NF.3) and (5.NF.1) since the numbers must be changed to improper fractions and then simplified.) • Simplify fractions (5.NF.1) • Understand and demonstrate the relationship between a mixed number and its equivalent improper	5.NF.6

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	fraction. (3,4) (5.NF.3)	
	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b) (If I have a whole candy bar and I divide it into two pieces I get the number 1 divided by 2 or 1/2.) • Divide whole numbers and represent the remainder as a fraction. (3, 4) (5.NF.3)	5.NF.3
	Apply and extend previous understandings of division to divide unit fractions by whole number and whole numbers by unit fractions. (3) (5.NF.7)	5.NF.7
	Interpret and compute division of a unit fraction by a non-zero whole numbers using fraction models and fact family relationships. (3,4,5) • Create a story context for 1/3 divided by 3 (5) (5.NF.7A) • Show that 1/3 divided by 3 = 1/9 is the same as 1/9 x 3 = 1/3 (fact family) (4) (5.NF.7a)	5.NF.7A
	Interpret and compute division of a whole number by a unit fraction using visual fraction models and fact family relationships. (3,4,5) • Create a story context for 3 divided by 1/3 (6) (5.NF.7B) • Show that 3 divided by 1/3 = 9 is the same as 9 x 1/3 = 3 (fact family) (4) (5.NF.7b)	5.NF.7B
	Solve real world problems involving division of unit fractions by whole numbers and whole numbers by unit fractions. (3,4) 5.NF.7C	5.NF.7C

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Vocabulary:
proper fraction, improper fraction, mixed number, numerator, denominator, simplify, equivalent fraction, addend, sum, difference, common denominator, least common denominator, reciprocal, unit fraction,

Essential and/or Compelling Questions: When adding 7/12 + 3/12, why do you add the numerators but keep the denominator the same?

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What happens to a number when it is multiplied by a fraction? How does this compare to being multiplied by a decimal? What is the relationship between 7 divided by 8 and ⅞? How do the numerator and denominator of a fraction compare with the dividend and divisor of a division expression?

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:
Four square method (breaks down adding/subtracting fractions; Butterfly (shows Quick Common Denominator); Block from EM resources, various Footloose, Color by Number, and Connect Four practice pages

Resources:

Assessments/Specific Rubrics:

Teacher notes:
In order to add and subtract two fractions with unlike denominators, students must understand how to find equivalent fractions. They need to know that the same fraction can be named in many different ways.

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Check if Completed	4th Quarter Standards/Learning Targets	Standard Identifier Code
	Measurement and Data (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	
	Apply knowledge of area and perimeter to solve problems; determine which would be better to solve problems, and explain similarities and differences between area, perimeter, and volume. (3,4, 5) (District Standard)	DS
	Recognize volume as an attribute to solid figures and understand concepts of volume measurement. (2,3) (5.MD.3)	5.MD.3
	Use a cube (side length 1 unit, "one cubic unit") to measure volume by packing a solid figure without gaps or overlaps using N unit cubes; rename as N cubic units. (3) (5.MD.3a)	5.MD.3a
	Measure volume by counting cubes using cubic cm, cubic in, cubic ft, and improvised units.(3) (5.MD.3b)	5.MD.3b
	Relate volume to the operations of multiplication and addition and solve real world problems.(4,5) (5.MD.4)	5.MD.4
	Find the volume of a right rectangular prism with whole number side lengths by packing with cubes and showing the equivalent is found by multiplying the edge lengths (3) (5.MD.5a)	5.MD.5a
	Apply the formula V= l x w x h and V = b x h for rectangular prisms to find volume with whole number edge lengths. (3,4), (5.MD.5b)	5.MD.5b
	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.	5.MD.5c
	Measurement and Data: Convert like measurement units within a given measurement system.	
	Convert among different sized standard measurement units within a given system. (km, m, cm, and mm (liters, grams)) (seconds, minutes, hours) (in, ft, yd, mile) (c, pt, qt, gal) (3,4) (5.MD.1)	5.MD.1
	Use conversions to solve multi-step, real world problems. (3,4) (5.MD.1)	5.MD.1
	Measurement and Data: Represent and interpret data.	
	Create 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. (6) (5.MD.2)	5.MD.2

