Crawford Central School District

Grade 2 Math---Unit 1

Place Value, Counting, and Comparison of Numbers to 1,000

Grade: 2nd *Good work, 2nd Grade teachers!*	**Unit Name:** Place Value, Counting, and Comparison of Numbers to 1,000	**Duration:** 5 weeks

Essential Questions: 1. How do you know the values of the digits in numbers? 2. How are place value patterns used in numbers to 1,000? 3. How do you represent numbers in a variety of ways?	**Real World Problems/Applications:** 1. Monetary values 2. Comparing distances 3. Use addresses to display place value
Standards/Eligible Content (Skills): Green=Master Red = Introduced **CC.2.1.2.B.1**—Use place-value concepts to represent amounts of tens and ones to compare three digit numbers. **CC.2.1.2.B.2**—use place-value concepts to read, write and skip count to 1,000. **CC.2.1.2.B.3**—Use place-value understanding and properties of operations to add and subtract within 1,000.	**Standards Reinforced:** CC.2.1.1.B.1—Extend the counting sequence to read and write numerals to represent objects. CC.2.1.2.B.2—Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.

Critical Thinking/Reasoning Skills: 1. Representing numbers in multiple ways, making connections among multiple representations 2. Provide options for comprehension by guiding the ways in which children break down and represent numbers. 3. Construct and deconstruct three -digit numbers. (expanded form, word form, standard form)

Reading/Writing/Listening/Speaking Skills: 1. Orally identify the value of digit in a number. 2. Draw a model of a number in a variety of ways.

3. Ask inferencing questions about place value numbers to 1,000.

Fluency:
Number recognition to 1,000, place value (hundreds, tens, ones)

Vocabulary: **Review**: more, fewer, digits, tens, ones	**New**: hundreds, thousands, is greater than >, is less than <, compare, equivalent, even, odd

Technology/Manipulatives/Resources:
Base ten blocks, Place value mat, hundreds chart, math word walls
www.mathwire.com
www.firstinmath.com
www.eurekamath.com digit downloads
www.commoncoretasks.ncdpi.wikispaces.net
www.insidemathematics.org
www.illustrativemathematics.org

Authentic Performance Assessments:
Core assessment
Place value house building activity
Performance Task
http://schools.nyc.gov/NR/rdonlyres/CAC1375E-6DF9-475D-97EE-E94BAB0BEFAB/0/NYCDOEG2MathCarolsNumbers_Final_020112.pdf

Crawford Central School District

Grade 2 Math Unit 2

Fluency of Sums and Differences to 20 and Word Problems to 100

Grade: 2nd	**Unit Name:** Fluency of sums and differences to 20 and word problems to 100	**Duration:** 3 weeks
Essential Questions: How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations? How can recognizing repetition or regularity assist in solving problems more efficiently? How are addition and subtraction related?	**Real World Problems/Applications:** Santa's workshop Counting, organizing, sharing items in class	
Standards/Eligible Content (Skills): Green = Mastery CC.2.2.2.A.1-- Represent and solve problems involving addition and subtraction within 100. CC.2.2.2.A.2-- Use mental strategies to add and subtract within 20.	**Standards Reinforced**: CC.2.2.1.A.1-- Represent and solve problems involving addition and subtraction within 20. CC.2.2.1.A.2-- Understand and apply properties of operations and the relationship between addition and subtraction.	
Critical Thinking/Reasoning Skills: 1. Representing numbers in multiple ways, making connections among multiple representations 2. Provide options for comprehension by guiding the ways in which children break down and represent numbers. 3. Construct and deconstruct three digit numbers. (expanded form, word form, standard form)		
Reading/Writing/Listening/Speaking Skills: 1. Orally identify the value of digit in a number. 2. Draw a model of a number in a variety of ways and write an explanation. 3. Ask inferencing questions about place value numbers to 1,000. (see performance task)		
Fluency:		

Doubles(addition), facts that are plus 0, plus 1, plus 2

Vocabulary: **Review**: addition, subtraction, plus, minus, equals, count on, count back, doubles plus one, doubles	**New**: sums, addends, differences, equations, number sentence

