**WARREN COUNTY SCHOOL DISTRICT**

PLANNED INSTRUCTION

## COURSE DESCRIPTION

**Course Title:** Mathematics 3
**Course Number:** 0823
**Course Prerequisites:** None

**Course Description:** In Grade 3, instructional time focuses on eleven critical areas: (1) represent and solve problems involving multiplication and division; (2) understand properties of multiplication and the relationship between multiplication and division; (3) multiply and divide within 100; (4) solve problems involving the four operations, and identify and explain patterns in arithmetic; (5) use place value and understanding and properties of operations to perform multi-digit arithmetic; (6) develop understanding of fractions as numbers; (7) solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects; (8) represent and interpret data; (9) geometric measurement: understand concepts of area and relate area to multiplication and to addition; (10) Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures; and (11) reason with shapes and their attributes.

**Suggested Grade Level**: Grade 3
**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 or Elementary K-6
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**: 02033
To find the State Course Code, go to State Course Code, download the Excel file for *SCED*, click on SCED 6.0 tab, and choose the correct code that corresponds with the course.

## TEXTBOOKS AND SUPPLEMENTAL MATERIALS

**Board Approved Textbooks, Software, and Materials:**

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| **Title:** | enVision Math Grade 3 |
| **Publisher:** | Pearson |
| **ISBN #:** | 978-0-13-495368-7 |
| **Copyright Date:** | 2020 |
| **WCSD Board Approval Date:** | 3/8/2021 |

**Supplemental Materials:** Manipulatives, ST Math, flashcards, mCLASS

## Curriculum Document

**WCSD Board Approval:**

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| **Date Finalized:** | 07/20-2022 |
| **Date Approved:** | Click or tap to enter a date. |
| **Implementation Year:** | 2022-2023 |

## 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 AND CONCEPTS

### Marking Period 1

Place Value through 9,999

Rounding to 10's and 100's

Understand Multiplication and Division of Whole Numbers

Multiplication Facts: Use Patterns

Apply Properties: Multiplication Facts 3, 4, 5, 6, 7, 8

Use Multiplication to Divide: Division Facts

### Marking Period 2

Fluently Multiply and Divide Within 100

Connect Area to Multiplication and Addition

Use Strategies and Properties to Add and Subtract

Fluently Add and Subtract with 1000

### Marking Period 3

Use operations with Whole Numbers to Solve Problems

Understand Fractions as Numbers

Fraction Equivalence and Comparison

### Marking Period 4

Solve Time, Capacity, and Mass Problems

Attributes of Two-Dimensional Shapes

Solve Perimeter Problems

Multiply by Multiples of 10

## Standards/Eligible Content and Skills

| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
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| Apply place value understanding and properties of operations to perform multi-digit arithmetic. | CC.2.1.3.B.1 | MP2 |
| Use place-value understanding and properties of operations to perform multi-digit arithmetic. | M03.A-T.1 | MP2 |
| Round two- and three-digit whole numbers to the nearest ten or hundred, respectively. | M03.A-T.1.1.1 | MP2 |
| Add two- and three-digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers. | M03.A-T.1.1.2 | MP2 |
| Multiply one-digit whole numbers by two-digit multiples of 10 (from 10 through 90). | M03.A-T.1.1.3 | MP2 |
| Order a set of whole numbers from least to greatest or greatest to least (up through 9,999, and limit sets to no more than four numbers). | M03.A-T.1.1.4 | MP2 |
| Explore and develop an understanding of fractions as numbers. | CC.2.1.3.C.1 | MP3 |
| Develop an understanding of fractions as numbers. | M03.A-F.1 | MP3 |
| Demonstrate that when a whole or set is partitioned into y equal parts, the fraction 1/y represents 1 part of the whole and/or the fraction x/y represents x equal parts of the whole (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). | M03.A-F.1.1.1 | MP3 |
| Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). | M03.A-F.1.1.2 | MP3 |
| Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator). Example 1: 1/2 = 2/4 Example 2: 4/6 = 2/3 | M03.A-F.1.1.3 | MP3 |