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	Operations and Algebraic Thinking	5.OA
	Write and interpret numerical expressions.	
	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. (3,4) (5.OA.1)	5.OA.1
	Create simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them. (6) (5.OA.2)	5.OA.2
	Geometry	5.G
	Graph points on the coordinate plane to solve real world and mathematical problems.	
	Use a pair of perpendicular number lines, called axes, to define a coordinate system with the intersection of the lines (the origin) to coincide with the 0 on each line. (3) (5.G.1)	5.G.1
	Understand that a point on the plane is located by using an ordered pair of numbers, called its coordinates. 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 (x-axis and x-coordinate; y-axis and y-coordinate). (2) (5.G.1)	5.G.1
	Graph points in the first quadrant of the coordinate plane. (3) (5.G.2)	5.G.2
	Interpret coordinate values of points in the context of the situation. (4) (5.G.2)	5.G.2
	Generate two numerical patterns using two given rules. • Identify apparent relationships between corresponding terms from the two patterns. • Form ordered pairs consisting of corresponding terms from two patterns and graph the ordered pairs on a coordinate plane. (3,4) (5.OA.3)	5.OA.3
	Geometry: Classify two-dimensional figures into categories based on their properties	
	Understand, describe and identify 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. (2,3) (5.G.3)	5.G.3
	Classify two dimensional figures in a hierarchy based on properties. (Focus on triangle classification by sides and angles and on quadrilaterals) (5) (5.G.4)	5.G.4

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Vocabulary: braces, brackets, parenthesis, coordinate grid, perpendicular lines, ordered pair, origin, x and y axis, triangle, equilateral, isosceles, scalene, right, obtuse, acute, parallelogram, kite, trapezoid, quadrilateral, square, rhombus, rectangle, ray, angle, perpendicular, lines

Essential and/or Compelling Questions:

Danny says that 16 - (4 - 4) = 8. Jade says it equals 12. Who do you agree with?
What might happen if we didn't have order of operations? How are the expressions 8 - a and a - 8 different? Explain your thinking.
How would you write the following expression in words? 32 = 2x + 7.
What is the difference between the x axis and the y axis? Explain by using examples.
Can you draw a shape that has no lines of symmetry, exactly two right angles and one acute angle?
What is the definition of a parallelogram? Does a square fit in that category? How many other classifications does a square fit?
Why are the units in volume "cubed"? What are two situations in which you would want to know the volume of something? How are area and volume alike and different?

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Make a foldable with the coordinate grid;

Resources:

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Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed	Standards/Learning Targets Reinforced Throughout the Year	Standard Identifier Code
	Add/Subtract/Multiply/Divide Whole numbers and decimals	

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21st Century Learner Skills

1. **Creativity and Innovation (1a-d)**
   a. demonstrates originality and inventiveness in work;
   b. develops, implements, and communicates new ideas to others;
   c. is open and responsive to new and diverse perspectives; and
   d. acts on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs.

2. **Critical Thinking and Problem Solving (2a-f)**
   a. exercises sound reasoning in understanding;
   b. makes complex choices and decisions;
   c. understands the interconnections among systems;
   d. identifies and asks significant questions that clarify various points of view and lead to better solutions;
   e. frames, analyzes, and synthesizes information in order to solve problems and answer questions; and
   f. reflects critically on learning experiences and processes (metacognition).

3. **Communicating and Collaborating (3a-d)**
   a. understands, manages, and creates effective oral, written, and multimedia communication in a variety of forms and contexts and for a variety of purposes;
   b. demonstrates ability to work and communicate effectively with diverse teams;
   c. exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; and
   d. assumes shared responsibility for collaborative work.

4. **Information, Communication, Technology (ICT), and Media Literacy (4a-f)**
   a. accesses information efficiently and effectively, evaluates information critically and competently, and uses information accurately and creatively for the issue or problem at hand;
   b. understands how media messages are constructed, for what purposes and using which tools, characteristics, and conventions;
   c. examines how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors;
   d. uses digital technology, communication tools, and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy;
   e. uses technology as a tool to research, organize, evaluate, and communicate information; and
   f. possesses of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

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5. Flexibility and Adaptability (5a-c)
- a. adapts to varied roles, responsibilities, schedules, and environments;
- b. works effectively in a climate of ambiguity and changing priorities; and
- c. seeks and embraces opportunities created by change.