Technology/Manipulatives/Resources:
Base ten blocks, Place value mat, hundreds chart, math word walls
www.mathwire.com
www.firstinmath.com
www.eurekamath.com digit downloads
www.commoncoretasks.ncdpi.wikispaces.net
www.insidemathematics.org
www.illustrativemathematics.org

Authentic Performance Assessments:
Core assessment
Place value house building activity
See illustrativemathematics.org

Grade 2 Math Unit 3

Addition and Subtraction Numbers to 1,000

Introduce Graphs & Charts

Grade: 2nd	Unit Name: Addition and subtraction numbers to 1,000 . Graphs & charts introduction.	Duration: 7 weeks
Essential Questions: 1.How can mathematics support effective communication? 2. How is mathematics used to quantify, compare, represent, and model numbers? 3. What makes a tool and/or strategy appropriate for a given task? 4. How are relationships represented mathematically?	**Real World Problems/Applications:** Gather information from peers to create graphs Money connections	
Standards/Eligible Content (Skills): Red= Introduce/Green=Master **CC.2.1.2.B.3**-- Use place-value understanding and properties of operations to add and subtract within 1,000. **M03.A--O.3.1.7**--Identify the missing symbol (+,-,X,/<,>,=) that makes a sentence true. **CC.2.4.2.A.4**--Represent and interpret data using line plots, picture graphs and bar graphs. **M03.D--M.2.1.1**-- Complete a scaled pictograph and scaled bar graph to represent data set with several categories (scales limited to 1, 2, 5, 10) **M03.D—M.2.1.2**--Solve one and two step problems using information to interpret data presented in a scaled pictograph and scaled bar graph (scales limited to 1, 2, 5, 10). **M03.D--M.2.1.4**--translate information from one type of display to another. Limit to pictographs, tally charts, bar graphs and tables.	**Standards Reinforced:** CC.2.1.1.B.3--Use place value concepts and properties of operations to add and subtract within 100. CC.2.4.1.A.4--Represent and interpret data using tables/charts.	
Critical Thinking/Reasoning Skills: Analyze information on a graph to solve problems Determine the proper operation to solve a problem		

Explain reasoning for operation of problem or interpretation of data on graphs. Reason abstractly and quantitatively
Reading/Writing/Listening/Speaking Skills: Students will explain and listen to peers about how to solve problems Students will write explanations about their problem-solving strategies. Think Alouds
Fluency: Math facts Gather Knowing partners to 10 Knowing teen numbers as 10 + ?
Vocabulary: **Review-**addend, count on, number sentence, ones, tens, parts, tally marks, more than, fewer than **New-**make a ten, ten plus facts, total, like, survey, data, picture graph, key, bar graph
Technology/Manipulatives/Resources: 5 group column Linking cubes White boards Place value chart Ten frame cards www.mathwire.com www.firstinmath.com www.eurekamath.com digital downloads www.commoncoretasks.ncdpi.wikispaces.net www.insidemathematics.org www.illustrativemathematics.org
Authentic Performance Assessments: Collect data and represent information in a variety of graphs. Core assessment Mastering Math Facts fluency practice assessments

Grade 2 Math Unit 4

Addition and Subtraction with Length, Weight, Capacity and Time Measurements

Grade: Second	Unit Name: Addition and Subtraction with Length, Weight, Capacity, and Time Measurements	Duration: 5 Weeks
Essential Questions: 1.What does it mean to estimate or analyze numerical quantities? 2.Why does "what" we measure influence "how" we measure? 3. How important is estimation in real life situations?	**Real World Problems/Applications:** Measuring ingredients to make a recipe Use a ruler to measure objects in the classroom Use a scale to weigh objects in the classroom Graph results in a variety of way using surveys taken in/out of class.	
Standards/Eligible Content (Skills): Red= introduce/ Green= Master **CC2.4.2.A.1** - Measure and estimate lengths in standard units using appropriate tools. **CC.2.4.2.A.2** - Tell and write time to the nearest five minutes using both analogue and digital clocks. **CC.2.4.2.A.6** - Extend the concepts of addition and subtraction to problems involving length. **M03.D-M.1.1.1**- Tell, show, and/or write time (analog) to the nearest minute **M03.D-M.1.1.2**- Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less) **M03.D-M.1.2.1**- Measure and estimate liquid volumes and masses of objects using standard units (cups(c), pints (pt), quarts (qt), gallons (gal), ounces (oz), and pounds (lb) and metric units (liters (l), grams (g), and kilograms (kg)). **M03.D-M.1.2.3**.- Use a ruler to measure lengths to the nearest quarter inch or centimeter	**Standards Reinforced:** **CC.2.4.1.A.1** - Order lengths and measure them both indirectly and by repeating length units. **CC.2.4.1.A.2** - Tell and write time to the nearest half hour using both analogue and digital clocks.	

