

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.A.1

Strand: Problem Solving

Diocesan Standard Terra Nova Objective	Benchmark Statement
Use a variety of strategies in the problem-solving process.	Use a variety of strategies in the problem solving process.

Performance Indicators		
1. Use backward and simpler form equations to solve word problems.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.A.2

Strand: Problem Solving

Diocesan Standard Terra Nova Objective	Benchmark Statement
Use a variety of strategies in the problem-solving process.	Use a variety of strategies to understand problem-solving situations and processes.

Performance Indicators		
1. Construct informal logical arguments to justify reasoning process and methods of solutions to problems and develop more efficient methods.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.B.1

Strand: Properties and Concepts of Numbers

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of numbers.	Understand the relationship among equivalent number representations and the advantages and disadvantages of each type of representation.

Performance Indicators		
<ol style="list-style-type: none"> 1. Convert among scientific notations. 2. Choose appropriate forms among fractions, decimals, percents, whole numbers, integers, ratios, exponents and scientific notation. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.B.2

Strand: Properties and Concepts of Numbers

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of numbers.	Understand the characteristics and properties of the set of real numbers and its subsets.

Performance Indicators		
1. Distinguish between rational and irrational numbers.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.B.3

Strand: Properties and Concepts of Numbers

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of numbers.	Understand the characteristics and uses of scientific notation.

Performance Indicators		
1. Convert large and small numbers to scientific notation and back for more convenient representation.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.C.1

Strand: Computation

Diocesan Standard Terra Nova Objective	Benchmark Statement
Use basic and advanced procedures while performing the process of computation.	Understand the properties of operations with rational numbers.

Performance Indicators
1. Apply the distributive property to solve mathematical equations.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.C.2

Strand: Computation

Diocesan Standard Terra Nova Objective	Benchmark Statement
Use basic and advanced procedures while performing the process of computation.	Understand the correct order of operations for performing arithmetic computations.

Performance Indicators		
1. Perform equations involving squares and [].		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.C.3

Strand: Computation

Diocesan Standard Terra Nova Objective	Benchmark Statement
Use basic and advanced procedures while performing the process of computation.	Use proportional reasoning to solve mathematical and real-world problems.

Performance Indicators		
1. Use the constant rate of change to solve mathematical and real-world problems.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.C.4

Strand: Computation

Diocesan Standard Terra Nova Objective	Benchmark Statement
Use basic and advanced procedures while performing the process of computation.	Add, subtract, multiply and divide rational numbers.

Performance Indicators
<ol style="list-style-type: none"> 1. Add, subtract, multiply and divide rational numbers, 2. Simplify rational expressions.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8D.1

Strand: Measurement

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of measurement	Solve problems involving units of measurement and convert answers to a larger or smaller unit within the same system.

Performance Indicators		
1. Solve problems and convert answers in cubic units within the same system.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.D.2

Strand: Measurement

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of measurement	Solve problems involving perimeter, circumference and area of various shapes.

Performance Indicators		
1. Find perimeter, volume, and surface area of irregular figures, which can be divided into basic geometric shapes.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.D.3

Strand: Measurement

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of measurement	Select and use appropriate estimation techniques to solve real-world problems.

Performance Indicators		
1. Select and use appropriate estimation techniques to solve real-world problems.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.E.1

Strand: Geometry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of geometry	Understand the basic concepts of the Pythagorean theorem.

Performance Indicators		
1. Use the Pythagorean theorem to identify third side of a right triangle when given length of the other two sides.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.E.2

Strand: Geometry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of the concepts of geometry	Understand geometric transformation of figures.

Performance Indicators		
1. Relate proportions to similarity (i.e. scale drawing).		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.F.1

Strand: Probability and Data Analysis

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced concepts of probability and data analysis	Select and use the best method of representing and describing a set of data.

Performance Indicators		
1. Evaluate and identify valid and skewed data.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.F.2

Strand: Probability and Data Analysis

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced concepts of probability and data analysis	Determine probability using mathematical/theoretical simulations or experiments.

Performance Indicators		
1. Predict outcomes based on experiments, simulations and mathematical calculations.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.G.1

Strand: Functions and Algebra

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of functions and algebra	Know that an expression is a mathematical statement using numbers and symbols to represent relationships and real-world situations.

Performance Indicators		
1. Express written sentences as mathematical expressions using negative exponents and cubed roots.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.G.2

Strand: Functions and Algebra

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of functions and algebra	Understand various representations of patterns and functions and the relationships among them and understands the concept of a function.

Performance Indicators		
1. Understand the basic concept of a function.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.G.3

Strand: Functions and Algebra

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of functions and algebra	Solve linear equations using concrete, formal and informal methods.

Performance Indicators		
1. Solve linear equations using concrete, formal and informal methods.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Math
 Grade Range: Eighth
 Section/Heading: 8.G.4

Strand: Functions and Algebra

Diocesan Standard Terra Nova Objective	Benchmark Statement
Understand and apply basic and advanced properties of functions and algebra	Use the rectangular coordinate system to model and to solve problems.

Performance Indicators		
1. Use the rectangular coordinate system to model and to solve problems.		
Suggested Activities	Assessment	Resources