Moving into Middle School Math
Branchburg Township School District
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Transitioning from Stony Brook to Central Middle School

• The transition from Stony Brook to Central Middle School can leave parents and students with many questions.

• To assist in the transition, the progression of math classes offered at BCMS is being shared with you tonight.

• This presentation will inform you of the process for math placement, as well as the different paths students may travel during their middle school years.
Goals for Mathematics at BCMS

Ensure that Branchburg students:

• Are on track for successful achievement of secondary mathematics.

• Are college & career ready by achieving the challenging and rigorous New Jersey Student Learning Standards (NJSLS) in Mathematics for Grades K-8.

• Achieve at the highest level of performance with success and confidence.
The Math Placement Process

- Each year a committee of administrators and teachers meets to review student data to ensure the appropriate placement of students in middle school mathematics courses.

- During this time, student achievement within the various placements is reviewed.

- The committee looks to confirm that the data collected results in the proper placement of students.

- Minor adjustments have been made over the years to the placement process.
Criteria for Math Placement

A student’s placement is data-driven and sets them up with the greatest potential for success in the middle school with opportunities in an appropriately challenging math environment.
Criteria for Math Placement

Mathematics placement in grades 6, 7 and 8 includes a combination of:

- achievement data indicative of the student’s acquired knowledge, skills and mathematical practices
- measures of aptitude or ability predictive of the student’s potential for successful development of abstract/algebraic thinking and learning/achievement in Algebra

The placement criteria is weighted and placed on a matrix for each grade level and for each student.
Unit Test Averages, Mid-Year Cumulative Assessment and End of Year Cumulative (EOY) Assessment:

- Unit tests, a Mid-Year Cumulative assessment and the End of Year Cumulative assessment are used to determine the degree to which students have met grade-level expectations and benchmarks, retained essential skills over time, and whether or not students have the knowledge-base to successfully transition from grade level mathematics to an accelerated mathematics course at their grade level.

  - Unit tests occur throughout the year on a regular ongoing basis.
  - The Mid-Year Cumulative assessment is administered in late January.
  - The EOY Cumulative assessment is administered in the late Spring to measure grade level achievement.
Aptitude/Ability Testing:

- Successful performance in higher levels of mathematics at the middle school level require students to apply quantitative and abstract reasoning rather than just learned mathematics skills.

- The process during which individuals grow from concrete thinkers to abstract “reasoners” occurs over time. As a result, student aptitude is a critical component when making decisions for appropriate placement of students in mathematics programs and courses.

- Scores from these assessments are valid, reliable, and norm-referenced
Math Placement Criteria

The following criteria are used to determine Math Placement:

• **Achievement of Grade Level New Jersey Student Learning Standards**

(1) Average of *Common* Unit Tests including Mid-Year Cumulative Assessment (35%)

(2) Score on EOY Cumulative Assessment (35%)

• **Development of Abstract/Algebraic Reasoning**

(3) Scores from valid, reliable, norm-referenced standardized tests (30%)
  - InView (5th grade)
  - Algebra Prognosis (6th grade)
  - Algebra Aptitude (7th grade)
Grade Specific
Math Matrix Components

<table>
<thead>
<tr>
<th>Matrix Score Components (Student Achievement/Aptitude)</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td><strong>Standardized Aptitude Testing</strong></td>
<td></td>
</tr>
<tr>
<td>Grade 5: InView-Assessment of Cognitive Abilities (Total Non-Verbal Score)</td>
<td>30%</td>
</tr>
<tr>
<td>Grade 6: Orleans-Hanna Algebra Prognosis Test</td>
<td></td>
</tr>
<tr>
<td>Grade 7: IOWA Algebra Test</td>
<td></td>
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<tr>
<td><strong>Unit Test Average</strong></td>
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<tr>
<td>Average of student’s scores on end of unit mathematics tests including Mid-Year Cumulative Assessment score</td>
<td>35%</td>
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<tr>
<td><strong>Cumulative Test</strong></td>
<td></td>
</tr>
<tr>
<td><em>End of Year Mathematics Cumulative Test</em> to measure retention and integration of grade level mathematical concepts*</td>
<td>35%</td>
</tr>
</tbody>
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** PARCC and NWEA MAP Assessment data are not part of the current math placement process.**
Math Assessment Timeline

On-going throughout the year: Common Unit Tests

Late January: Mid-Year Cumulative Assessment

Mid-April: Standardized Aptitude/Ability Test
- 5th graders – InView (April 21st)
- 6th graders – Algebra Prognosis (April 20th)
- 7th graders – Algebra Aptitude (April 19th)

