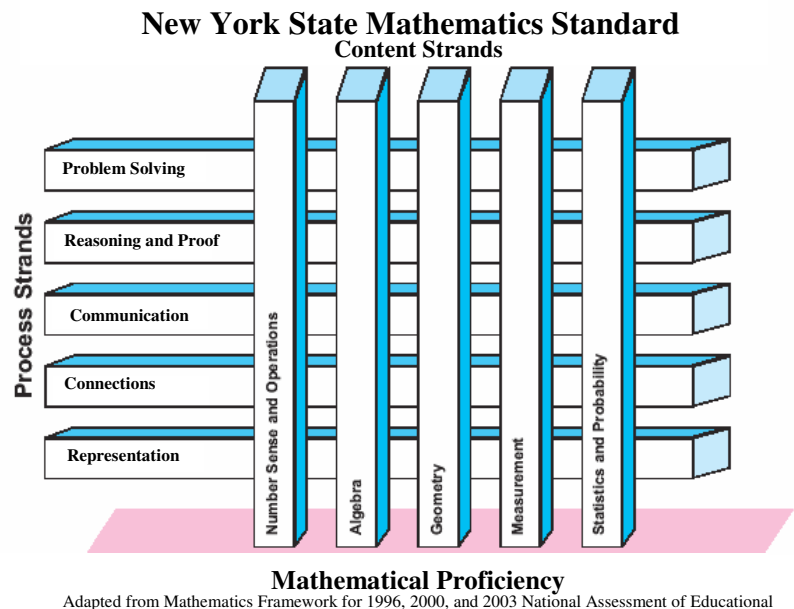


Curriculum Guide for Parents

Grade 4 Mathematics

The State of New York adopted a revised Mathematics curriculum in March of 2005. The format for the *Mathematics Curriculum Guide for Parents* below is based on their structure. The diagram from the NYS documentation demonstrates the relationship between the **Process Strands** and the **Content Strands**.



Process Strands

Problem Solving
Reasoning and Proof
Communication
Connections
Representation

The following performance indicators are included when helping students approach the **Process Strands**:

- differentiate between relevant and irrelevant information when solving problems
- while there is more than one way to solve a problem, some are more efficient than others
- interpret information correctly, identify the problem, and generate solutions
- solve problems from everyday situations
- justify reasonableness of a solution
- justify solution to a problem by explaining verbally, in writing, numerically, and/or graphically
- support or verify thinking through examples and/or counter-examples
- accurately label work
- use appropriate mathematical language to explain or justify thinking and problem solving strategy

Problem solving strategies should be integrated into the curriculum throughout the year.

Content Strands

Number Sense and Operations

- Understand place value to thousands
- Compare, order, and round numbers
- Add, subtract, and estimate the sums and differences of 4 digit numbers
- Multiply up to 2-digits numbers times 2-digit numbers and divide 2-digit dividends by 1-digit divisors
- Read, write, compare, and order fractions and decimals to hundredths
- Add and subtract like fractions
- Recognize and generate equivalent fractions and decimals
- Add and subtract decimals
- Check reasonableness of an answer using estimation

Algebra

- Use symbols $<$, $>$, $=$ and \neq to compare whole numbers, fractions and decimals
- Evaluate and express relationships using open sentences and find values that make an open sentence true if it contains $<$ or $>$
- Analyze patterns and state rules of a table or input/output box

Geometry

- Identify polygons using number of sides, faces, edges, and vertices
- Identify lines, line segments, kinds of lines, and types of angles
- Find area of rectangles and perimeter of polygons

Measurement

- Select correct tools and units for measurement
- Measure standard units to $\frac{1}{4}$ inches using a ruler
- Measure mass in grams
- Measure capacity using milliliter and liters
- Make change with coins and bills
- Calculate elapsed times in weeks and days using a calendar and tell the half hour with a clock

Statistics and Probability

- Collect and represent data using tables, bar graphs, and pictographs
- Read and interpret line graphs
- Formulate conclusions and make predictions from graphs