

The background of the image is a spiral-bound notebook with a light-colored, textured cover. The spiral binding is visible on the left side. The text is centered on the page.

4/5 Compacted Math Parent Night Presentation

October 12, 2010

Overview of Presentation

- Rationale
- Criteria
- Expectations
- Curriculum
- Timeline of Progress
- Questions

Rationale

We are committed to nurturing a school community "that values and develops the gifts and talents of each student." A compacted math program already exists at Greenville Middle School (and in several elementary schools within the suburban council). An elementary offering is an additional opportunity to meet the needs of our most mathematically talented students increasing their options in the future to pursue advanced mathematics or other areas of interest.

Mathematically gifted and advanced students have needs that differ in nature from those of other students. They require differentiated instruction, defined by Tomlinson (1995) as "consistently using a variety of instructional approaches to modify content, process, and/or products in response to learning readiness and interest of academically diverse students."

"Teaching Mathematics to Gifted Students in a Mixed-Ability Classroom" National Association for Gifted Children

Differentiation can be achieved many ways:

1. Enrichment activities to support the interests and learning strengths of students in a pull-out program.

2. Curriculum compacting which eliminates material the student has already mastered which leaves time for exploring mastered material in greater depth or exploring other areas of interest.

3. Acceleration is moving students through an educational program at rates faster, or at younger ages, than typical. It means matching the level, complexity, and pace of the curriculum to the readiness and motivation of the student.

Benefits:

Students are congregated at least part-time with other children who are able and interested in mathematics and a time is created to extend the students exploration of math or other subjects.

Students are moving at a pace appropriate for them decreasing the risk for becoming disinterested or frustrated in a subject in which they show aptitude.

Globally, having students who excel in MST is of great importance in securing our country's role as an economic power.

Criteria

- This is a rigorous program with set criteria.
- If we do not have students who meet the criteria on any given year, the program will not be offered for that year.
- If a student does not meet the criteria, he or she may still have enrichment in class or in Challenge.
- There are other opportunities to accelerate in math during the 7th grade year.

Rubric

The rubric is based on several measures:

- Report Cards
- Teacher Rating Scale (TICMS)
- 3rd Grade NYS ELA and Math Assessments
- TOMAGS (Math Aptitude Test)

Students will need to get a 16 out of a 17 possible points. Once a student qualifies, he or she is enrolled in the program. The family can also decide not to participate even if he or she has qualified because there are other opportunities to accelerate later in his or her school career. Notification will be by mail most likely in late August.

Category	Developing 1	Proficient 2	Accomplished 3	Exemplary 4	
Report Card Grades	Third grade math report card indicates most skills at levels 3	Third grade math report card indicates most skills at levels 3 and 4	Third grade math report card indicates consistent skills at level 4		
Teacher Report "TICMS" (March of Gr. 3)	Teacher ratings yield a total score of 50 or below (out of 60)	Teacher ratings yield a total score of 51-53 (out of 60)	Teacher ratings yield a total score above 54 (out of 60)		
Results from NYS math assessment (end of grade 3)		Student achieved a level 3 score	Student achieved a low level 4 score	Student achieved a high level 4 score	
Results from TOMAGS - Primary (end of grade 3) Results from R		Student achieved a raw score below 33. Suggesting skills less than 1 ½ SD above typically developing peers	Student achieved a raw score of 33. Suggesting skills 1 ½ SD above typically developing peers	Student achieved a raw score of 36. Suggesting skills 2 SD above typically developing peers	
NYS ELA assessment (end of grade 3)		Student achieved a low level 3 score	Student achieved a mid-to-high level 3 score		
GCS D Screening Tool (after baseline established)	Test results yield a total score below ____ (out of __)	Test results yield a total score between ____ (out of __)	Test results yield a total score between ____ (out of __)	Test results yield a total score above ____ (out of __)	

Expectations

The pace is fast and there will be homework every night. Quizzes and tests will be frequent.

Reports will be sent to parents every 2 to 2 1/2 weeks to keep parents informed of their child's progress.

