CKSD CURRICULUM
Grade 4: Mathematics
Topic 1 – Multiplication and Division: Meanings and Facts
Suggested Length of Unit - 13 Days
Instructor: 4th Grade

Multiplication and Division: Meaning and Facts
- There are multiple interpretations of addition, subtraction, multiplication, and division of rational numbers, and each operation is related to other operations.

Major Academic Standards Addressed
- CC.2.1.4.B.1: Apply place value concepts to show an understanding of multi-digit whole numbers.
- CC.2.1.4.B.2: Use place value understanding and properties of operations to perform multi-digit arithmetic.

Concepts – Content ——**What students should know**
- Use the four operations with whole numbers to solve problems.
- Generate and analyze patterns.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students recognize multiplication as repeated addition of equal groups used in arrays and comparisons.
- Use patterns to find products with factors of 2, 5, and 9.
- Use multiplication properties to simplify computations.
- Students will use the Distributive Property to find products of the factors of 3,4, 6, 7, and 8 by breaking apart problems into simpler problems.
- Students will interpret multiplication equations as multiplicative comparisons and represent verbal statements of multiplicative comparisons as multiplication equations.
- Students use and draw models to solve division problems.
- Students will multiply or divide to solve word problems.
- Students use multiplication facts with 0 and 1 to learn about special division rules with 0 and 1.
- Students identify multiplication facts related to division facts

- Students will draw pictures to problem solve multiplication situations and use their pictures to write equations.

Essential Questions – meant to challenge study to ponder, question and query
- *How can patterns and properties be used to find some multiplication facts?*
- How can unknown multiplication facts be found by breaking them into known facts?
- How can unknown division facts be found by thinking about a reated multiplication fact?

<u>*Assessments*</u>- (L-Drive Curriculum Map)
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 2 – Generate and Analyze Patterns
Suggested Length of Unit - 8 Days
Instructor: 4ᵗʰ Grade

Generalize and Analyze Patterns
- Relationships can be described and generations made for mathematical situation that have numbers or objects that repeat in predictable ways.

Major Academic Standards Addressed

- Standard - CC.2.2.4.A.4: Generate and analyze patterns using one rule.

Concepts – Content
- Use the four operations with whole numbers to solve problems.
- Generate and analyze patterns.

Objectives – also called competencies in the SAS
- Students will identify and extend repeating shape or repeating number patterns.
- Students will identify and extend whole number patterns involving addition and subtraction
- Students will use a rule to extend tables of ordered pairs of situations involving multiplication, addition, or subtraction
- Students will find a rule and extend the table, given a table of number pairs
- Students will extend patterns of cubes or tiles
- Students will use the strategies Act It Out and Use Reasoning to solve multistep word problems

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Essential Questions – meant to challenge study to ponder, question and query
- How can patterns be used to describe how two quantities are related?
- How can a relationship between two quantities be shown using a table?

Assessments-
- Fact Fluency

- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 3 – Generate and Analyze Patterns
Suggested Length of Unit – 9 Days
Instructor: 4ᵗʰ Grade

Place Value
- The base-ten numeration system is a scheme for recording numbers using digits 0-9, group of ten, and place value.

Major Academic Standards Addressed

- Standard - CC.2.1.4.B.1: Apply place value concepts to show an understanding of multi-digit whole numbers.
- Standard - CC.2.1.4.B.2: Use place value understanding and properties of operations to perform multi-digit arithmetic.

Concepts – Content
- Generalize place value understanding for multi-digit whole numbers.

Objectives – also called competencies in the SAS
- Students will read and write 3-digit and 4 digit numbers
- Students will learn how digits within a multi-digit number relate to each other by their place value
- Students will compare whole numbers through thousands
- Students will apply their knowledge of place value to compare whole numbers through hundred thousands
- Students will show how to use place value to round whole numbers
- Students will systematically find and record all possible outcomes for a situation

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Essential Questions – meant to challenge study to ponder, question and query
- How are greater numbers read and written?
- How can whole numbers be compared and ordered?

Assessments-
- Fact Fluency

- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 4 – Addition and Subtraction of Whole Numbers
Suggested Length of Unit – 9 Days
Instructor: 4th Grade

Addition and Subtraction of Whole Numbers
- Any number, measure, numerical expression, algebraic expression, or equation can be represented in an infinite number of ways that have the same value.

