# Our Lady of the Lake Roman Catholic School
## Yearly Course Outline
## Math
## Fourth Grade
## 2023–2024

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## Course Description

In 4th Grade, our study of mathematics will include place value to the millions, base 10 operations, algebra, units of measurement, line plots, area and perimeter, and geometry. Lessons will also focus on the addition, subtraction, multiplication, and division of whole numbers, and the addition and subtraction of fractions, and decimals. Students will use a variety of manipulatives and adaptive software to solve both academic and real word problems.

## Instructional Materials

*enVision Mathematics,* Grade 4 (Pearson/Saavas)

## Methods of Assessment and Distribution

All test, quiz, activity, and homework grades will be posted on PowerSchool (www.ollpowerschool.org). Please check for postings frequently. Each quarter, four tests and four quizzes will be administered.

### Assessment Weighting
60% Tests
30% Quizzes
10% Homework

### Grading Scale
A: 100-94
B: 93-86
C: 85-78
D: 77-70
U: 69 and below

# Tentative Course Calendar
*** Dates and course content are subject to change at discretion of teacher or administration. ***

| Week | Standards | Objectives (The learner will . . .) | Instructional Materials | Assessments |
|---|---|---|---|---|
| **1st Quarter** | | | | |
| **Week 1** *Aug. 14-18* 8/18 Summer reading due | 4.NBT.2 | read and write numbers to 100,000 identify place and value in numbers to 100,000 write numbers in expanded form | Consumable textbook and Manipulatives Supplementary materials Lesson 1-1 and supplemental lesson | |
| **Week 2** *Aug. 21-25* | 4.NBT.2 4.NBT.1 | read and write number to millions place identify place and value to 100,000,000 use place value to compare multi-digit whole numbers | Consumable textbook, manipulatives, and supplementary materials Lesson 1-3 and supplemental lesson | Quiz #1 Place and value, reading and writing numbers to 100 thousand |
| **Week 3** *Aug. 28-01* | 4.NBT.2 4.NBT.1 4.NBT.3 | recognize the relationship between adjacent digits in a multi-digit number (10 times the value) use place value understanding to round multi-digit numbers less than one million to any place | Consumable textbook, manipulatives, and supplementary materials Lesson 1-2 and supplemental lesson | Test #1 Lessons 1-1 through 1-3 Place and value to the millions |

| Week 4 Sept. 04-08 9/4 No School | 4.NBT.3 4 MP 2 | use place value understanding to round multi-digit numbers less than one million to any place construct an argument to solve a word problem round numbers to whole numbers to estimate sums and differences | Consumable textbook, manipulatives, and supplementary materials Lesson 1-4; 1-5 and supplemental lesson Lesson 2-2 estimation | Quiz #2 Lesson 1-4 rounding |
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| Week 5 Sept. 11-15 | 4 MP 2 4.NBT.3 4.NBT.4 4.NBT.4 4.OA.3 | round numbers to whole numbers to estimate sums and differences use the properties of addition to add whole numbers fluently (4.NBT.4) add and subtract whole numbers mentally using a variety of methods | Consumable textbook, manipulatives, and supplementary materials Lesson 2-2; and supplemental lesson | Test #2 Lesson 1-4; 2-1 rounding and estimation |
| Week 6 Sept. 18-22 | 4.NBT.3 4.NBT.4 4.OA.3 | round greater whole numbers to estimate sums and differences add and subtract whole numbers mentally using a variety of methods | Consumable textbook, manipulatives, and supplementary materials Lesson 2-1 properties of addition; 2-2, 2-3, 2-4 adding whole numbers; 2-1 adding whole numbers mentally; | Quiz #3 Lessons 2-1 through 2-4 addition and estimation |

