Our Lady of the Lake Roman Catholic School
Yearly Course Outline
Pre-Algebra
Seventh Grade
2025–2026

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Course Description

Pre-Algebra serves as a critical bridge between arithmetic and algebra, laying the foundation for success in Algebra I and beyond. This course is designed to deepen students' understanding of mathematical concepts through the exploration of integers, rational numbers, expressions, equations, and basic functions.

Students will develop strong problem-solving skills and gain confidence in applying mathematical reasoning in both abstract and real-world contexts. The course emphasizes conceptual understanding, fluency with operations, and the ability to represent mathematical relationships through expressions, equations, and graphs.

Major Units of Study:

- **Number Systems**: Integers, fractions, decimals, and rational numbers; operations and order of operations.
- **Expressions and Equations**: Simplifying expressions; solving one- and two-step equations and inequalities.
- **Ratios, Proportions, and Percents**: Solving problems involving proportional relationships, percent increase/decrease, and real-world applications like tax and discounts.
- **Geometry**: Area, surface area, volume, and understanding angles and transformations.
- **Statistics and Probability**: Interpreting data, calculating measures of central tendency, and exploring basic probability.
- **Introduction to Functions and Graphing**: Understanding coordinate planes, graphing linear relationships, and recognizing patterns.

Instructional Materials

enVision Mathematics - Grade 8
IXL

Methods of Assessment and Distribution

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

Students admitted to 6th Grade Advanced Math will be required to complete a summer packet. The expectation is that they work on this packet over the summer and turn it in to you on the first day of class. The intention is to help them practice/develop skills that will smooth their transition from 5th math into 6th advanced math (i.e., 7th math).

1st & 2nd Quarters	**3rd & 4th Quarters**	**Grading Scale**
(Exams taken)	**(No Exams taken)**	A: 100-90
50% Tests	60% Tests	B: 89-80
20% Exams	30% Quizzes	C: 79-70
20% Quizzes	10% Homework	D: 69-60
10% Homework		U: 59 and below

Tentative Course Calendar

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

Aug 7 – First day of school for 4th – 7th

Week	Standards	Objectives (The learner will . . .)	Instructional Materials	Assessments
1st Quarter				
Week 1 ***Aug. 11-15***	8.NS.A.1 8.NS.A.2 8.EE.A.2	1.1 - 1.4 -Locate repeating decimals on a number line. -Write repeating decimals as fractions. -Classify a number as rational or irrational. -Understand the concepts of square roots and perfect squares. Approximate square roots by using perfect squares. -Compare and order rational and irrational numbers. -Evaluate square roots and cube roots to solve problems. -Evaluate perfect squares and perfect cubes.	enVision Mathematics (8th Grade)	-Homework
Week 2 ***Aug. 18-22***	8.NS.A.1 8.NS.A.2 8.EE.A.1 8.EE.A.2	1.5 - 1.6, Quiz -Solve equations involving perfect squares or cubes. -Solve equations involving imperfect squares or cubes. -Multiply and divide expressions with integer exponents. -Find the power of a power.	enVision Mathematics (8th Grade)	-Homework -Topic 1 Quiz (lessons 1-5)
Week 3 ***Aug. 25-29***	8.EE.A.1 8.EE.A.3 8.EE.A.4	1.7 - 1.9, Math Modeling (quiz) -Simplify exponential expressions using the Zero Exponent Property and the Negative Exponent Property. -Estimate and compare very large and very small quantities using powers of 10. -Write very large and very small numbers in scientific notation. -Convert scientific notation to standard form.	enVision Mathematics (8th Grade)	-Homework -Math Modeling (quiz)
Week 4 ***Sept. 1-5*** 9/1 Labor Day No School	8.NS.A.1 8.NS.A.2 8.EE.A.1 8.EE.A.2 8.EE.A.3 8.EE.A.4	1.10, Test -Add, subtract, multiply, and divide numbers in scientific notation.	enVision Mathematics (8th Grade)	-Homework -Topic 1 Test (Real Numbers)
Week 5 ***Sept. 8-12***	8.EE.C.7a 8.EE.C.7b	2.1 - 2.4, Project due (test) -Combine like terms. -Solve equations with like terms on one side of the equation. -Make sense of scenarios and represent them with equations.	enVision Mathematics (8th Grade)	-Homework -Project due (test)