Parents and students will need to sign a contract stating they have read and agree to these requirements:

- positive attitude and being prepared for class
- completion of all homework
- 90% average overall

- Failure to meet the expectations in any reporting (2 $\frac{1}{2}$ week report, interim, or report card) will result in a letter and a parent-teacher conference to discuss concerns and thoughts on improving student's achievement.
- Students must maintain a 90% average. Falling below this benchmark three times will result in being removed from the elementary accelerated math program and being placed into the student's homeroom math class.
- If a child is placed back in grade level math, there is another opportunity to accelerate at the Middle School level with Ms. Ward's 7/8 Math Class.

Algebra Strand 4/5

- 4.A.1 Evaluate and express relationships using open sentences with one operation
- 4.A.2 Use the symbols $<$, $>$, $=$, and \neq (with and without the use of a number line) to compare whole numbers and unit fractions and decimals (up to hundredths)
- 4.A.3 Find the value or values that will make an open sentence true, if it contains $<$ or $>$
- 4.A.4 Describe, extend, and make generalizations about numeric (+, -, \times , \div) and geometric patterns
- 4.A.5 Analyze a pattern or a whole-number function and state the rule, given a table or an input/output box
- 5.A.1 Define and use appropriate terminology when referring to constants, variables, and algebraic expressions
- 5.A.2 Translate simple verbal expressions into algebraic expressions
- 5.A.3 Substitute assigned values into variable expressions and evaluate using order of operations
- 5.A.4 Solve simple one-step equations using basic whole-number facts
- 5.A.5 Solve and explain simple one-step equations using inverse operations involving whole numbers
- 5.A.6 Evaluate the perimeter formula for given input values
- 5.A.7 Create and explain patterns and algebraic relationships (e.g., 2, 4, 6, 8...) algebraically: $2n$ (doubling)
- 5.A.8 Create algebraic or geometric patterns using concrete objects or visual drawings (e.g., rotate and shade geometric shapes)

Geometry Strand 4/5

- 4.G.1 Identify and name polygons, recognizing that their names are related to the number of sides and angles (triangle, quadrilateral, pentagon, hexagon, and octagon)
- 4.G.2 Identify points and line segments when drawing a plane figure
- 4.G.3 Find perimeter of polygons by adding sides
- 4.G.4 Find the area of a rectangle by counting the number of squares needed to cover the rectangle
- 4.G.5 Define and identify vertices, faces, and edges of three-dimensional shapes
- 4.G.6 Draw and identify intersecting, perpendicular, and parallel lines
- 4.G.7 Identify points and rays when drawing angles
- 4.G.8 Classify angles as acute, obtuse, right, and straight
- 5.G.1 Calculate the perimeter of regular and irregular polygons
- 5.G.4 Classify quadrilaterals by properties of their angles and sides
- 5.G.6 Classify triangles by properties of their angles and sides
- 5.G.2 Identify pairs of similar triangles
- 5.G.3 Identify the ratio of corresponding sides of similar triangles
- 5.G.5 Know that the sum of the interior angles of a quadrilateral is 360 degrees
- 5.G.7 Know that the sum of the interior angles of a triangle is 180 degrees
- 5.G.8 Find a missing angle when given two angles of a triangle
- 5.G.9 Identify pairs of congruent triangles
- 5.G.10 Identify corresponding parts of congruent triangles
- 5.G.11 Identify and draw lines of symmetry of basic geometric shapes
- 5.G.12 Identify and plot points in the first quadrant
- 5.G.13 Plot points to form basic geometric shapes (identify and classify)
- 5.G.14 Calculate perimeter of basic geometric shapes drawn on a coordinate plane (rectangles and shapes composed of rectangles having sides with integer lengths and parallel to the axes)