| Week 7 Sept. 25-29 Spirit Week 9/29 Fun Run Kickoff | 4.NBT.3 4.NBT.4 4.OA.3 4.NBT.4 4.OA.3 4.OA.2 | round greater whole numbers to estimate sums and differences add and subtract whole numbers mentally using a variety of methods solve word problems by using expressions with a symbol for the unknown number | Consumable textbook, manipulatives, and supplementary materials 2-5 and 2-6 subtraction Lesson 2-7 subtraction across zeros supplemental lessons on writing expressions with a variable; stepping out expressions | Test #3 Unit 2- addition, subtraction and estimation |
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| Week 8 Oct. 02-06 | 4.NBT.4 4.OA.3 4.OA.2 | solve word problems by using expressions with a symbol for the unknown number 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 find a specific number in the pattern by writing an expression | Consumable textbook, manipulatives, and supplementary materials supplemental lessons on writing expressions with a variable; stepping out expressions Lesson 14-1 | Quiz # 4 expressions |
| Week 9 Oct. 09-13 10/13 ½ day (Fun Run) | 4.NBT.4 4.OA.3 4.OA.2 | solve word problems by using equations with a symbol for the unknown number Generate a number or shape pattern that follows a given rule. Identify apparent | Consumable textbook, manipulatives, and supplementary materials supplemental lessons on writing | Test #4 Unit 14 repeating patterns and number sequences 14-1; 14-3 |

| | | features of the pattern that were not explicit in the rule itself | equations with a variable; stepping out equations Lesson 14-3 repeating patterns; add equations to repeating patterns | and writing and solving expressions and equations |
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| **2nd Quarter** | | | | |
| **Week 10** *Oct. 16-20* | 4.MD.3 | Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. Find the unknown length or width of a rectangle using the known area or perimeter | Consumable textbook, manipulatives, and supplementary materials Lesson 13-6 and supplemental lesson Use equations to find missing information | Quiz # 1 Lesson 13-6 Finding area and perimeter using a formula Finding the unknown information of area or perimeter |
| **Week 11** *Oct. 23-27* 10/27 Fun Run Reward Day | 4.MD.8 4.NBT.3 4.NBT.5 | Recognize the area as additive. Find areas of rectangular figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems. -Properties of multiplication -Multiplying patterns over increasing place values | Consumable textbook, manipulatives, and supplementary materials Supplemental lesson on area of irregular shapes Lesson 3-1 multiplying units of 10 | Test #1 Lessons 13-6 and 3-1 -irregular area -vocabulary -multiplying units of 10 over increasing place values |
| **Week 12** *Oct. 30-03* | 4.NBT.3 4.NBT.5 | Estimating products multiply and estimate a whole number of up to 4 digits by 1 digit. Illustrate and | Consumable textbook, manipulatives, and supplementary materials | Test #2 Lessons 3-3, 3-4, 3-5, 3-7 -multiplying 1 digit by up to 4 digits |

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| | 4 MP 4 | explain using equations and /or arrays<br>Students experiment with representing problem situations in multiple ways, including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. | Lesson 3-3 multiply using arrays<br>Lesson 3-4 and 3-5 multiply using distributive property (area model method)<br>Lesson 3-6 compensation<br>Lesson 3-7 Traditional method | -estimation<br>-multiply using one of the alternative methods |
| | 4 MP 6 | Attend to precision and develop mathematical communication skills to use clear and precise language in their discussions with others and in their own reasoning | Lesson 3- 8 and 6-3 multistep word problems to introduce students on talking out the steps to formulate a solution. | |
| **Week 13**<br>*Nov. 06-10*<br>11/6 No School (Formation Day)<br>11/7 Virtual (Senior Day)<br>11/10 Virtual (OLL Festival) | 4.NBT.3 | Estimating products<br><br>Multiply and estimate two two-digit numbers using strategies based on place and value and the properties of operations. Illustrate and explain the calculations using equations, area models and /or arrays | Lesson 4-1 multiplying ten based numbers<br>Lesson 4-3 estimation | |
| **Week 14**<br>*Nov. 13-17* | 4.NBT.3<br>4.NBT.5<br>4 MP 4 | Estimating products<br><br>Multiply and estimate two two-digit numbers using strategies based on place and value and the properties of operations. Illustrate and explain the calculations using equations, area models and /or arrays | Lesson 4-1 multiplying ten based numbers<br>Lesson 4-3 estimation<br>Lesson 4-4 and 4-5 multiplication using area models<br>Lesson 4-3 multiplication using traditional methods | Quiz #2<br>Lessons 4-1 through 4-6<br>Multiplying 2 x 2 using traditional and alternative methods |