6. Initiative and Self-Direction (6a-e)
- a. monitors his or her own understanding and learning needs;
- b. goes beyond basic mastery of skills and/or curriculum to explore and expand his or her own learning and opportunities to gain expertise;
- c. utilizes time efficiently and manages workload;
- d. initiates, prioritizes, and completes tasks with minimal oversight; and
- e. demonstrates initiative to advance skill levels towards a professional level and a commitment to learning as a lifelong process.

7. Social and Cross-Cultural Skills (7a-c)
- a. works appropriately and productively with others;
- b. leverages the collective intelligence of groups when appropriate; and
- c. bridges cultural differences and uses differing perspectives to increase innovation and the quality of work.

8. Productivity and Accountability (8a-c)
- a. demonstrates diligence and a positive work ethic (e.g., being punctual and reliable);
- b. self-monitors the process of developing quality work; and
- c. sets and meets high standards and goals for delivering quality work on time.

9. Leadership and Responsibility (9a-d)
- a. demonstrates integrity and ethical behavior;
- b. acts responsibly with the interests of the larger community in mind (civic awareness and responsibility);
- c. uses interpersonal and problem-solving skills to influence and guide others toward a goal; and
- d. leverages strengths of others to accomplish a common goal.

10. Employability and Career Development (10a-c)
- a. embraces the importance of employability skills;
- b. effectively explores, plans, and manages career choices and goals; and
- c. recognizes and acts upon requirement for career advancement by planning continuing education, training, and/or professional development.

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6th Grade/Math Curriculum Document
Linked to Kansas College and Career Readiness Standards

Check if Completed	1st Quarter Standards and Learning Targets	Standard Identifier Code
	REVIEW: Fluently add, subtract, multiply and divide multi-digit decimals using the standard algorithm. (3) (6.NS.2; 6. NS.3) Add and subtract fractions with unlike denominators using equivalent fractions. Multiply fractions and divide fractions by whole numbers and divide whole numbers by unit fractions(5.NF.A)	
	Expressions and Equations (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Apply and extend previous understandings of arithmetic to algebraic expressions	
	Create and evaluate numerical expressions involving whole-number exponents. (5,6) (6.EE.1)	6.EE.1
	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. (4,5,6) (6.EE.2a) 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. (3,4) (6.EE.2.b) C. Evaluate expressions at specific values for their variables, including expressions that arise from formulas used in real world problems such as V=s^3. Perform arithmetic operations, including whole number exponents, in the conventional order when there are no parentheses to specify a particular order. (3) (6.EE.2.c)	6.EE.2.a, b, and c
	Apply the properties of operations to generate equivalent expressions. • Distributive property • Apply properties of operations to y + y + y to produce the equivalent expression 3y. (4) (6.EE.3)	6.EE.3
	Identify when two expressions are equivalent (2) (6.EE.4)	6.EE.4

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	Represent numbers and write expressions using variables 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. (4,5) (6.EE.6)	6.EE.6
	Understand solving an equation or inequality as a process of answering a question: which values make the inequality true? Use substitution to determine if a given number makes the equation/inequality true. (3) (6.EE.5)	6.EE.5
	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ in which p, x, and q are all nonnegative rational numbers. This is otherwise known as solving one step equations for addition/subtraction and multiplication/division with no negative numbers. ex. $5 + x = 46$ (3) (6.EE.7)	6.EE.7
	Write inequalities of the form $x > c$ or $x < c$ to represent a real world or mathematical problem. Recognize that inequalities of this form have infinitely many solutions. Create number lines that represent these inequalities. ex. the value, v, of the bracelet is less than \$85 $v < 85$ (3,4) (6.EE.8)	6.EE.8

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Vocabulary:
base, exponent, power, evaluate, variable, algebraic expression, term, coefficient, substitution, equivalent expression, like terms, simplify, formula, equation, inverse relationship, inequality, (addition, subtraction, multiplication, and division) property of equality

Essential and/or Compelling Questions: What are expressions and how can they be written and evaluated? What is the purpose of the order of operations? • How can order of operations be applied to a mathematical expression? What procedures can be used to solve equations and inequalities? • What are inverse operations? • How are inverse operations used to solve one-step equations? How is an inequality different than an equation?