Measurement 4/5

- 4.M.1 Select tools and units (customary and metric) appropriate for the length being measured
- 4.M.2 Use a ruler to measure to the nearest standard unit (whole, $\frac{1}{2}$, and $\frac{1}{4}$ inches, whole feet, whole yards, whole centimeters, and whole meters)
- 4.M.3 Know and understand equivalent standard units of length: 12 inches=1 foot, 3 feet=1 yard
- 4.M.4 Select tools and units appropriate to the mass of the object being measured (grams and kilograms)
- 4.M.5 Measure mass, using grams
- 4.M.6 Select tools and units appropriate to the capacity being measured (milliliters and liters)
- 4.M.7 Measure capacity, using milliliters and liters
- 4.M.8 Make change, using combined coins and dollar amounts
- 4.M.9 Calculate elapsed time in hours and half hours, not crossing A.M./P.M.
- 4.M.10 Calculate elapsed time in days and weeks, using a calendar
- 5.M.1 Use a ruler to measure to the nearest inch, $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ inch
- 5.M.2 Identify customary equivalent units of length
- 5.M.3 Measure to the nearest centimeter
- 5.M.4 Identify equivalent metric units of length
- 5.M.5 Convert measurement within a given system
- 5.M.6 Determine the tool and technique to measure with an appropriate level of precision: lengths and angles
- 5.M.7 Calculate elapsed time in hours and minutes
- 5.M.8 Measure and draw angles using a protractor
- 5.M.9 Determine personal references for customary units of length (e.g., your pace is approximately 3 feet, your height is approximately 5 feet, etc.)
- 5.M.10 Determine personal references for metric units of length
- 5.M.11 Justify the reasonableness of estimates

Number Sense 4/5

4.N.1 Skip count by 1,000's

5.N.1 Read and write whole numbers to ten thousands millions

5.N.2 Compare and order numbers to ten thousands millions

5.N.3 Understand the place value structure of the base ten number system

10 ones = 1 ten

10 tens = 1 hundred

10 hundreds = 1 thousand

10 thousands = 1 ten thousand

10 ten thousands = 1 hundred thousand

10 hundred thousands = 1 million

5.N.4 Create equivalent fractions, given a fraction

4.N.5 Recognize equivalent representations for numbers up to four digits and generate them by decomposing and composing numbers

4.N.6 Understand, use, and explain the associative property of multiplication

4.N.7 Develop an understanding of fractions as locations on number lines and as divisions of whole numbers

4.N.8 Recognize and generate equivalent fractions (halves, fourths, thirds, fifths, sixths, and tenths) using manipulatives, visual models, and illustrations

4.N.9 Use concrete materials and visual models to compare and order unit fractions or fractions with the same denominator (with and without the use of a number line)

5.N.5 Compare and order fractions including unlike denominators (with and without the use of a number line)

Note: Commonly used fractions such as those that might be indicated on a ruler, measuring cup, etc.

5.N.6 Understand the concept of ratio

5.N.7 Express ratios in different forms

4.N.10 Develop an understanding of decimals as part of a whole

5.N.8 Read, write, and order decimals to hundredths thousandths

5.N.9 Compare fractions using $<$, $>$, or $=$

Number Sense 4/5 Continued

4.N.12 Use concrete materials and visual models to compare and order decimals (less than 1) to the hundredths place in the context of money

5.N.10 Compare decimals using $<$, $>$, or $=$

5.N.11 Understand that percent means part of 100, and write percents as fractions and decimals

5.N.12 Recognize that some numbers are only divisible by one and themselves (prime) and others have multiple divisors (composite)

4.N.13 Develop an understanding of the properties of odd/even numbers as a result of multiplication

5.N.13 Calculate multiples of a whole number and the least common multiple of two numbers

5.N.14 Identify the factors of a given number

5.N.15 Find the common factors and the greatest common factor of two numbers

4.N.14 Use a variety of strategies to add and subtract numbers up to 10,000

4.N.15 Select appropriate computational and operational methods to solve problems

5.N.16 Use a variety of strategies to multiply three-digit by three-digit numbers

4.N.17 Use multiplication and division as inverse operations to solve problems

4.N.18 Use a variety of strategies to multiply two-digit numbers by one-digit numbers (with and without regrouping)