| | | Students experiment with representing problem situations in multiple ways, including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. | 4-7 multistep word problems<br><br>Lesson 6-4 and 6-5 multistep word problems for "Math Talk" | |
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| **Week 15**<br>*Nov. 27-<br>Dec. 1* | 4.G.1<br><br>4.G.2<br><br>4.MD.5 | Draw and identify particular 2- dimensional geometric figures<br><br>Classify 2 dimensional figures based on the types of lines and angles<br><br>Recognize angles as geometric shapes formed from 2 rays sharing a common vertex and understand concepts of angle measurement | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 15-1  types of lines, point, ray, segments, types of angles | Quiz # 3 Lesson 15-1, definitions of geo terms, identify types of angles by degree and shape |
| **Thanksgiving Holidays**<br>*Nov. 20-24* | | | | |
| **Week 16**<br>*Dec. 04-<br>08* | 4.MD.6<br><br><br>4.G.2<br><br><br>4.MD.7 | Measuring angles in whole degrees using a protractor and sketch angles of specified measure.<br><br>Classify 2-dimensional figures based on the types of lines and angles<br><br>Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 15-2 – 15-4 measuring with unit angles, measuring with a protractor, drawing an angle, and finding the missing angle degree | Test # 3 Ch. 15 lessons 3, 4, and 5 Unit angles, measuring with unit angles, measuring and drawing angles with a protractor, finding the missing angle measurement |

| | | the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a letter for the unknown angle measure. | | |
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| | 4.MD.5a 4.MD.5b 4.MD.5c | Find the measure of an angle that turns a fraction of a circle | | |
| **Week 17** *Dec. 11-15* | 4.G.1 4.G.2 | Draw and identify particular 2- dimensional geometric figures<br><br>Classify 2 dimensional figures based on the types of lines and angles | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson  16-1<br>          16-3 | Quiz 4 - Basic skill review Vocab puzzle Geo. Scavenger Hunt slides or poster |
| **Week 18** *Dec. 18-20* 12/20 ½ day | 4.G.1 4.G.2 | Recognize a line of symmetry for a 2-dimensional figure; identify line symmetric figures and draw lines of symmetry<br><br>Draw and identify particular 2- dimensional geometric figures<br><br>Classify 2 dimensional figures based on the types of lines and angles | Lesson  16-4<br>          16-5 | Test # 4 Chapter 16 Identify polygons by their sides, angles and types of lines; measuring and drawing angles; basic skill review |
| **Christmas Holidays** *Dec. 21-05* | | | | |

| 3rd Quarter | | | | |
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| **Week 19**<br>*Jan. 08-12* | 4.NBT.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. | Consumable textbook, manipulatives, and supplementary materials<br><br>Supplemental material to introduce long division.<br><br>Lesson 5-4 word problems-identify operation needed to find solution | Quiz # 1 Long division (single step with and without remainders; multiply to check;<br>Word problems to identify the correct equation/operation needed, writing a division word problem. |
| **Week 20**<br>*Jan. 15-19*<br>1/15 No School | 4.OA.3<br><br><br>4.NBT.6 | Solve division problems and interpret the remainders.<br><br>Finding compatible numbers to estimate<br><br>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 | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 5-2,<br>5-6,<br>5-8,<br>5-9<br>5-10 | |
| **Week 21**<br>*Jan. 22-26* | 4.OA.3<br>4.OA.5 | Test is for material covered on Week 20 | Supplemental material for | Test #1<br>Chapter 5 – long division, |