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Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed	2nd Quarter Standards/Learning Targets	Standard Identifier Code
	The Number System (Rose 1,2,6,7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Apply and extend previous understandings of numbers to the system of rational numbers	
	• Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); (2) (6.NS.5) • Use positive and negative numbers to represent quantities in real-world contexts, (3) (6.NS.5) • Explain the meaning of 0 in each situation. (5) (6.NS.5)	6.NS.5
	Understand a rational number as a point on the number line. • Represent points on a coordinate plane with negative number coordinates (3,4) (6.NS.6) • Find opposites of numbers and explain that opposite numbers are the same distance from zero on either side (3,4) (6.NS.6a) • Read, understand and explain that the opposite of the opposite of a number is the number itself. *The opposite of a negative three is three.* ex -(-3)=3 0 is its own opposite. (2,3,4) (6.NS.6a) • Understand, use, and explain that signs of numbers in ordered pairs indicate their quadrant. • Recognize that when ordered pairs differ only in their signs, it is a reflections across one or both axes. ex (5,-2) is a reflection across the y axis of (5,2)	6.NS.6
	Understand ordering and absolute value of rational numbers. • Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right. (3,4,5) (6.NS.7) • Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write –3 > –7 °C to express the fact that –3 °C is warmer than –7 °C. (3,4,5) (6.NS.7) • Understand the absolute value of a rational number as its distance from 0 on the number	6.NS.7 6.NS.7a, 6.NS.7b, 6.NS.7c 6.NS.7d

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	line; (2) (6.NS.7) • Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars. (4,5) (6.NS.7) • Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars. (4,5) (6.NS.7)	
	Solve real world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Find distances between points with the same first coordinate or the same second coordinate using absolute value. (to keep them on the same line)	6.NS.8
	Draw polygons in the coordinate plane given coordinates for the vertices. Use coordinates to find the length of a side joining points with the same first or the same second coordinate (to keep them on the same line) Use these skills to solve real world and mathematical problems.	6.G.3
	Use variables to represent two quantities in a real-world problem that change in relationship to one another. (dependent and independent variables) *The cost of the bananas depends on the amount they weigh* Write equations to express one quantity (dependent) in terms of the other quantity (independent). Analyze the relationship between the dependent and independent variable using graphs and tables and relate these to an equation.	6.EE.9

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Vocabulary: integer, opposite, rational number, absolute value, quadrant, dependent variable, independent variable, linear equation
Review: coordinate plane, x-axis, y-axis, ordered pair, origin

Essential and/or Compelling Questions: What are integers and rational numbers? How can you compare and order rational numbers? Why can a number line be useful when using integers? How are points graphed on a coordinate grid? What do the signs represent on ordered pairs? When do we think of negative values in a positive way? (dig a hole, dive in water, debt) How are equations that can relate to real-world quantities graphed? Explain the difference between an opposite number and an absolute value. What are the symbols used for inequalities and what do they represent? • How do you know if a value is part of the solution set? • How do inequalities differ from equations? Explain the difference between independent and dependent variables?

Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed	3rd Quarter Standards/Learning Targets	Standard Identifier Code
	The Number System (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Compute fluently with multi-digit numbers and find common factors and multiples	
	Fluently divide multi-digit numbers using the standard algorithm. (3). (6.NS.)	6.NS. 2
	Evaluate expressions involving division by using substitution and order of operations. (3) (6.EE.2 and 6.NS.2)	6.EE.2 and 6.NS.2
	Solve one step equations involving division. (3) (6.EE.7)	6.EE.7
	Fluently add, subtract, multiply and divide multi-digit decimals using standard algorithms. • Use the calculator to help determine reasonableness of answers. (3) (District Standard)	6.NS. 3 and District Standard
	Evaluate expressions and solve equations that involve decimals. (3) (6.EE.2 and 6.EE.7)	6.EE.2 and 6.EE.7
	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. (3) (6.NS.4) Identify prime and composite numbers Write the prime factorization of a number.	6.NS.4
	Ratios and Proportional Relationships	
	Understand Ratio concepts and use ratio reasoning to solve problems	
	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. (2,3,4) (6.RP.1)	6.RP.1
	Understand the concept of a unit rate a/b associated with a ratio a:b where b does not equal 0. Use rate language. "We paid $75 for fifteen hamburgers, which is a rate of $5 per hamburger."	6.RP.2
	Use ratio and rate reasoning to solve real-world and mathematical problems • Use tape diagrams, double number line diagrams, and equations. (3,4) (6.RP.3) • Make tables relating quantities with whole number with equivalent ratios (3,4) (6.RP.3) • Find missing values in tables(4) (6.RP.3) • Use values as ordered pairs and graph them.(3) (6.RP.3)	