4.N.19 Use a variety of strategies to multiply two-digit numbers by two-digit numbers (with and without regrouping)

4.N.20 Develop fluency in multiplying and dividing multiples of 10 and 100 up to 1,000

Note: Multiplication by anything greater than a three-digit multiplier/multiplicand should be done using technology

4.N.16 Understand various meanings of multiplication and division

4.N.21 Use a variety of strategies to divide two-digit dividends by one-digit divisors (with and without remainders)

4.N.22 Interpret the meaning of remainders

Number Sense 4/5 Continued

5.N.17 Use a variety of strategies to divide three-digit numbers by one- and two-digit numbers

Note: Division by anything greater than a two-digit divisor should be done using technology

5.N.18 Evaluate an arithmetic expression using order of operations including multiplication, division, addition, subtraction, and parentheses

4.N.23 Add and subtract proper fractions with common denominators

5.N.19 Simplify fractions to lowest terms

5.N.20 Convert improper fractions to mixed numbers, and mixed numbers to improper fractions

5.N.21 Use a variety of strategies to add and subtract fractions with like denominators

5.N.22 Add and subtract mixed numbers with like denominators

4.N.24 Express decimals as an equivalent form of fractions to tenths and hundredths

4.N.25 Add and subtract decimals to tenths and hundredths using a hundreds chart

5.N.23 Use a variety of strategies to add, subtract, multiply, and divide decimals to thousandths

5.N.24 Round less than 1,000 to the nearest tens and hundreds Round numbers to the nearest hundredth and up to 10,000

5.N.25 Estimate sums and differences of fractions with like denominators

5.N.26 Estimate sums, differences, products, and quotients of decimals

4.N.27 Check reasonableness of an answer by using estimation

5.N.27 Justify the reasonableness of answers using estimation

Statistics and Probability 4/5

- 4.S.1 Design investigations to address a question from given data
- 4.S.2 Collect data using observations, surveys, and experiments and record appropriately
- 5.S.1 Collect and record data from a variety of sources (e.g., newspapers, magazines, polls, charts, and surveys)
- 5.S.3 Calculate the mean for a given set of data and use to describe a set of data
- 4.S.3 Represent data using tables, bar graphs, and pictographs
- 5.S.6 Record experiment results using fractions/ratios
- 4.S.4 Read and interpret line graphs
- 5.S.2 Display data in a line graph to show an increase or decrease over time
- 4.S.5 Develop and make predictions that are based on data
- 4.S.6 Formulate conclusions and make predictions from graphs
- 5.S.4 Formulate conclusions and make predictions from graphs
- 5.S.5 List the possible outcomes for a single-event experiment
- 5.S.7 Create a sample space and determine the probability of a single event, given a simple experiment (e.g., rolling a number cube)

