

*Welcome to the Special Curriculum  
Mathematics Program.*

### WHY IS MY CHILD HERE?

Your child has demonstrated superior mathematical ability. The goal of the Special Curriculum Mathematics Program is to challenge your child to work at a more rapid pace and in more depth than is possible in other courses.

### CAN CHILDREN MOVE IN AND OUT OF THE PROGRAM?

Absolutely! Children learn and develop at different rates. The Special Curriculum Math Program recognizes this and allows for students to move into and out of the program after grade 4. What is best for a child in grade 4 may not be what is best in grade 7. We recognize this and make adjustments in students' placements accordingly.

### WHAT DOES THIS MEAN FOR HIGH SCHOOL AND BEYOND?

If your child continues in the Special Curriculum Math Program through grade 8, they will be well prepared for Advanced Geometry in grade 9 and Calculus before they graduate from High School. Please note that this is not the only route to Advanced Geometry or Calculus. This is one route to prepare children with mathematical talents for further work in mathematics.

## Materials Used

Teachers will be using parts of many texts approved by the Londonderry School Board during the course of instruction including, but not limited to, the Scott Foresman Mathematics series, the Connected Mathematics Program, Glencoe's Pre-Algebra text, and a variety of Algebra One texts. Teachers will determine which texts to use for which lessons based on the needs of the student and the strength of a text's coverage of that material. Teachers may also supplement the texts available with personal materials to fulfill district Special Curriculum math benchmarks.

## For More Information

Detailed outlines of the curriculum, benchmarks, and coordination with the state frameworks are available on our web site at [www.londonderry.org/documents.cfm](http://www.londonderry.org/documents.cfm).

*Please contact your child's teacher with any questions.*

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# SPECIAL CURRICULUM MATHEMATICS PROGRAM

*Grades 4-8*



Revised August 2008

## Topics Covered

The topics covered in each grade were chosen to allow a progression of knowledge where each new topic builds on previous ones. These topics are aligned to state and national standards and consist of topics covered in the regular mathematics curriculum and additional topics chosen to enrich the curriculum according to these standards. Parents should expect topics to be covered either at a quicker pace or in more depth than in the regular curriculum.

### Grade 4:

- Develop an understanding of fractions and fraction equivalence.
- Develop an understanding of and fluency with whole number multiplication.
- Develop an understanding of decimals, including the connections between place value and decimals, between fractions and decimals, and the use of decimals in money.
- Develop an understanding of and fluency with division of whole numbers.
- Increase understanding and fluency with systems of measurement.
- Describe and analyze properties of two-dimensional shapes and develop an understanding of perimeter and area and find the perimeters and areas of two-dimensional shapes.

### Grade 5:

- Develop an understanding of and fluency with exponents and order of operations.
- Develop an understanding of and fluency with addition and subtraction of fractions and decimals.
- Describe three-dimensional shapes and analyze their properties, including volume and surface area.
- Develop an understanding and fluency with multiplication and division of decimals.
- Connect ratio and rate to multiplication and division.
- Develop an understanding of percents, including the connections between percents and decimals, and percents and fractions.
- Extend understandings of data and data analysis.
- Develop a basic understanding of negative integers.
- Develop a basic understanding of mathematical expressions and equations.

### Grade 6:

- Write, interpret, and use mathematical expressions and equations.
- Develop an understanding and fluency with multiplication and division of fractions.
- Develop an understanding of and use formulas to determine circumferences and areas of circles and surface areas and volumes of three-dimensional shapes.

- Develop an understanding of operations on all rational numbers (including negative integers).
- Develop an understanding of and facility with solving linear equations.
- Analyze and summarize data sets.
- Extend understanding of exponents to scientific notation.

### Grade 7:

- Develop an understanding of proportionality, including similarity.
- Develop an understanding of probability and its applications.
- Analyze and represent linear functions and solve linear equations and inequalities, and systems of linear equations and inequalities.

### Grade 8:

- Describe and analyze two- and three-dimensional space and figures by using distance and angle.
- Develop understanding and efficient use of radicals (square roots) and the Pythagorean Theorem.
- Explore, analyze, and use algebraic fractions, and polynomial and exponential functions.
- Examine sets and subsets of numbers to apply field properties.
- Develop a basic understanding of formal logic and algebraic proof.