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	• Use tables to compare ratios. (3) • Solve unit rate problems of unit pricing and constant speed. (5) (6.RP.3) • Use ratios to convert measurement units (3) (6.RP.3) (District Standard) • Find percent of a quantity as a rate per 100 (3,4) (6.RP.3) • Solve problems involving finding the whole, given a part and the percent (5) (6.RP.3) • Use percentages to calculate taxes. (3) (District Standard) • Use calculator to demonstrate equivalents between percentages and decimals. (3) (District Standard)	

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Vocabulary: *review: dividend, divisor, quotient, factors, products, sums, differences*
prime factorization, factor tree, greatest common factor, least common multiple, counterexample, ratio, terms, rate, unit rate, unit price, constant speed, dimensional analysis, conversion factor, percent

Essential and/or Compelling Questions:
Why do you "line up the decimal points" when you are adding and subtracting with decimals? • What does a decimal represent? • How can numbers in different forms be compared? • Why is estimating the sum, difference, product, or quotient important to evaluating the reasonableness of an answer? • How can you find common factors and multiples of numbers? • How can customary and metric measurements be converted to other units? What is the meaning of percent? What are the divisibility rules for 2, 3, 4, 5, 6, 8, 9, and 10? What is the prime factorization of a composite number? • What is a use for least common multiple? • What is a use for greatest common factor? What is a ratio? How can ratios describe quantities? How are ratios and rates like/unlike fractions?

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Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:

Resources:

Assessments/Specific Rubrics:

Teacher notes:

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Check if Completed	4th Quarter Standards/Learning Targets	Standard Identifier Code
	The Number System (Cont.)	
	Apply and extend previous understandings of multiplication and division to divide factions by fractions.	
	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 and by using relationship between division and multiplication to explain that 2/3 divided by 3/4 = 8/9 because 3/4 of 8/9 is 2/3 (Fact Family). (3,4) (6.NS.1)	6.NS.1
	Solve word problem using division of fractions and use rulers to measure to the 1/16" or 1/32". (3,4) (District Standard)	District Standard
	Geometry (Rose 1, 2, 6, 7) (21st 1, 2, 3, 4a, 5a-b, 6, 7, 9, 9, 10)	
	Solve Real World and mathematical problems involving area, surface area, and volume	
	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; • Apply these techniques in the context of solving real-world and mathematical problem (3,4) (6.G.a)	6.G.1
	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. • Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.(3,4) (6.G.2)	6.G.2
	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. (3,4) (6.G.3)	6.G.3
	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the	6.G.4

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	nets to find the surface area of these figures. (3,4) (6.G.4) • Apply these techniques in the context of solving real-world and mathematical problems. (4) (6.G.4)	
	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 = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2.(4,5) (6.EE.2c)	6.EE.2c
	Statistics and Probability	
	Develop understanding of statistical variability Summarize and describe distributions	
	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages. (2,3) (6.SP.1)	6.SP.1
	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.(2,3) (6.SP.2)	6.SP.2
	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number(.2,3) (6.SP.3)	6.SP.3
	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.(4,5,6) (6.SP.4)	6.SP.4
	Summarize numerical data sets in relation to their context, such as by: (3,4) (6.SP.5) A. Reporting the number of observations.(1) (6.SP.5) B. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. (2) (6.SP.5) C. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. (3,4) (6.SP.5)	6.SP.5

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	D. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. (3,4) (6.SP.5)	

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Vocabulary Review: mean median, mode, range,
face, edge, vertex, net, data distribution, absolute deviation, interquartile range, quartile, mean absolute deviation, measure of center, probability, box plot, dot plot, frequency table, histogram, statistical question

Essential and/or Compelling Questions:
When dividing fractions, why is the problem rewritten using the reciprocal of the divisor? • How can multiplying and dividing fractions be used to solve real-world problems?
How do you find the area of a complex figure? • What are the attributes used to identify prisms, cones, cylinders, and pyramids? • How can the surface area of three dimensional figures be determined? • How do two-dimensional and three-dimensional figures differ? • How are nets related to surface area? What is the relationship between area of a rectangle and the surface area of a rectangular prism?