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| Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers (limit denominators to 1, 2, 3, 4, 6, and 8). Example 1: Express 3 in the form 3 = 3/1. Example 2: Recognize that 6/1 = 6. | M03.A-F.1.1.4 | MP3 |
| Compare two fractions with the same denominator (limit denominators to 1, 2, 3, 4, 6, and 8), using the symbols >, =, or <, and/or justify the conclusions. | M03.A-F.1.1.5 | MP3 |
| Represent and solve problems involving multiplication and division. | CC.2.2.3.A.1 | MP1 |
| Interpret and/or describe products of whole numbers (up to and including 10 × 10). Example 1: Interpret 35 as the total number of objects in 5 groups, each containing 7 objects. Example 2: Describe a context in which a total number of objects can be expressed as 5 × 7. | M03.B-O.1.1.1 | MP1 |
| Interpret and/or describe whole-number quotients of whole numbers (limit dividends through 50 and limit divisors and quotients through 10). Example 1: Interpret 48 ÷ 8 as the number of objects in each share when 48 objects are partitioned equally into 8 shares, or as a number of shares when 48 objects are partitioned into equal shares of 8 objects each. Example 2: Describe a context in which a number of shares or a number of groups can be expressed as 48 ÷ 8. | M03.B-O.1.1.2 | MP1 |
| Solve mathematical and real-world problems using multiplication and division, including determining the missing number in a multiplication and/or division equation. | M03.B-O.1.2 | MP1 |
| Use multiplication (up to and including 10 × 10) and/or division (limit dividends through 50 and limit divisors and quotients through 10) to solve word problems in situations involving equal groups, arrays, and/or measurement quantities. | M03.B-O.1.2.1 | MP2 |
| Determine the unknown whole number in a multiplication (up to and including 10 × 10) or division (limit dividends through 50 and limit divisors and quotients through 10) equation relating three whole numbers. Example: Determine the unknown number that makes an equation true. | M03.B-O.1.2.2 | MP2 |
| Understand properties of multiplication and the relationship between multiplication and division. | CC.2.2.3.A.2 | MP1 |
| Apply the commutative property of multiplication (not identification or definition of the property). | M03.B-O.2.1.1 | MP1 |
| Apply the associative property of multiplication (not identification or definition of the property). | M03.B-O.2.1.2 | MP1 |
| Relate division to a missing number multiplication equation. | M03.B-O.2.2 | MP1 |
| Interpret and/or model division as a multiplication equation with an unknown factor. Example: Find 32 ÷ 8 by solving 8 × ? = 32. | M03.B-O.2.2.1 | MP1 |
| Demonstrate multiplication and division fluency. | CC.2.2.3.A.3 | MP2 |
| Solve problems involving the four operations and identify and explain patterns in arithmetic. | CC.2.2.3.A.4 | MP2 |
| Solve two-step word problems using the four operations (expressions are not explicitly stated). Limit to problems with whole numbers and having whole-number answers. | M03.B-O.3.1.1 | MP3 |