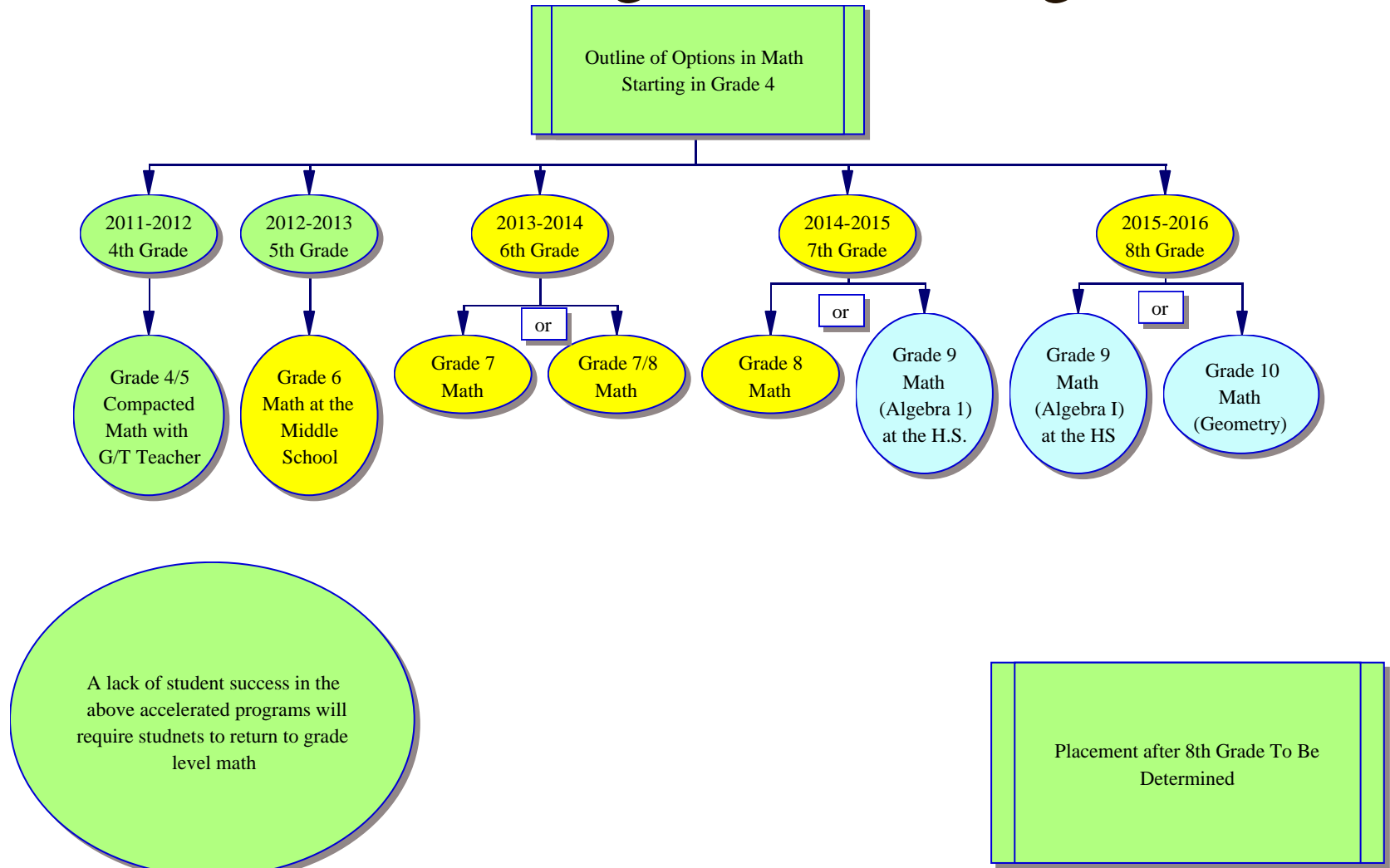
Transition to the Core Standards from 2005 NYS Standards

NYS has adopted the National Common Core State Standards for ELA and Mathematics.

The district is currently working with Questar III to track the changes in transitioning to CCSS.

A timeline for implementation is being developed.

Student's Progression Through Math



This assumes that the student completes the 4/5 program successfully and transitions into 6th grade math class at the Middle School smoothly

Is this right for my child?

As the first teacher and foremost expert on your child, you should trust your instincts in whether or not to have your child participate in the screening process.

If your child achieves high grades with little or no effort in math and enjoys mathematics, she or he is a likely candidate.

If he or she struggles nightly with homework in math or does not enjoy working with numbers in general, the content and pace may be too challenging.

Remember that there are multiple opportunities for your child to accelerate later on in his or her school career. Conversely, there are exit points should your child have need of these. This is just another opportunity to meet students learning needs.

As your child progresses, he or she may hit a “wall” and need to slow down. Placement into the compacted 7/8 grade math class is not a given.

Again, there will be bumps in scheduling, particularly at the transition years from elementary to middle and from middle to high school. He or she will be expected to meet the requirements of the course, regardless of his or her “real” grade. For example, Nature’s Classroom, is part of the 5th grade experience. They will not miss this, but it will create extra work for them when they return in order to get up to speed with the 6th graders and may require some after school time to catch up.

Questions?

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