WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Mathematics Grade 4
Course Number: 08423

Course Description: In Grade 4, instructional time should focus on eleven critical areas: (1) use the four operations with whole numbers to solve problems; (2) gain familiarity with factors and multiples; (3) generate and analyze patterns; (4) generalize place value understanding for multi-digit whole numbers; (5) use place value understanding and properties of operations to perform multi-digit arithmetic; (6) extend understanding of fraction equivalence and ordering; (7) build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers; (8) understand decimal notation for fractions, and compare decimal fractions; (9) solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit; (10) represent and interpret data; (10) geometric measurement: understand concepts of angle and measure angles; and (11) draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Suggested Grade Level: Grade 4
Length of Course: Two Semesters
Units of Credit: None
PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG 69 Grades PK-4, CSPG 70 Grades 4-8
To find the CSPG information, go to CSPG
Certification verified by the WCSD Human Resources Department: ☒Yes ☐No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Academic
Mark Types: Check all that apply.
☒F – Final Average ☒MP – Marking Period ☐EXM – Final Exam

GPA Type: ☒ GPAEL-GPA Elementary ☐ GPAML-GPA for Middle Level ☐ NHS-National Honor Society
☐ UGPA-Non-Weighted Grade Point Average ☐ GPA-Weighted Grade Point Average

State Course Code: 02034
To find the State Course Code, go to State Course Code, download the Excel file for *SCED*, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Board Approved Textbooks, Software, and Materials:
Title: envision Math 4th Grade

Publisher: Pearson
ISBN #: 9780768573459
Copyright Date: 2020
WCSD Board Approval Date: 3/8/2021

Supplemental Materials: Manipulatives, ST Math, calculators, flashcards

Curriculum Document

WCSD Board Approval:
Date Finalized: 1/18/2021
Date Approved: 3/8/2021
Implementation Year: 2021-2022

SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS

Performance Indicator	PA Core Standard and/or Eligible Content	Month Taught and Assessed for Mastery
Apply place value concepts to show an understanding of multi-digit whole numbers.	**CC.2.1.4.B.1**	September
Generalize place-value understanding for multi-digit whole numbers.	M04.A-T.1	September
Apply place-value and numeration concepts to compare, find equivalencies, and round.	M04.A-T.1.1	September
Demonstrate an understanding that in a multi-digit whole number (through 1,000,000), a digit in one place represents ten times what it represents in the place to its right. Example: Recognize that in the number 770, the 7 in the hundreds place is ten times the 7 in the tens place.	M04.A-T.1.1.1	September
Read and write whole numbers in expanded, standard, and word form through 1,000,000.	M04.A-T.1.1.2	September
Compare two multi-digit numbers through 1,000,000 based on meanings of the digits in each place, using >, =, and < symbols.	M04.A-T.1.1.3	September
Round multi-digit whole numbers (through 1,000,000) to any place.	M04.A-T.1.1.4	September
Use place value understanding and properties of operations to perform multi-digit arithmetic.	**CC.2.1.4.B.2**	October
Use operations to solve problems.	M04.A-T.2.1	October
Add and subtract multi-digit whole numbers (limit sums and subtrahends up to and including 1,000,000).	M04.A-T.2.1.1	October
Multiply a whole number of up to four digits by a one-digit whole number and multiply 2 two-digit numbers.	M04.A-T.2.1.2	October
Divide up to four-digit dividends by one-digit divisors with answers written as whole-number quotients and remainders.	M04.A-T.2.1.3	October
Estimate the answer to addition, subtraction, and multiplication problems using whole numbers through six digits (for multiplication, no more than 2 digits × 1 digit, excluding powers of 10).	M04.A-T.2.1.4	October
Extend the understanding of fractions to show equivalence and ordering.	**CC.2.1.4.C.1**	March
Extend understanding of fraction equivalence and ordering.	M04.A-F.1	March
Find equivalencies and compare fractions.	M04.A-F.1.1	March
Recognize and generate equivalent fractions.	M04.A-F.1.1.1	March
Compare two fractions with different numerators and different denominators (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100) using the symbols >, =, or < and justify the conclusions.	M04.A-F.1.1.2	March

WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	**CC.2.1.4.C.2**	March
Solve problems involving fractions and whole numbers (straight computation or word problems).	M04.A-F.2.1	March
Add and subtract fractions with a common denominator (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100; answers do not need to be simplified; and no improper fractions as the final answer).	M04.A-F.2.1.1	March
Decompose a fraction or a mixed number into a sum of fractions with the same denominator (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100), recording the decomposition by an equation. Justify decompositions (e.g., by using a visual fraction model). Example 1: 3/8 = 1/8 + 1/8 + 1/8 OR 3/8 = 1/8 + 2/8 Example 2: 2 1/12 = 1 + 1 + 1/12 = 12/12 + 12/12 + 1/12	M04.A-F.2.1.2	March
Add and subtract mixed numbers with a common denominator (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100; no regrouping with subtraction; fractions do not need to be simplified; and no improper fractions as the final answers).	M04.A-F.2.1.3	March
Solve word problems involving addition and subtraction of fractions referring to the same whole or set and having like denominators (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100).	M04.A-F.2.1.4	March
Multiply a whole number by a unit fraction (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100 and final answers do not need to be simplified or written as a mixed number). Example: 5 × (1/4) = 5/4	M04.A-F.2.1.5	March
Multiply a whole number by a non-unit fraction (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100 and final answers do not need to be simplified or written as a mixed number). Example: 3 × (5/6) = 15/6	M04.A-F.2.1.6	March
Solve word problems involving multiplication of a whole number by a fraction (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100).	M04.A-F.2.1.7	March

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g. 19/100).	**CC.2.1.4.C.3**	February
Understand decimal notation for fractions and compare decimal fractions.	M04.A-F.3	February
Use operations to solve problems involving decimals, including converting between fractions and decimals (may include word problems).	M04.A-F.3.1	February
Add two fractions with respective denominators 10 and 100. Example: Express 3/10 as 30/100, and add 3/10 + 4/100 = 30/100 + 4/100 = 34/100.	M04.A-F.3.1.1	February
Use decimal notation for fractions with denominators 10 or 100. Example: Rewrite 0.62 as 62/100 and vice versa.	M04.A-F.3.1.2	February
Compare two decimals to hundredths using the symbols >, =, or <, and justify the conclusions.	M04.A-F.3.1.3	February
Represent and solve problems involving the four operations.	**CC.2.2.4.A.1**	November
Use the four operations with whole numbers to solve problems.	M04.B-O.1	November
Use numbers and symbols to model the concepts of expressions and equations.	M04.B-O.1.1	November
Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations. Example 1: Interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Example 2: Know that the statement 24 is 3 times as many as 8 can be represented by the equation 24 = 3 × 8 or 24 = 8 × 3.	M04.B-O.1.1.1	November
Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. Example: Know that 3 × 4 can be used to represent that Student A has 4 objects and Student B has 3 times as many objects not just 3 more objects.	M04.B-O.1.1.2	November
Solve multi-step word problems posed with whole numbers using the four operations. Answers will be either whole numbers or have remainders that must be interpreted yielding a final answer that is a	M04.B-O.1.1.3	November

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
whole number. Represent these problems using equations with a symbol or letter standing for the unknown quantity.		
Identify the missing symbol (+, –, ×, ÷, =) that makes a number sentence true (single-digit divisor only).	M04.B-O.1.1.4	November
Develop and/or apply number theory concepts to find factors and multiples.	**CC.2.2.4.A.2**	December
Gain familiarity with factors and multiples.	M04.B-O.2	December
Develop and apply number theory concepts to represent numbers in various ways.	M04.B-O.2.1	December
Find all factor pairs for a whole number in the interval 1 through 100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the interval 1 through 100 is a multiple of a given one digit number. Determine whether a given whole number in the interval 1 through 100 is prime or composite.	M04.B-O.2.1.1	December
Generate and analyze patterns using one rule.	**CC.2.2.4.A.4**	January
Generate and analyze patterns.	M04.B-O.3	January
Recognize, describe, extend, create, and replicate a variety of patterns.	M04.B-O.3.1	January
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. Example 1: Given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms alternate between odd and even numbers. Example 2: Given the rule “increase the number of sides by 1” and starting with a triangle, observe that the tops of the shapes alternate between a side and a vertex.	M04.B-O.3.1.1	January
Determine the missing elements in a function table (limit to +, –, or × and to whole numbers or money).	M04.B-O.3.1.2	January
Determine the rule for a function given a table (limit to +, –, or × and to whole numbers).	M04.B-O.3.1.3	January
Draw lines and angles and identify these in two-dimensional figures.	**CC.2.3.4.A.1**	May
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	M04.C-G.1	May
List properties, classify, draw, and identify geometric figures in two dimensions.	M04.C-G.1.1	May
Draw points, lines, line segments, rays, angles (right, acute, and obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	M04.C-G.1.1.1	May

