Middle School Math Curriculum

Overview of the Math Program

The middle school math curriculum encompasses the South Carolina state math standards and uses real-world math. St. Anne & St. Jude Catholic School uses the Pearson/Prentice Hall textbooks for all middle school classes. The standards for each grade level are mastered through classroom instruction, problem-solving exercises in class and at home, and with assigned math projects. (Details of the standards for each grade level are described below.) Mastery of skills and subject matter is necessary for learning and understanding concepts that will be taught in future lessons and classes.

Student Projects

All students complete a quarterly math project that requires application of the concepts learned. These projects help students understand the importance of math in the real world and get students excited about math. A few examples of math projects include:

- Free-standing Structure- Groups of students build a structure using only straws, straight pins, masking tape and paper clips. They are charged for each piece of material and are instructed to build the tallest free-standing structure using the least amount of material.
- How to Budget- This project is an eye opener for the students! The students pick a career based solely on their own interests, but they are not given the salaries of each occupation until after their choice has been made. They must then calculate their net income from their gross income and deduct monthly expenses such as tithing, housing, utility costs, food, and health insurance. The students also calculate how much they can afford to spend on a home or apartment by browsing through the local real estate booklet. Then, with any money left over, they may find a vehicle to get them to their jobs(most find they cannot afford what they really want). This project brings out a heightened sense of appreciation for the hard working family, and it utilizes numerous math calculations.
- Currency Exchange Project- The students learn how to convert money between varying countries. They use real-time data to discover exchange rates to see how prices can change daily. This project really opens their eyes to the value of money.
- Geometry Storybook-In this project, students write and illustrate a children's book with a focus on applying their geometric knowledge to teach younger students about terms and concepts.
- Running a Business-Several prijects focus on the use of math in running a real business. Students are asked to calculate costs and profits while balancing this with the supply and demand of their business. Some businesses run are a bakery, movie theater, and resort.

Grade Level Curriculum Standards

Grade 5 Overview

Core Concepts Covered in Grade Five

- Adding, subtracting, multiplying and dividing whole numbers, fractions , and decimals
- Finding the greatest common factor and least common denominator
- Understanding the concept of prime and composite numbers
- Classifying shapes as congruent or similar objects
- Differentiating between two and three-dimensional objects
- Measuring angles
- Applying formulas for finding the perimeter, area, and volume of figures

- Using probability to find the outcome of an experiment
- Decimal place value
- Units of measure
- Data analysis/surveying/graphing

Grade 6 Overview
Core Concepts Covered in Grade Six

- Understanding the concepts of integers and percentages
- Comparing rational numbers and percentages
- Adding, subtracting, multiplying and dividing fractions and decimals on a more advanced level than prior year
- Converting improper fractions and simplifying mixed numbers
- Understanding exponents
- Order of operations
- Inverse operations to solve for missing numbers
- Coordinate plans
- Complementary and supplementary angles
- Area and circumference of circles
- Perimeters and areas of figures
- Unit rates
- Understanding ratios and applying them to proportions
- Introduction to using a scientific calculator

Grade 7 Overview
Core Concepts Covered in Grade Seven

- Using formulas to determine the surface area and volume of 3-D shapes
- Using inverse operations to solve inequalities and equations
- Solving problems using proportion
- Adding, subtracting, multiplying and dividing integers, decimals and fractions
- Solving problems using order of operations and symbols of inclusion
- Using the absolute value to solve problems
- Understanding of unit price, rates and calculating sales tax
- Scientific notation for large numbers and negative exponents
- Determining fractional parts of a number
- Graphing functions
- Transformations
- Solving complex fractions
- Combining and multiplying algebraic terms
- Applications of the Pythagorean Theorem

Grade 8 Overview
Core Concepts Covered in Grade Eight

- Using integers to add, subtract, multiply and divide integers
- Understanding the concept of irrational numbers

- Solving multi-step equations
- Applying formulas to determine volume of 3-D shapes
- Order of operations with exponents and roots, fractions and decimals
- Multiplication and division using scientific notation
- Determining the relationships between two variables as either linear or nonlinear
- Unit conversion
- Distributive property
- Solving multi-term equations
- Estimating roots
- Identifying the coordinates of the x-and y-intercepts of a linear equation