Major Academic Standards Addressed
- CC.2.1.4.B.1: Apply place value concepts to show an understanding of multi-digit whole numbers.
- CC.2.1.4.B.2: Use place value understanding and properties of operations to perform multi-digit arithmetic.

Concepts – Content ——**What students should know**
- Use place value understanding and properties of operations to perform muti-digit arithmetic.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will apply a variety of methods to add and subtract whole numbers mentally.
- Students will round whole numbers to estimate sums and differences.
- Students will add numbers to hundreds and thousands with and without regrouping.
- Students will subtract numbers to thousands with and without regrouping.
- Students will subtract numbers with zeros to thousands.
- Students will use a picture or diagram to translate an addition or subtraction problem into a number sentence or equation.

Essential Questions – meant to challenge study to ponder, question and query
- *How can sums and differences of whole numbers be estimated?*

- What are standard procedures for adding and subtracting whole numbers?

Assessments- (L-Drive Curriculum Map)
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 5 – Generate and Analyze Patterns
Suggested Length of Unit – 9 Days
Instructor: 4th Grade

Number Sense: Multiplying by 1 Digit Numbers
- There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental and paper and pencil, use equivalence to transform calculations.

Major Academic Standards Addressed

- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- Standard- CC.2.1.4.B.2
  Use place value understanding and properties of operations to perform multi-digit arithmetic.
- Standard - CC.2.1.4.C.2
  Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers

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Concepts – Content
- Generalize place value understanding for multi-digit whole numbers.
- Uses place value understanding and properties of operations to perform multi-digit arithmetic.

Objectives – also called competencies in the SAS
- Students will use arrays to multiply by 10 and 100.
- Students will use basic multiplication facts and number patterns to multiply by multiples of 10 and 100.
- Students will break apart numbers and use arrays to multiply.
- Students will use compensation to multiply numbers mentally.
- Students will use rounding to estimate solutions to multiplication problems.
- Students will check for reasonableness by making sure their calculations answer the questions asked and by using estimation to make sure the calculation was performed correctly.

Essential Questions – meant to challenge study to ponder, question and query
- How can some products be found mentally?
- How can some products be estimated?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 6– Developing Fluency: Multiplying by 1 Digit Numbers
Suggested Length of Unit - 9 Days
Instructor: 4th Grade

Developing Fluency: Multiplying by 1 Digit Numbers
- There is more than one algorithm for each of the operations with rational numbers. Most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones.

Major Academic Standards Addressed
- CC.2.1.4.B.1: Apply place value concepts to show an understanding of multi-digit whole numbers.
- CC.2.1.4.B.2: Use place value understanding and properties of operations to perform multi-digit arithmetic.
- CC.2.1.4.C.2
  Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers

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Concepts – Content ——**What students should know**
- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will record multiplication using an expanded algorithm.
- Students will multiply 2 digit numbers by 1 digit numbers using paper and pencil methods.
- Students will multiply 2 digit numbers by 1 digit numbers using the standard algorithm and estimate to check for reasonableness.
- Students will use the standard algorithm to multiply 3 and 4 digit numbers by 1 digit numbers.
- Students will multiply 2, 3, and 4 digit numbers by 1 digit numbers using the standard algorithm and estimate to check for reasonableness.
- Students will identify what information in a word problem is missing or not needed.

Essential Questions –
- *How can arrays be used to find products?*
- *What is a standard procedure for multiplying multi-digit numbers?*

Assessments- (L-Drive Curriculum Map)
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 7 – Generate and Analyze Patterns
Suggested Length of Unit – 9 Days
Instructor: 4th Grade

Number Sense: Multiplying by 2 Digit Numbers
- There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental and paper and pencil, use equivalence to transform calculations into simpler ones.

Major Academic Standards Addressed

- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations. CC.2.1.4.B.1: Apply place value concepts to show an understanding of multi-digit whole numbers.
- CC.2.1.4.B.2: Use place value understanding and properties of operations to perform multi-digit arithmetic.
- CC.2.1.4.C.2
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers

Concepts – Content
- Generalize place value understanding for multi-digit whole numbers.
- Uses place value understanding and properties of operations to perform multi-digit arithmetic.

Objectives – also called competencies in the SAS
- Students will use arrays to multiply 2 digit numbers by multiples of 10
- Students will discover and use patterns to multiply by multiples of 10.
- Students will use rounding to estimate solutions to multiplication problems involving 2 digit numbers.
- Students will use compatible numbers and rounding to estimate solutions to multiplication problems involving 2 digit numbers.
- Students will identify and answer hidden questions to solve multi-step word problems with operations.