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	M04.C-G.1.1.2	May
Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into mirroring parts. Identify line-symmetric figures and draw lines of symmetry (up to two lines of symmetry).	M04.C-G.1.1.3	May
Classify two-dimensional figures by properties of their lines and angles.	**CC.2.3.4.A.2**	May
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	M04.C-G.1	May
List properties, classify, draw, and identify geometric figures in two dimensions.	M04.C-G.1.1	May
Draw points, lines, line segments, rays, angles (right, acute, and obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	M04.C-G.1.1.1	May
Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	M04.C-G.1.1.2	May
Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into mirroring parts. Identify line-symmetric figures and draw lines of symmetry (up to two lines of symmetry).	M04.C-G.1.1.3	May
Recognize symmetric shapes and draw lines of symmetry.	**CC.2.3.4.A.3**	May
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	M04.C-G.1	May
List properties, classify, draw, and identify geometric figures in two dimensions.	M04.C-G.1.1	May
Draw points, lines, line segments, rays, angles (right, acute, and obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	M04.C-G.1.1.1	May
Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	M04.C-G.1.1.2	May

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into mirroring parts. Identify line-symmetric figures and draw lines of symmetry (up to two lines of symmetry).	M04.C-G.1.1.3	May
Solve problems involving measurement and conversions from a larger unit to a smaller unit.	**CC.2.4.4.A.1**	April
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	M04.D-M.1	April
Solve problems involving length, weight (mass), liquid volume, time, area, and perimeter.	M04.D-M.1.1	April
Know relative sizes of measurement units within one system of units including standard units (in., ft., yd., mi; oz., lb.; and c, pt., qt., gal.), metric units (cm, m, km; g, kg; and mL, L), and time (sec., min., hr., day, wk., mo., and yr.). Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. A table of equivalencies will be provided. Example 1: Know that 1 kg is 1,000 times as heavy as 1 g. Example 2: Express the length of a 4-foot snake as 48 in.	M04.D-M.1.1.1	April
Use the four operations to solve word problems involving distances, intervals of time (such as elapsed time), liquid volumes, masses of objects; money, including problems involving simple fractions or decimals; and problems that require expressing measurements given in a larger unit in terms of a smaller unit.	M04.D-M.1.1.2	April
Apply the area and perimeter formulas for rectangles in real-world and mathematical problems (may include finding a missing side length). Whole numbers only. The formulas will be provided.	M04.D-M.1.1.3	April
Identify time (analog or digital) as the amount of minutes before or after the hour. Example 1: 2:50 is the same as 10 minutes before 3:00. Example 2: Quarter past six is the same as 6:15.	M04.D-M.1.1.4	April
Translate information from one type of data display to another.	**CC.2.4.4.A.2**	September
Represent and interpret data.	M04.D-M.2	September
Organize, display, and answer questions based on data.	M04.D-M.2.1	September

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Make a line plot to display a data set of measurements in fractions of a unit (e.g., intervals of 1/2, 1/4, or 1/8).	M04.D-M.2.1.1	September
Solve problems involving addition and subtraction of fractions by using information presented in line plots (line plots must be labeled with common denominators, such as 1/4, 2/4, 3/4).	M04.D-M.2.1.2	September
Translate information from one type of display to another (table, chart, bar graph, or pictograph).	M04.D-M.2.1.3	September
Represent and interpret data involving fractions using information provided in a line plot.	**CC.2.4.4.A.4**	September
Represent and interpret data.	M04.D-M.2	September
Organize, display, and answer questions based on data.	M04.D-M.2.1	September
Make a line plot to display a data set of measurements in fractions of a unit (e.g., intervals of 1/2, 1/4, or 1/8).	M04.D-M.2.1.1	September
Solve problems involving addition and subtraction of fractions by using information presented in line plots (line plots must be labeled with common denominators, such as 1/4, 2/4, 3/4).	M04.D-M.2.1.2	September
Translate information from one type of display to another (table, chart, bar graph, or pictograph).	M04.D-M.2.1.3	September
Measure angles and use properties of adjacent angles to solve problems.	**CC.2.4.4.A.6**	May
Geometric measurement: understand concepts of angle; measure and create angles.	M04.D-M.3	May
Use appropriate tools and units to sketch an angle and determine angle measurements.	M04.D-M.3.1.1	May
Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems. (Angles must be adjacent and non-overlapping.)	M04.D-M.3.1.2	May

ASSESSMENTS

PSSA Academic Standards, Assessment Anchors, and Eligible Content: The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

Formative Assessments: The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include: center activities, cooperative learning activities, games, online activities, oral responses, teacher observations, and worksheets.

Summative Assessments: The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

Effective summative assessments for this course include: performance assessments, projects, tests, and quizzes.