| | | | rules of divisibility for 2,5, 10, 3 and 9 | estimation, word problems, and pattern division |
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| | 4.OA.4 | | | |
| **Week 22** *Jan. 29-02* Catholic Schools Week, 1/29 – Catholic Schools Week Mass (4th) 2/2 Pep Rally | 4.OA.4 4.OA.4a 4.OA.4b 4.OA.4c 4.OA.4d | Generate a number pattern that follows a given rule and identify features of the pattern that are not explicit in the rule itself  Determine whether a given whole number is a multiple of a given one- digit number.  Using whole numbers in the range 1–100, a. Find all factor pairs for a given whole number. b. Recognize that a given whole number is a multiple of each of its factors. c. Determine whether a given whole number is a multiple of a given one- digit number. d. Determine whether a given whole number is prime or composite. | Consumable textbook, manipulatives, and supplementary materials  rules of divisibility for 2,5, 10, 3 and 9  Lesson 7-5 multiples of a number | Quiz #2  Application of divisibility rules for 2,3,5,9, and 10. |
| **Week 23** *Feb. 05-09* 2/9 ½ day (Grandparents Day) | 4.OA.4 4.OA.4a 4.OA.4b 4.OA.4c 4.OA.4d  4.NF.2 | Test is for material covered on Week 22.  Understand a fraction as a number on the number line; represent fractions on a number line diagram. | Consumable textbook, manipulatives, and supplementary materials  Lesson 8-5 compare using benchmark fractions | Test #2 Lessons 7-1 through 7-5 Divisibility, factors, multiples, prime and composite numbers |

| | | **Mardi Gras Holidays**<br>**Feb. 12-16** | | |
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| **Week 24**<br>*Feb. 19-23* | 4.NF.1 | Explain why a fraction *a/b* is equivalent to a fraction (n x a)/(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.<br>Use division to find equivalent fractions | Consumable textbook, manipulatives, and supplementary materials<br><br>Lessons 8-1<br>8-2<br>8-3<br>8-4 | Quiz #3<br>Ch 8 – Benchmark fractions and comparing fractions |
| **Week 25**<br>**Feb. 26-01**<br>2/28 – 4th Grade Retreat | 4.NF.1 | Explain why a fraction *a/b* is equivalent to a fraction (n x a)/(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.<br>Use division to find equivalent fractions | Consumable textbook, manipulatives, and supplementary materials<br><br>Lessons 8-1<br>8-2<br>8-3<br>8-4 | Test #3<br>Ch 8 – Benchmark fractions, comparing fractions and equivalent fractions |
| **Week 26**<br>*Mar. 04-08* | 4.NF.3a<br><br><br><br><br>4.NF.3b<br><br><br><br><br>4.MD.4 | Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.<br>*Example: 3/4 = 1/4 + 1/4 + 1/4.*<br>Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 9-1 through 9-6<br>Ch. 11 lessons 1-3 | Test #4 Ch. 9 adding and subtracting fractions;<br>Lesson 9-1 through 9-6<br>Ch. 11 lessons 1-4<br>Line plots |

| | | Read and interpret data using line plots<br>Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. | | |
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| **Week 27**<br>*March 11-15* | 4.NF.3b | Identify mixed numbers, proper and improper fractions.<br>Change improper fractions to mixed numbers.<br>Change mixed numbers to improper fractions. | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 9-1 through 9-6<br>Ch. 11 lessons 1-3<br><br>supplemental lesson on mixed numbers and improper fractions | Quiz #4 Identifying mixed numbers, converting mixed numbers and improper fractions |
| **4th Quarter** ||||||
| **Week 28**<br>*March 18-22* | 4.NF.3c | Change improper fractions to mixed numbers.<br>Change mixed numbers to improper fractions.<br><br>Use equivalent fractions, properties of operations and the relationship between addition and subtraction to add and subtract mixed numbers with like denominators. | Consumable textbook, manipulatives, and supplementary materials<br><br>supplemental lesson on mixed numbers and improper fractions<br><br>Lesson 9-8 through 9-10 | Test # 1 – Ch.9<br><br>Decomposing fractions, adding and subtracting mixed numbers and improper fractions, multistep word problems |