Essential Questions – meant to challenge study to ponder, question and query
- How can greater products be found mentally?
- How can greater products be estimated?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 8 – Developing Fluency: Multiplying by 2 Digit Numbers
Suggested Length of Unit - 8 Days
Instructor: 4ᵗʰ Grade

Developing Fluency: Multiplying by 2 Digit Numbers
- There is more than one algorithm for each of the operations with rational numbers. Most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones.

Major Academic Standards Addressed
- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- CC.2.1.4.B.1: Apply place value concepts to show an understanding of multi-digit whole numbers.
- CC.2.1.4.B.2: Use place value understanding and properties of operations to perform multi-digit arithmetic.
- CC.2.1.4.C.2

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers

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Concepts – Content ——**What students should know**
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will use arrays to multiply two-digit numbers by two-digit numbers to find the product.
- Students will use an expanded algorithm to multiply two- digit numbers by two-digit numbers to find the product.
- Students will use grids and patterns to multiply 2 digit numbers and multiples of 10.
- Students will use partial products to multiply 2 digit numbers by 2 digit numbers and find the products.
- Students will solve two-question problems.

Essential Questions – meant to challenge study to ponder, question and query
- *How can arrays be used to find greater products?*
- What is a standard procedure for multiplying multi-digit numbers?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 9 – Number Sense: Dividing by 1-Digit Divisors
Suggested Length of Unit - 9 Days
Instructor: 4ᵗʰ Grade

Number Sense: Dividing by 1-Digit Divisors
- Relationships can be described and generalizations mathematical situations that have numbers or objects that repeat in predictable ways. For some relationships, mathematical expressions and equations can be used to describe how members of one set are related to members of a second set.

Major Academic Standards Addressed
- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- Standard - CC.2.1.4.B.2
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Concepts – Content ——**What students should know**
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will use basic facts and patterns of zero to solve division problems with 3 digit dividends and 1 digit divisors.
- Students will use compatible numbers and rounding to estimate quotients.
- Students will estimate quotients of multi-digit division problems using multiplication facts and place value concepts.
- Students will divide whole numbers by one digit divisors resulting in quotients with remainders.
- Students use words and models to represent multiplication and division problems accurately.
- Students will draw pictures and write related number sentences to solve problems.

Essential Questions – meant to challenge study to ponder, question and query
- *What are different meanings of division?*
- How can mental math and estimation be used to divide?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 10– Developing Fluency: Dividing by 1 Digit Divisors
Suggested Length of Unit - 9 Days
Instructor: 4th Grade

Developing Fluency: Dividing by 1 Digit Divisors
- There is more than one algorithm for each of the operations with rational numbers. Most algorithms for operations with rational numbers, both mental and paper and pencil, use equivalence to transform calculations into simpler ones.

Major Academic Standards Addressed
- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- Standard - CC.2.1.4.B.2
  Use place value understanding and properties of operations to perform multi-digit arithmetic.

Concepts – Content ——**What students should know**
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will record division as repeated subtraction.
- Students will use place value to understand the algorithm of long division.
- Students will use the standard algorithm to divide a two-digit number by a one digit number.
- Students will use the standard algorithm to divide 3 digit numbers by 1 digit numbers.
- Students will use the standard algorithm to divide 3 digit numbers by 1 digit numbers and properly decide where to begin dividing.
- Students will estimate and find quotients for 4 digit dividends and 1 digit divisors.
- Students will identify the hidden question in a multistep multiplication problem.

Essential Questions – meant to challenge study to ponder, question and query
- *How can repeated subtraction be used to model division?*
- What is the standard procedure for dividing multi-digit numbers?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade 4: Mathematics
Topic 11 – Fraction Equivalence and Ordering
Suggested Length of Unit – 10 Days
Instructor: 4th Grade

Fraction Equivalence and Ordering
- Numbers can be used for different purposes, and numbers can be classified and represented in different ways.
- Any number, measure, numerical expression, algebraic expression, or equation can be represented in an infinite number of ways that have the same value.

Major Academic Standards Addressed

- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- Standard - CC.2.1.4.C.1
  Extend the understanding of fractions to show equivalence and ordering
  Standard - CC.2.1.4.C.2
  Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Concepts – Content ——**What students should know**
- Extend understanding of fraction equivalence and ordering.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will learn how to factor whole numbers.
- Students will learn to identify prime and composite numbers.
- Students will find the multiples of a number.
- Students will use models and computation to show equivalent fractions.
- Students use a number line to identify and write equivalent fractions.
- Students will use benchmark fractions to compare fractions with unlike denominators.
- Students will use common denominators and equivalent fractions to order fractions with unlike denominators.