M03.D-M.1.3.1- Compare total values of combinations of coins (penny, nickel, dime, and quarter) and/or dollar bills less than five dollars	

Critical Thinking/Reasoning Skills:
Identify times on analog and digital clocks, write time accurately
Choose appropriate tools to measure different objects
Compare lengths and explain reasoning about comparison
Estimate lengths and explain reasoning for estimate

Reading/Writing/Listening/Speaking Skills:
Orally explain process for solving problems.
Write explanations for solving problems.
Think alouds

Fluency:
Identify time on analog and digital clocks to 5 minutes
Identify elapsed time within 30 minutes

Vocabulary:
Review-combine, compare, different, height, length, ruler, number line
New-length unit, benchmark, endpoint, estimate, hash mark, meter, meter stick, overlap,

Technology/Manipulatives/Resources: centimeter cubes, centimeter rulers, white boards
www.mathwire.com
www.firstinmath.com
www.eurekamath.com digital downloads
www.commoncoretasks.ncdpi.wikispaces.net
www.insidemathematics.org
www.illustrativemathematics.org

Authentic Performance Assessments:

Core assessment
Measurement project

Grade 2 Math Unit 5

Comparison, Addition and Subtraction with Length and Money

Grade: Second	Unit Name: Comparison, Addition, and Subtraction with Length and Money	Duration: 6 Weeks

Essential Questions:	Real World Problems/Applications:
1. How can I demonstrate amounts of money using different coins? 2. Why is money important in real life? 3. How can I use money to demonstrate addition and subtraction? 1. What makes a tool and/or strategy appropriate for a given task?	Buying/selling items Measuring items at home/school Adding and subtracting with money

Standards/Eligible Content (Skills): Red=Introduce/Green=Master	Standards Reinforced:
CC2.4.2.A.1 - Measure and estimate lengths in standard units using appropriate tools. **CC2.4.2.A.6** - Extend the concepts of addition and subtraction to problems involving length. **CC2.4.2.A.3** -Solve problems and make change using coins in paper currency with appropriate symbols. **M03.D-M.1.2.1**- Measure and estimate liquid volumes and masses of objects using standard units (cups(c), pints (pt), quarts (qt), gallons (gal), ounces (oz), and pounds (lb) and metric units (liters (l), grams (g), and kilograms (kg)).	CC.2.4.1.A.1 - Order lengths and measure them both indirectly and by repeating length units.

Critical Thinking/Reasoning Skills:

Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.

Explain orally or in writing the use of a chosen tool or strategy.

Reading/Writing/Listening/Speaking Skills:

Think Alouds

Read problems fluently

Discuss with peers reasoning for strategies and problem solving procedures.

Fluency:
Coin identification
Skip counting

Vocabulary:
Review-bar graph, data, foot, inch, picture graph, symbol, thermometer, dollars, coins, cents
New-category, legend, line plot, scale, table, yard, compose, decompose, degree

Technology/Manipulatives/Resources: inch ruler, centimeter ruler, grid paper, inch tiles, line plot, thermometer, coin manipulatives
 www.mathwire.com
www.firstinmath.com
www.eurekamath.com digital downloads
www.commoncoretasks.ncdpi.wikispaces.net
www.insidemathematics.org
www.illustrativemathematics.org

Authentic Performance Assessments:
Core assessment
Classroom store
project

Grade 2 Math Unit 6

Recognizing Angles, Faces and Vertices of Shapes, Fraction of Shape

Grade: Second	**Unit Name:** Recognizing Angles, Faces and Vertices of Shapes**,** Fraction of Shape	**Duration:** 4 weeks

Essential Questions:	**Real World Problems/Applications:**
1. What shapes do we find in the real world? 2. How are geometric shapes and objects defined? 3. What is the difference between two dimensional and three-dimensional shapes? 4. How can fractions be used in telling time?	Finding and describing shapes in the real world Building and creating starting with basic shapes Using fractions in cooking, measuring and money