		-Solve equations with like terms on both sides of the equation. -Make sense of scenarios and represent them with equations. -Plan multiple solution pathways and choose one to find the solution. -Determine the number of solutions to an equation.		
Week 6 ***Sept. 15-19*** Spirit Week 9/19 Fun Run Kickoff	8.EE.B.5 8.EE.C.7a 8.EE.C.7b	2.5, Quiz -Analyze equations, linear graphs, and tables to find unit rates and compare proportional relationships.	enVision Mathematics (8th Grade)	-Homework -Topic 2 Quiz (lessons 1-4)
Week 7 ***Sept. 22-26***	8.EE.B.6	2.6 - 2.8 -Find the slope of a line using different strategies. -Interpret a slope in context and relate it to steepness on a graph. -Understand how the constant of proportionality and the slope relate in a linear equation. -Write a linear equation in the form y=mx when the slope is given. -Graph a linear equation in the form y=mx. -Interpret and extend the table or graph of a linear relationship to find its y-intercept. -Analyze graphs in context to determine and explain the meaning of the y-intercept.	enVision Mathematics (8th Grade)	-Homework
Week 8 ***Sept.29- Oct. 3*** *10/2 – Fun Run* *10/2 - ½ day dismissal* *10/3 – Faculty Inservice*	8.EE.B.5 8.EE.B.6 8.EE.C.7a 8.EE.C.7b	2.9, Test -Graph a line from an equation in the form y = mx + b. -Write an equation that represents the given graph of a line.	enVision Mathematics (8th Grade)	-Homework -Topic 2 Test (Analyze and Solve Linear Equations)
Week 9 ***Oct. 6-10*** 10/10 - ½ day		Math Exam, Topic 2 Project due (test)		-MathLab due (quiz) -Topic 2 Project due (test) -Exam over Topic 1 & Topic 2
2nd Quarter				
Week 10 ***Oct. 13-17***	8.F.A.1 8.F.A.2 8.F.A.3	3.1 - 3.3 -Identify whether a relation is a function. -Interpret a function. -Identify functions in different representations: equations, tables, and graphs. -Identify linear and nonlinear functions in different representations. -Compare proportions of linear functions in different representations.	enVision Mathematics (8th Grade)	-Homework

		-Compare properties of linear and nonlinear functions in different representations.		
Week 11 ***Oct. 20-24*** 10/24 Faculty Inservice 10/24-26 OLL Festival	8.F.A.1 8.F.A.2 8.F.A.3 8.F.B.4	3.4, Quiz -Construct a linear function to model a relationship using an equation in the form y = mx + b.	enVision Mathematics (8th Grade)	-Homework -Topic 3 Quiz (lessons 1-3)
Week 12 ***Oct. 27-31*** *10/31 – Fun Run Reward Day*	8.F.B.5	3.5 -Describe qualitatively the behavior of a function by analyzing its graph. -Describe the graph of a function at each interval.	enVision Mathematics (8th Grade)	-Homework
Week 13 ***Nov. 3-7***	8.F.A.1 8.F.A.2 8.F.A.3 8.F.B.4 8.F.B.5	3.6, Math Modeling (quiz), Test -Draw a qualitative graph of a function based on a verbal description. -Analyze and interpret the sketch of a graph of a function. -Use mathematical modeling to represent a problem situation and to propose a solution. -Test and verify the appropriateness of their math models. -Explain why the results from their mathematical models may not align exactly to the problem situation.	enVision Mathematics (8th Grade)	-Homework -Math Modeling (quiz) -Topic 3 Test (Use Functions to Model Relationships)
Week 14 ***Nov. 10-14***	8.SP.A.1 8.SP.A.2 8.SP.A.3 8.F.A.3 8.F.B.4	4.1 - 4.3, Topic 3 Project due (test) -Construct a scatter plot graph to model paired data. -Utilize a scatter plot to identify and interpret the relationship between paired data. -Recognize whether the paired data has a linear association, or no association. -Draw a trend line to determine whether a linear association is positive or negative and strong or weak. -Use the slope and y-intercept of a trend line to make a prediction. -Make a prediction when no equation is given by drawing trend lines and writing the equation of the linear model.	enVision Mathematics (8th Grade)	-Homework -Topic 3 Project due (test)
Week 15 ***Nov. 17-21***	8.SP.A.1 8.SP.A.2 8.SP.A.3 8.F.A.3 8.F.B.4	Quiz	enVision Mathematics (8th Grade)	-Topic 4 Quiz (lessons 1-3)
Thanksgiving Holidays ***Nov. 24-28***				
Week 16 ***Dec. 1-5***	8.SP.A.4	4.4 - 4.5 -Organize paired categorical data into a two-way frequency table.	enVision Mathematics (8th Grade)	-Homework