- Students will write to explain whether an answer to a problem involving fractions is correct or not.

Essential Questions – meant to challenge study to ponder, question and query
- *How can the same fractional amount be named using symbols in different ways?*
- How can fractions be compared and ordered?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards
- Develop this descriptor so that a student could understand the process. This can be a narrative.

CKSD CURRICULUM
Grade 4: Mathematics
Topic 12– Adding and Subtracting Fractions and Mixed Numbers with Like Denominators
Suggested Length of Unit - 14 Days
Instructor: 4th Grade

Adding and Subtracting Fractions and Mixed Numbers with Like Denominators
- There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones.

Major Academic Standards Addressed
- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- Standard - CC.2.1.4.C.2
  Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers
  Standard - CC.2.1.4.C.3
  Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g, 19/100).

Concepts – Content ──**What students should know**
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will use models to add fractions with like denominators.
- Students use computational procedures to add fractions with like denominators and solve problems.
- Students will use models to subtract fractions with like denominators.
- Students use computational procedures to subtract fractions with like denominators to solve problems.
- Students use the number line to add and subtract fractions with like denominators.
- Students will identify and write mixed numbers as improper fractions and improper fractions as mixed numbers.

- Students will use models to add and subtract mixed numbers.
- Students will use models and computational procedures to add mixed numbers.
- Students will use models and computational procedures to subtract mixed numbers.
- Students decompose fractions and represent them as compositions of fractions in a variety of ways.
- Students will draw a picture and write an equation to solve a problem involving fractions.

Essential Questions – meant to challenge study to ponder, question and query
- *What does it mean to add and subtract fractions and mixed numbers with like denominators?*
- What is a standard procedure for adding and subtracting fractions and mixed numbers with like denominators?
- How can fractions and mixed numbers be added and subtracted on a number line?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards
- Develop this descriptor so that a student could understand the process. This can be a narrative.

CKSD CURRICULUM
Grade 4: Mathematics
Topic 13 – Extending Fraction Concepts
Suggested Length of Unit – 13 Days
Instructor: 4th Grade

Extending Fraction Concepts
- Numbers, expressions, measures, and objects can be compared and related to other numbers, expressions, measures, and objects in different ways.

Major Academic Standards Addressed
- Standard - CC.2.2.4.A.1: Represent and solve problems involving the four operations.
- Standard - CC.2.1.3.C.1
  Explore and develop an understanding of fractions as numbers.
  Standard - CC.2.1.4.C.1
  Extend the understanding of fractions to show equivalence and ordering
  Standard - CC.2.1.4.C.2
  Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
  Standard - CC.2.1.4.C.3
  Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g, 19/100).

Concepts – Content ──**What students should know**
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- Understand decimal notation for fractions, and compare decimal fractions.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will use unit fractions and multiplication to describe fractions that are multiples of the unit fractions.
- Students will multiply a fraction by a whole number using models.
- Students will multiply a whole number and a fraction to solve problems.
- Students will understand how to write fractions as decimals and decimals as fractions.

- Students will learn to locate and name fractions and decimals on a number line.
- Students will understand how to use equivalent fractions to write fractions as decimals.
- Students will use models and place value charts to represent decimals to hundredths.
- Students will use models and place value charts to compare decimals to hundredths.
- Students will use place value charts to read, write, and compare decimals in tenths and hundredths using money.
- Students will solve problems involving decimals using the strategy Draw a Picture.

Essential Questions – meant to challenge study to ponder, question and query
- *How is decimal numeration related to whole number numeration?*
- How can decimals be compared and ordered?
- How are fractions and decimals related?

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards
- Develop this descriptor so that a student could understand the process. This can be a narrative.

CKSD CURRICULUM
Grade 4: Mathematics
Topic 14 – Measurement Units and Conversions
Suggested Length of Unit - 14Days
Instructor: 4ᵗʰ Grade

Measurement Units and Conversions
- Some attributes of objects are measurable and can be quantified using unit amounts.
- Some measurements can be approximated using known referents as the unit in the measurement process.