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| Represent two-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers. | M03.B-O.3.1.2 | MP2 |
| Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers. | M03.B-O.3.1.3 | MP2 |
| Solve two-step equations using order of operations (equation is explicitly stated with no grouping symbols). | M03.B-O.3.1.4 | MP3 |
| Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations. Example 1: Observe that 4 times a number is always even. Example 2: Explain why 6 times a number can be decomposed into three equal addends. | M03.B-O.3.1.5 | MP1 |
| Create or match a story to a given combination of symbols (+, –, ×, ÷, , and =) and numbers. | M03.B-O.3.1.6 | MP1 |
| Identify the missing symbol (+, –, ×, ÷, , and =) that makes a number sentence true. | M03.B-O.3.1.7 | MP3 |
| Identify, compare, and classify shapes and their attributes. | CC.2.3.3.A.1 | MP4 |
| Reason with shapes and their attributes. | M03.C-G.1 | MP4 |
| Analyze characteristics of polygons. | M03.C-G.1.1 | MP4 |
| Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category. Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides. Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures. | M03.C-G.1.1.1 | MP4 |
| Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories. | M03.C-G.1.1.2 | MP4 |
| Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. Example 1: Partition a shape into 4 parts with equal areas. Example 2: Describe the area of each of 8 equal parts as 1/8 of the area of the shape. | M03.C-G.1.1.3 | MP4 |
| Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole. | CC.2.3.3.A.2 | MP3 |
| Solve problems involving measurement and estimation of temperature, liquid volume, mass, or length. | CC.2.4.3.A.1 | MP4 |
| Solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects. | M03.D-M.1 | MP4 |
| Determine or calculate time and elapsed time. | M03.D-M.1.1 | MP4 |
| Tell, show, and/or write time (analog) to the nearest minute. | M03.D-M.1.1.1 | MP4 |
| Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less). | M03.D-M.1.1.2 | MP4 |
| 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.1.2.1 | MP4 |

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| Add, subtract, multiply, and divide to solve one-step word problems involving masses or liquid volumes that are given in the same units. | M03.D-M.1.2.2 | MP4 |
| Use a ruler to measure lengths to the nearest quarter inch or centimeter. | M03.D-M.1.2.3 | MP4 |
| Compare total values of combinations of coins (penny, nickel, dime, and quarter) and/or dollar bills less than $5.00. | M03.D-M.1.3.1 | MP4 |
| Make change for an amount up to $5.00 with no more than $2.00 change given (penny, nickel, dime, quarter, and dollar). | M03.D-M.1.3.2 | MP4 |
| Round amounts of money to the nearest dollar. | M03.D-M.1.3.3 | MP4 |
| Tell and write time to the nearest minute and solve problems by calculating time intervals. | CC.2.4.3.A.2 | MP4 |
| Solve problems and make change involving money using a combination of coins and bills. | CC.2.4.3.A.3 | MP4 |
| Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs. | CC.2.4.3.A.4 | MP4 |
| Represent and interpret data. | M03.D-M.2 | MP2 |
| Complete a scaled pictograph and a scaled bar graph to represent a data set with several categories (scales limited to 1, 2, 5, and 10). | M03.D-M.2.1.1 | MP2 |
| Solve one- and two-step problems using information to interpret data presented in scaled pictographs and scaled bar graphs (scales limited to 1, 2, 5, and 10). Example 1: (One-step) “Which category is the largest?” Example 2: (Two-step) “How many more are in category A than in category B?” | M03.D-M.2.1.2 | MP2 |
| Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters. | M03.D-M.2.1.3 | MP3 |
| Translate information from one type of display to another. Limit to pictographs, tally charts, bar graphs, and tables. Example: Convert a tally chart to a bar graph. | M03.D-M.2.1.4 | MP2 |
| Determine the area of a rectangle and apply the concept to multiplication and to addition. | CC.2.4.3.A.5 | MP2 |
| Geometric measurement: understand concepts of area and relate area to multiplication and to addition. | M03.D-M.3 | MP2 |
| Measure areas by counting unit squares (square cm, square m, square in., square ft, and non-standard square units). | M03.D-M.3.1.1 | MP2 |
| Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems and represent whole-number products as rectangular areas in mathematical reasoning. | M03.D-M.3.1.2 | MP2 |
| Solve problems involving perimeters of polygons and distinguish between linear and area measures. | CC.2.4.3.A.6 | MP4 |
| Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. | M03.D-M.4 | MP4 |
| Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, | M03.D-M.4.1.1 | MP4 |

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| finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problem. | | |

## ASSESSMENTS

**PDE 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, writing, 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, writing, tests, and quizzes.