		-Compare and make conjectures about data displayed in a two-way frequency table. -Construct two-way frequency tables and two-way relative frequency tables. -Compare and make conjectures about data displayed in a two-way relative frequency table.		
Week 17 **Dec. 8-12**	8.SP.A.1 8.SP.A.2 8.SP.A.3 8.SP.A.4 8.F.A.3 8.F.B.4	Test, Topic 4 Project due (test)	enVision Mathematics (8th Grade)	-Topic 4 Test (Investigate Bivariate Data) -Topic 4 Project (test)
Week 18 ***Dec. 15-19*** 12/19 - ½ day		Math Exam		-MathLab due (quiz grade) -Exam over Topic 3 & Topic 4
Christmas Holidays ***Dec. 22 – Jan. 4***				
3rd Quarter				
Week 19 ***Jan. 5-9***	8.EE.C.8a 8.EE.C.8b 8.EE.C.8c	5.1 - 5.3 -Examine graphs of linear systems of equations to determine the number of solutions, based on the number of intersection points. -Compare the equations in a linear system to look for a relationship between the number of solutions and the slopes and y-intersepts of the equations. -Create and examine graphs of linear systems of equations to determine the solution. -Understand how substitution can be used to solve a linear system of equations. -Apply this understanding to solve a system of linear equations with one solution, no solutions, or infinitely many solutions.	enVision Mathematics (8th Grade)	-Homework
Week 20 **Jan. 12-16**	8.EE.C.8 8.EE.C.8b 8.EE.C.8c 8.SP.A.3 8.F.B.4	5.4, Quiz -Understand how the process of elimination can be used to solve a system of linear equations with no solution, one solution, or infinitely many solutions. -Apply this understanding to solve mathematical and real-world problems.	enVision Mathematics (8th Grade)	-Homework -Topic 5 Quiz (lessons 1-2)
Week 21 ***Jan. 19-23*** 1/19 – MLK Day No School	8.EE.C.8 8.EE.C.8b 8.EE.C.8c 8.SP.A.3 8.F.B.4	Test	enVision Mathematics (8th Grade)	-Topic 5 Test (Analyze and Solve Systems of Linear Equations)