What is the difference between a question that is statistical and one that is not statistical?
How many responses does a statistical question have?
Can a statistical question have a quantitative response? How about a qualitative response?
What is a frequency table and how can it be used to create a dot plot? • What is the mean, median, mode and range and how are they mathematically computed? • How can you describe a set of data using the measures of center? • How can the measure of variability be used to describe a set of data?

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Activity Options/Strategies/Multiple Intelligences/21st Century Skills/Other Specific Skills:
Construct nets from empty box food containers. Ask students to predict which container will have the largest/smallest surface area. Calculate the actual surface area.

http://investigations.terc.edu/library/bookpapers/middle_means.cfm

Resources:

Assessments/Specific Rubrics:

Teacher notes:
Developing understanding of statistical thinking:
Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different sets of data can have the same mean and median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected. (CCSC Grade 6 p.38)

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Check if Completed	Standards/Learning Targets Reinforced Throughout the Year	Standard Identifier Code
	Evaluating expressions	
	Order of Operations	

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21st Century Learner Skills

1. **Creativity and Innovation (1a-d)**
   a. demonstrates originality and inventiveness in work;
   b. develops, implements, and communicates new ideas to others;
   c. is open and responsive to new and diverse perspectives; and
   d. acts on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs.

2. **Critical Thinking and Problem Solving (2a-f)**
   a. exercises sound reasoning in understanding;
   b. makes complex choices and decisions;
   c. understands the interconnections among systems;
   d. identifies and asks significant questions that clarify various points of view and lead to better solutions;
   e. frames, analyzes, and synthesizes information in order to solve problems and answer questions; and
   f. reflects critically on learning experiences and processes (metacognition).

3. **Communicating and Collaborating (3a-d)**
   a. understands, manages, and creates effective oral, written, and multimedia communication in a variety of forms and contexts and for a variety of purposes;
   b. demonstrates ability to work and communicate effectively with diverse teams;
   c. exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; and
   d. assumes shared responsibility for collaborative work.

4. **Information, Communication, Technology (ICT), and Media Literacy (4a-f)**
   a. accesses information efficiently and effectively, evaluates information critically and competently, and uses information accurately and creatively for the issue or problem at hand;
   b. understands how media messages are constructed, for what purposes and using which tools, characteristics, and conventions;
   c. examines how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors;
   d. uses digital technology, communication tools, and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy;
   e. uses technology as a tool to research, organize, evaluate, and communicate information; and
   f. possesses of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

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5. Flexibility and Adaptability (5a-c)
- a. adapts to varied roles, responsibilities, schedules, and environments;
- b. works effectively in a climate of ambiguity and changing priorities; and
- c. seeks and embraces opportunities created by change.

6. Initiative and Self-Direction (6a-e)
- a. monitors his or her own understanding and learning needs;
- b. goes beyond basic mastery of skills and/or curriculum to explore and expand his or her own learning and opportunities to gain expertise;
- c. utilizes time efficiently and manages workload;
- d. initiates, prioritizes, and completes tasks with minimal oversight; and
- e. demonstrates initiative to advance skill levels towards a professional level and a commitment to learning as a lifelong process.

7. Social and Cross-Cultural Skills (7a-c)
- a. works appropriately and productively with others;
- b. leverages the collective intelligence of groups when appropriate; and
- c. bridges cultural differences and uses differing perspectives to increase innovation and the quality of work.

8. Productivity and Accountability (8a-c)
- a. demonstrates diligence and a positive work ethic (e.g., being punctual and reliable);
- b. self-monitors the process of developing quality work; and
- c. sets and meets high standards and goals for delivering quality work on time.

9. Leadership and Responsibility (9a-d)
- a. demonstrates integrity and ethical behavior;
- b. acts responsibly with the interests of the larger community in mind (civic awareness and responsibility);
- c. uses interpersonal and problem-solving skills to influence and guide others toward a goal; and
- d. leverages strengths of others to accomplish a common goal.

10. Employability and Career Development (10a-c)
- a. embraces the importance of employability skills;
- b. effectively explores, plans, and manages career choices and goals; and
- c. recognizes and acts upon requirement for career advancement by planning continuing education, training, and/or professional development.

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