Late May-early June: EOY Cumulative Assessment
- 5th grade - May 23rd
- 6th & 7th grade - May 31st
Math Placement Timeline

**Mid-June:** Classroom score results sent to Director

**July:** Matrix Score data compiled

**August:** Placements sent out

Waiver period (following placement letter) **

**Late August:** Waiver decisions communicated via email

**Marking Period 1:** Probation period for waived students

**End of Marking Period 1:** ALL placements final

**Note:** It is not recommend that a student be waived into a math course which he/she did not qualify for; however, this option is available for those students who may have fallen just below the required Matrix Score.
**Waiver Opportunity Criteria**

Procedures for waivers are currently part of the math placement process.

- Parents can “waive” a student into specific courses only if that student falls within the waiver criteria (provided on upcoming slides).

Students who are waived into a class are done so with the understanding that the student will **remain on probationary status** and **must maintain** specific criteria during marking period 1 to remain in that placement.
Math Course Sequences at BCMS

The variety of course sequences available at BCMS provide students with the math courses they need in order to meet graduation requirements at the High School level.

• A comprehensive chart of all math course options at BCMS is provided for your reference.

• A continuation to Somerville High School’s math sequence follows.
Math Course Sequences at BCMS

*ALL BCMS math sequences enable students to meet HS graduation requirements*
Somerville High School requires three years of mathematics for graduation. Elective courses are also available. The mathematics course sequence is aligned with the Common Core State Standards for Mathematics, district curricula and the statewide assessment system.

Mathematics Sequences

Students may change levels at year’s end based on performance.

- Algebra 1 → Geometry → Algebra 2 → Advanced Algebra
- Geometry → Algebra 2 → PreCalculus → PreCalculus Statistics
- Geometry H → Algebra 2H → PreCalculus H → AP Calculus AB
- Algebra 2H → PreCalculus H → AP Calculus AB
- AP Calculus BC
- AP Statistics
- Statistics

- AP Calculus Statistics
- AP Statistics
- Statistics
6th Grade Course Options

Math 6:

Math 6 is the on-target Grade Level math course where the majority of 6th grade students begin. The Math 6 course meets the New Jersey Student Learning Standards for grade 6 while providing students opportunities for activities and experiences where they can explore real world applications.

- Content includes operations with whole numbers, integers, decimals, fractions, geometry, data analysis, number systems, rates, ratios, proportions, percentages, and introduction to algebraic expressions and solving equations.
6th Grade Course Options

Foundations of Pre-Algebra 6:

Foundations of Pre Algebra 6 meets the New Jersey Student Learning Standards for grade 6 at an elevated level, providing students challenging activities and experiences where they can explore in greater depth real world applications of mathematical skills. The areas of study are identical to Math 6. Students in this math placement learn from an inquiry-based model.
Pre-Algebra 6:

Pre-Algebra 6 is a rigorous course that emphasizes problem-solving and critical thinking while developing necessary concepts for the further study of algebra in a high school level course. Pre-algebra 6 meets the New Jersey Student Learning Standards for grade 6 and some of the grade 7 standards.

- Content includes operations with rational numbers, factors, exponents, algebraic expressions, solving one and two-step equations and inequalities, ratio, proportions, percentages, and geometry.
**Matrix Score:**
- Unit Test & Mid-Year Average → 35%
- EOY Cumulative Test → 35%
- 5th Grade InView → 30%

Note: “MP1” = Marking Period 1
Matrix Score:
Unit Test & Mid-Year Average → 35%
EOY Cumulative Test → 35%
6th Grade Algebra Prognosis → 30%

Note: “MP1” = Marking Period 1
Matrix Score:
Unit Test & Mid-Year Average → 35%
EOY Cumulative Test → 35%
7th Grade Algebra Aptitude → 30%

Note: “MP1” = Marking Period 1
Clarifications and Key Understandings

- **Appropriate** placement allows for students to grow at a pace to *match their needs*.

  - Math 6, Math 7 and Algebra Connections are grade level appropriate classes, where the majority of students are taught.

- Students are not locked into a math track - decisions to change placement are made (if appropriate) during the first marking period of the school year.

- Decision making must be *data-driven*.

  - Analysis of student data is used to support placement and adjustments in placement during the first marking period.
General Questions
Thank You for Attending!

This presentation will be available on Stony Brook, BCMS and the District website.

Additional information, is available on the “Curriculum and Instruction” page of the district website.