Major Academic Standards Addressed
Standard - CC.2.4.4.A.1
Solve problems involving measurement and conversions from a larger unit to a smaller unit.
Standard - CC.2.4.4.A.2
Translate information from one type of data display to another.
Standard - CC.2.4.4.A.4
Represent and interpret data involving fractions using information provided in a line plot.
Standard - 11.3.3.F
Identify components of a basic recipe (e.g., volume, weight, fractions, recipe ingredients, recipe directions, safety techniques).

Concepts – Content ——**What students should know**
- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will estimate and measure length by choosing the most appropriate unit of length.
- Students will estimate fluently with customary capacity units.
- Students will estimate fluently and measure with units of weight.
- Students will be able to convert between customary units.
- Students will solve and explain the answers to measurement problems in writing.

- Students will estimate and measure length to the nearest centimeter, and choose the most appropriate metric unit for measuring length.
- Students will estimate fluently with milliliters and liters.
- Students will estimate and measure with units of mass, grams, and kilograms.
- Students will be able to convert between metric units.
- Students will compare several different units of time and freely convert from one unit of time to another.
- Students will solve problems that require finding the original times, measurements, or quantities that led to a result that is given.

Essential Questions – meant to challenge study to ponder, question and query
- *What are customary and metric units of measuring length, capacity, and weight and how are they related?*

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards
- Develop this descriptor so that a student could understand the process. This can be a narrative.

CKSD CURRICULUM
Grade 4: Mathematics
Topic 15 – Measurement Units and Conversions
Suggested Length of Unit – 7 Days
Instructor: 4th Grade

Solving Measurement and Data Problems
- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Major Academic Standards Addressed
- Standard - CC.2.3.4.A.1- Draw lines and angles and identify these in two-dimensional figures.
- Standard - CC.2.3.4.A.2- Classify two-dimensional figures by properties of their lines and angles.
- Standard - CC.2.3.4.A.3- Recognize symmetric shapes and draw lines of symmetry.
- Standard - CC.2.4.4.A.1- Solve problems involving measurement and conversions from a larger unit to a smaller unit.

Concepts – Content
- Draw and identify lines and angles, and classify shapes by properties of their lines and angles

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Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will identify and describe points, lines, and planes
- Students will learn geometric terms to describe parts of lines and types of angles.
- Students will use unit angles and fractions of a circle to find angle measures
- Students will use a smaller angle to measure a larger angle by repeating the unit.
- Students will be able to measure and draw angles
- Students will find unknown angle measures by adding and subtracting
- Students will learn to identify polygons
- Students will learn to identify and classify triangles
- Students will learn to identify quadrilaterals
- Students will determine if a plane figure has line symmetry and, if so, how many lines of symmetry it has

- Students will solve geometric problem by making and testing generalizations

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- *Essential Questions –*
- *How can lines, angles, and shapes be described, analyzed, and classified?*
- *How are angles measured, added, and subtracted?*

Assessments-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards
- Develop this descriptor so that a student could understand the process. This can be a narrative.

CKSD CURRICULUM
Grade 4: Mathematics
Topic 16 – Lines, Angles, and Shapes
Suggested Length of Unit – 14 Days
Instructor: 4ᵗʰ Grade

Solving Measurement and Data Problems
- Two and three dimensional objects with or without curved surfaces can be described classified, and analyzed by their attributes.

Major Academic Standards Addressed
- Standard - CC.2.3.4.A.1- Draw lines and angles and identify these in two-dimensional figures.
- Standard - CC.2.3.4.A.2- Classify two-dimensional figures by properties of their lines and angles.
- Standard - CC.2.3.4.A.3- Recognize symmetric shapes and draw lines of symmetry.
- Standard - CC.2.4.4.A.1- Solve problems involving measurement and conversions from a larger unit to a smaller unit.

Concepts – Content
- Draw and identify lines and angles, and classify shapes by properties of their lines and angles

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Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Students will make line plots to organize their data and draw conclusions
- Students will construct line plots using given data and use the line plot to answer questions about the data set.
- Students will use the formulas for the perimeter and area of rectangles to solve real-world problems
- Students use diagrams to show data and analyze how the quantities are related to solve real-world measurement problems
- Students solve real world problems that involve money and giving change by counting
- Students will break a problem into smaller, more manageable pieces and find a pattern to fit.

Essential Questions –
- *What do area and perimeter mean and how can each be found?*
- *How can line plots and other tools help to solve measurement problems?*

<u>*Assessments*</u>-
- Fact Fluency
- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards
- Develop this descriptor so that a student could understand the process. This can be a narrative.