Standards/Eligible Content (Skills): Red=Introduce/Green=Master	**Standards Reinforced:**
CC2.3.2.A.1 - Analyze and draw two and three-dimensional shapes having specified attributes **CC.2.3.2.A.2**.-Use the understanding of fractions to partition shapes into halves, quarters, and thirds. M03.C-G.1.1.2 -Recognize rhombi, rectangles, and square as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories. M03.C-G.1.3 - Partition shapes into parts with equal areas. Express the areas of each part as a unit fraction of the whole. M03.A-F.1.1.2 - Represent fractions on a number line (limit denominators to 2, 3, 4, 5, and 8; limit numerators to whole numbers less than denominators; and no simplification necessary)	CC.2.3.1.A.1- Compose and distinguish between two and three-dimensional shapes based on their attributes. CC.2.3.1.A.2 - Use the understanding of fractions to partition shapes into halves and quarters.

Critical Thinking/Reasoning Skills:
Partition circles and rectangles into two, three, or four equal shares, recognize that equal shares of identical wholes need not have the same shape. Use of spatial reasoning and logic to design, build or create a product

Reading/Writing/Listening/Speaking Skills:
Think Aloud Read problems fluently Discuss with peers reasoning for strategies and problem solving procedures.

Fluency:

Two and three-dimensional shape names
Vocabulary: **Review**-angle, face, hour, minute, half hour, circle, rectangle, square, triangle, fractions, vertices **New:** A.M, P.M, parallel, parallelogram, partition, quarter past, quarter to, right angle, thirds, whole, penta**gon,** polygon, quadrilateral, hexagon, rhombus, trapezoid , square corner, straight edge
Technology/Manipulatives/Resources: geoboards, pattern blocks, tangrams, large geared clock, student geared clocks www.mathwire.com www.firstinmath.com www.eurekamath.com digital downloads www.commoncoretasks.ncdpi.wikispaces.net www.insidemathematics.org www.illustrativemathematics.org
Authentic Performance Assessments: Core assessment Geo-metro cities Shape scavenger hunts Construct three-dimensional shapes and partition https://www.teacherspayteachers.com/FreeDownload/3-Dimensional-Shapes-Project-345492

Grade 2 Math Unit 7

Preparation For Multiplication and Division

Grade: Second	Unit Name: Preparation for Multiplication and Division	Duration: 7 weeks
Essential Questions: 1. How are addition and multiplication alike? 2. How are algorithms helpful in solving problems? 3. How can we represent multiplication in a variety of ways? 4. How are subtraction and division alike?	**Real World Application** Counting groups of items Organizing sets Cooking Money	
Standards/Eligible Content (Skills): Red=Introduce/Green=Master CC.2.2.2.A.3 -Work with equal groups of objects to gain foundations for multiplication. M03.B-O 3.1.5.-Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations. M03.B-O.2.1.1.- Apply the commutative property of multiplication (not identification or definition of the property) M03.B-O.1.2.2.-Determine the unknown whole number in a multiplication (up to and including 10x10) or division (limit dividends through 50 and limit devisors and quotients through 10) equation relating three whole numbers. M03.B-O.3.1.7 - Identify the missing symbol (+, -, x, /, <, >, and =) and numbers.	**Standards Reinforced:** NA	
Critical Thinking/Reasoning Skills: Recognizing and using patterns in repeated addition Explain problem solving as it relates to multiplication Demonstrate an understanding of multiplication with pictures/diagrams		
Reading/Writing/Listening/Speaking Skills:		

Think Aloud

Orally or in writing explain process for repeated addition

Pair/share with peers to discuss ways to demonstrate/solve problems

Fluency:

Math fact fluency

Vocabulary:

Review-odd, even, addends, doubles, equation, number sentence, rectangle, skip counting, sum, total, unit

New-array, repeated addition, rows, whole number, tessellation

Technology/Manipulatives/Resources: counters, array, square tiles

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www.firstinmath.com

www.eurekamath.com digital downloads

www.commoncoretasks.ncdpi.wikispaces.net

www.insidemathematics.org

www.illustrativemathematics.org

Authentic Performance Assessments:

Core assessment

Project