Week 22 ***Jan. 26-30*** Catholic Schools Week 1/30 - Pep Rally	8.G.A.1a 8.G.A.1b 8.G.A.1c 8.G.A.3	6.1 - 6.3, Topic 5 Project due (test) -Understand translations. -Translate a figure on a coordinate plane. -Describe a translation. -Understand and describe a reflection. -Reflect two-dimensional figures. -Identify and perform a rotation. -Determine how a rotation affects a two-dimensional figure.	enVision Mathematics (8th Grade)	-Homework -Topic 5 Project due (test)
Week 23 ***Feb. 2-6***	8.G.A.1a 8.G.A.1b 8.G.A.1c 8.G.A.2 8.G.A.3	6.4 - 6.5, Quiz -Understand a sequence of transformations. -Describe and perform a sequence of transformations. -Understand congruence of figures using a series of transformations. -Identify congruent figures	enVision Mathematics (8th Grade)	-Homework -Topic 6 Quiz (lessons 1-4)
Week 24 ***Feb. 9-13*** 2/13– ½ Day Grandparents Day	8.G.A.1a 8.G.A.1b 8.G.A.1c 8.G.A.2 8.G.A.3 8.G.A.4	6.6 - 6.7, Test -Understand dilations -Dilate to enlarge or reduce a figure in a coordinate plane. -Understand similarity -Complete a similarity transformation. -Identify similar figures.	enVision Mathematics (8th Grade)	-Homework -Topic 6 Test (Congruence and Similarity-lessons 1-7)
Mardi Gras Holiday ***February 16-20***				
Week 25 ***Feb. 23-27***	8.G.A.5	6.8 - 6.10, Topic 6 Project due (test) -Understand the relationships of angles formed by parallel lines and a transversal. -Find unknown angle measures. -Understand the relationship of the interior angles of a triangle. -Find unknown angle measures. -Determine whether triangles are similar. -Solve problems involving similar triangles.	enVision Mathematics (8th Grade)	-Homework -Topic 6 Project due (test)
Week 26 ***March 2-6***	8.G.A.5	Quiz	enVision Mathematics (8th Grade)	-Topic 6 Quiz (lessons 8-10)
Week 27 ***March 9-13*** 3/13 – ½ Day	8.G.B.6 8.G.B.7	*Start teaching for 4th Q* 7.1 - 7.2 -Understand the Pythagorean Theorem. -Given two side lengths of a right triangle, use the Pythagorean to find the length of the third side. -Understand why the Converse of the Pythagorean Theorem is true. -Apply the Converse of the Pythagorean Theorem to identify right triangles. -Use the Converse of the Pythagorean Theorem to analyze two-dimensional shapes.	enVision Mathematics (8th Grade)	-MathLab due (quiz grade) -Homework (4th Q)

4th Quarter				
Week 28 ***March 16-20***	8.G.B.6 8.G.B.7 8.G.B.8	7.3 - 7.4, Quiz -Apply the Pythagorean Theorem and its converse to solve real-world problems. -Apply the Pythagorean Theorem to solve problems that involve three dimensions. -Apply the Pythagorean Theorem to find the distance between two points on a map or coordinate plane. -Find the perimeter of a figure on a coordinate plane. -Identify the coordinates of the third vertex of a triangle on the coordinate plane.	enVision Mathematics (8th Grade)	-Homework -Topic 7 Quiz (lessons 1-2)
Week 29 ***March 23-27*** 3/26 – Passion Play	8.G.B.6 8.G.B.7 8.G.B.8 8.G.C.9	8.1, Topic 7 Test -Find the surface areas of cylinders, cones, and spheres.	enVision Mathematics (8th Grade)	-Homework -Topic 7 Test (Understand and Apply the Pythagorean Theorem)
Week 30 ***Mar 30 - Apr 3*** No Bus Service 4/3 – Good Friday	8.G.C.9	8.2, Quiz -Recognize the relationship between the volume of a rectangular prism and the volume of a cylinder. -Solve real-world problems involving the volume of a cylinder. -Use the formula for the volume of a cylinder to find an unknown measure.	enVision Mathematics (8th Grade)	-Homework -Topic 8 Quiz (lessons 1-2)
Easter Holiday ***April 3-10***				
Week 31 ***April 13-17***	8.G.C.9	8.3 - 8.4 -Recognize the relationship between the volume of a cylinder and the volume of a cone. -Use the Pythagorean Theorem when solving volume problems. -Find the volume of a cone. Given the circumference of the base, find the volume of a cone. -Recognize the relationship between the volume of a cone and the volume of a sphere. -Find the volume of a sphere. Given the surface area, find the volume of a sphere. -Find the volume of a composite figure.	enVision Mathematics (8th Grade)	-Terra Nova Practice (test grade) -Homework
Week 32 ***April 20-24***	8.G.C.9	Topic 8 Test, Topic 8 Project due	enVision Mathematics (8th Grade)	-MAP IXLs Practice (quiz grade) -Topic 8 Test (Solve Problems Involving Surface Area and Volume)

				-Topic 8 Project due (test)
Week 33 ***April 27 - May 1*** 5/1 - Field Day ½ Day				-MathLab due (quiz grade)
Week 34 ***May 4-8*** 5/5 May Crowning 5/7 – 7th Graduation				
Week 35 ***May 11-15***				
Week 36 ***May 18-21*** 5/21 ½ day				