| Week 29 **March 25-29** 3/29 No School (Good Friday) | 4.NF.3c 4.NF.3d 4 MP 4 4.NF.4b 4.NF.4c 4.MD.1 | Adding and subtraction fractions Word problems Line plots Multiply a fraction by a whole number. Solve word problems involving multiplication of a fraction by a whole number. Multiply a fraction by a whole number. Solve word problems involving multiplication of a fraction by a whole number. Know relative sizes of measurement units within one system of units; **hr, min**, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (Conversions are limited to one-step conversions.) Convert fractions with denominators of 10 or 100 to decimals. | Consumable textbook, manipulatives, and supplementary materials Lesson 10-1 through 10-4 | Test #2 All lessons from Chapter 10 Converting units of time using a table |
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| **Easter Holidays** **March 29-05** | | | | |
| Week 30 **April 08-12** | 4.NF.6 4.NF.7 | Use decimal notation for fractions with denominators 10 or 100. Convert fractions with denominators of 10 or 100 to decimals. Compare two decimals to hundredths by reasoning about their size. Recognize | Consumable textbook, manipulatives, and supplementary materials Lesson 12-1 | Quiz #1 writing decimals in word form; writing decimals as fractions and fractions as decimals; |

| | | that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model. | Reading and writing decimals and fractions<br><br>Lesson 12-2 decimals on a number line<br><br>Supplemental lesson on making equivalent decimals; | |
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| **Week 31**<br>*April 15-19* | 4.NF.6<br>4.NF.7<br>4.NF.5 | Convert fractions with denominators of 10 or 100 to decimals.<br><br>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 >, =, or <, and justify the conclusions, e.g., by using a visual model. | Lesson 12-3 Comparing decimals<br>Lesson 12-4 adding 10th and 100ths | Test # 3 all skills of Ch. 12<br><br>writing decimals in word form; writing decimals as fractions and fractions as decimals; decimals on a NL; comparing decimals; adding and subtracting with decimals |
| **Week 32**<br>*April 22-26* | 4.MD.1 | Know relative sizes of measurement units within one system of units including: ft, in; km, m, cm; kg, g; lb, oz.; l, ml; hr, min, | Consumable textbook, manipulatives, and | Quiz # 2<br><br>Converting customary and metric linear |

| | | sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (Conversions are limited to one-step conversions.) | supplementary materials<br><br>Linear units-customary Lesson 13-1<br><br>Lesson 13-4 metric linear units | units, identify linear units as customary or metric |
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| **Week 33**<br>*April 29-03*<br>5/3 Field Day | 4.MD.1 | <mark>**possible Standardized testing week</mark><br><br>Know relative sizes of measurement units within one system of units including: ft, in; km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (Conversions are limited to one-step conversions.) | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 13-2 Units of capacity-customary | |
| **Week 34**<br>*May 06-10*<br>5/10 – Louisiana Day | 4.MD.1 | Know relative sizes of measurement units within one system of units including: ft, in; km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (Conversions are limited to one-step conversions.) | Consumable textbook, manipulatives, and supplementary materials<br><br>Lesson 13-2 and 13-5 Units of capacity-customary and metric | Quiz #3 Lessons 13-1, 13-2, 13-5<br><br>Customary and metric capacity and linear units |

| | | | Lesson 13-3, 13-5 -units of mass 13-7 word problems | |
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| **Week 35** *May 13-17* | 4.MD.1

4 MP 6 | Know relative sizes of measurement units within one system of units including: ft, in; km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (Conversions are limited to one-step conversions.)

Attend to precision when solving word problems | Consumable textbook, manipulatives, and supplementary materials

Lesson 13-2, 13-5 -units of weight and 13-7 word problems | Test #4

Ch. 13 Identifying and converting customary and metric units of capacity, mass and linear units.

Quiz #4 basic skill review 5-a-day worksheet |
| **Week 36** *May 20-24* 5/24 ½ day | | | | |