

MATHEMATICS CURRICULUM

PHILOSOPHY

Mathematics plays an integral role in Catholic Schools because it reflects the order and unity in God's universe and deals with truth. Mathematics contributes to the development of the whole person by enriching one's life and providing practical tools for daily living. Every student needs an understanding and knowledge of the basics of mathematics, which plays a role in the pursuit of other academic career subjects. Contemporary society demands a kind of mathematical knowledge, which helps students develop their ability to reason and to think critically and logically, as well as to discover creative ways of solving problems, including the use of manipulative and technological tools such as computers and calculators.

INTRODUCTION

The *Mathematics Curriculum Guide* is intended for use in all Catholic elementary schools in the Diocese of Raleigh. It is the framework for instruction that should assist teachers in identifying and implementing the appropriate instructional methodology in grades K through 8. The curriculum outlines in detail the level of competency that is expected of students at each grade level. The primary goals of the math curriculum are for students to develop an understanding of mathematical skills and reasoning, fluency in basic computational skills, and ultimately how to connect math to all other disciplines. The curriculum is aligned to competencies identified both in the ***North Carolina Standard Course of Study*** and to National Standards identified by the National Council of Teachers of Mathematics (NCTM) in ***Principles and Standards for School Mathematics*** ©2000 and enhanced by Diocesan objectives and values.

Key to format:

Strands are the areas of specific focus and aligned to competencies identified in the ***North Carolina Standard Course of Study*** or National Standards. The first four strands are the content of the curriculum and the fifth is process necessary in all Strands. The Strands are:

- Number Sense, Numeration, and Numerical Operations
- Spatial Sense, Measurement, and Geometry
- Patterns, Algebra, and Functions
- Data, Probability, and Statistics
- Mathematical Reasoning

Values and Attitudes highlight key issues that will enable students to develop a critical conscience in each content area since Catholic Schools believe that all subjects need to be taught in the light of Gospel teachings. These are not necessarily quantifiable but rather identified in a student's respect toward the content area.

Objectives are specific indicators of knowledge prerequisite to achieve the goals at a grade level, i.e. 1.1 is Goal 1, Objective 1 for a Strand.

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North Carolina Standard Course of Study, Department of Public Instruction, MATHEMATICS (available online at: <http://www.dpi.state.nc.us/>)

Principles and Standards for School Mathematics, National Council of Teachers of Mathematics (NCTM) ©2000 (available online at: <http://standards.nctm.org/>)

Lafayette Diocesan Core Curriculum Guide, Lafayette, Indiana

California Mathematics Standards, California Department of Education

Mathematics, ASCD Curriculum Handbook, ©1999

Standards Reference Master, ASCD ©1999

RESOURCES (recommendations from Diocese of Raleigh Mathematics Teachers)

National Council of Teachers of Mathematics (NCTM) www.nctm.org

Math Help for Algebra and advanced math students www.hotmath.com

US Treasury has developed Money Math, a middle school curriculum with real-world financial scenarios www.publicdebt.treas.gov/sav/savlearn.htm#navskip