

Chenery Middle School - 2018

Mathematics Placement Process and Timeline for:  
Students entering Grades 7 and 8

C + I meeting  
11/27/18  
Lisa F  
Andrea P  
Tara D  
Janice  
Patty

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Grade 6 entering Grade 7

Grade 6 students are placed into one of two, grade 7 mathematics courses:

**Math 7-Compacted:** a fast-paced rigorous course covering all of the grade 7 curriculum standards presented in the Common Core Standards (10 units of study) as well as an additional 5 units of study of the grade 8 curriculum standards presented in the Common Core Standards.

**Math 7:** a traditionally-paced rigorous course covering all of the grade 7 curriculum standards provided in the Common Core Standards. (10 units of study)

Students are placed for grade 7 by their current grade 6 teachers based upon the following:

- Course grade
- Quarterly cumulative exams
- Math MCAS / PARCC history
- Teacher observations: study skills, processing speed, accuracy, and attitude

Grade 7 entering Grade 8

Grade 7 students are placed into one of two, grade 8 mathematics courses:

**Grade 8 Algebra 1:** a fast-paced rigorous course covering all of the high school level Algebra 1 Common Core standards while incorporating the remaining units of grade 8 curriculum standards not covered in Math 7-Compacted.

**Math 8:** a traditionally-paced rigorous course covering all of the grade 8 curriculum standards provided in the Common Core Standards.

Students are placed in grade 8 by their current grade 7 teachers in the following manner:

- **Grade 8 Algebra 1:** for students who have successfully completed Math 7-Compacted
- **Math 8:** for students who have struggled when completing Math 7-Compacted
- **Math 8:** for students who have successfully completed Math 7

Placement timeline for all grades:

- By May 4th, parents will receive notification of their student's course placement
- Parents will sign and return the course placement letter by May 11th
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- If a parent has a concern regarding the course placement, the following steps will take place:
  - parents return the signed placement letter AND indicates that he/she will contact the student's teacher to discuss any concerns or questions
  - the parents and teacher will discuss the placement and if they agree upon the placement the process is complete
  - If the teacher changes the recommended placement then the teacher will confirm this decision via email to both the parents and Patty Soliozy, Director of Mathematics.
  - Following communication between parents and teacher regarding the course recommendation, if the parents continue to disagree with the placement they need to contact the Director of Mathematics, Patty Soliozy at [psoliozy@belmont.k12.ma.us](mailto:psoliozy@belmont.k12.ma.us) requesting a Placement Review.
  - No Placement Reviews will be considered after June 1<sup>st</sup>.

Mrs. Soliozy will respond to Placement Review Requests on or before June 8<sup>th</sup>.

### **Advancing a Year in Mathematics:**

There are special circumstances when a student may study and perform mathematics (demonstrating both conceptual understanding and application) well beyond current grade level standards.

- If a student studies mathematics outside of school, and his/her parents or guardians request that the student be provided an opportunity to 'test out' of grade level courses (Math 7-Compacted, Math 8, Algebra 1 or Honors Geometry) the following procedures and timeline shall be followed:

**REGISTER THAT YOU PLAN TO TAKE AN EXAM by April 6, 2018:**

- Parent or guardian registers their child at <https://goo.gl/forms/PWCnQhjlQCuGDMiP2> requesting an opportunity to test out of a grade level course and their intention to provide supporting documentation of student learning and progress
- Documentation of the student's current outside of school or additional course of study including: materials used (i.e. textbook, websites etc.), the name and contact information of the course instructor or organization providing the instruction (if applicable), a student notebook containing evidence of course work, assessments, and progress may be requested to support the request to take the exam.

### **Placement Tests will be given on Thursday, May 10, 2018.**

The exams will begin at 1:35 pm and finish at 3:30 pm. Please note students will miss their G block class.

By May 22, 2018:

- Parents will receive placement determination.

## **Textbook and Course Information**

### **Compacted Math 7 Course**

**This course uses Big Ideas Math book available through this link**

**<https://bim.easyaccessmaterials.com/index.php?level=8.50>**

**The test will cover materials in chapters 1-16 with the exception of chapter 13.**

### **Grade 8 Algebra 1 Course**

**Although we do not use the Algebra 1 book available through this link**

**<https://bim.easyaccessmaterials.com/index.php?level=10.00>**

**It is a good reference book for the material.**

**See page 4 for the scope and sequence of our Algebra 1 course.**

### **Honors Geometry Course**

**The textbook used in this course is Geometry for Enjoyment and Challenge, Rhoad, R. Mcdougall, Littell,1991**

**You may find an inexpensive copy on-line or a downloadable pdf file.**

**The course covers chapters 1-13.**

### **Honors Geometry at CMS in grade 8**

**When a student advances through mathematics, placing out of courses, and meets requisite requirements for Geometry they may have an opportunity to study Geometry while still attending CMS. Geometry is a high school level honors course typically offered freshman or sophomore year.**

**Students meeting requisite requirements may study Geometry:**

- At CMS- If or when the number of students at CMS needing Geometry reaches a minimum threshold we provide the course at CMS. Students are scheduled into a section of Geometry within their regular schedule.**
- At BHS- If the number of students needing Geometry does not meet a minimum threshold students have the opportunity to take the course at BHS usually during the first block of the day. Parents are responsible for ensuring their student arrives at BHS for the course and then immediately reports to CMS for the remainder of their school day. Parents are responsible for transportation to both schools.**
- We will have a better understanding of Geometry enrollment and where the course will be offered by the close of the school year.**

## Topics in Algebra 1 (Massachusetts State Standards)

### Solving Equations and Inequalities, including applications

- Solve multi-step equations
- Solve equations with variables on both sides, including special cases
- Transform equations to get a different variable alone
- Solve and graph inequalities in a single variable
- Set up and solve word problems as equations and inequalities

### Intro to Functions

- Understand that the graph of an equation represents the set of its solutions
- Construct and Interpret Scatter plots
- Analyze graphs by their correlations and whether they are discrete or continuous; identify dependent and independent variables
- Identify relationships in tables of bivariate data
- Evaluate domain and range of functions
- Understand functions-- $f(x)$ --as a rule where each input/domain yields only one output/range
- Compare functions via equations, tables, graphs and their descriptions; recognize families of functions

### Linear Functions

- Create equations and inequalities in one and more variables to represent linear ( $y = mx + b$ ) functions and solve application problems
  - Model linear relationships: Determine rate of change (slope) and intercept from a table and a graph
  - Use linear equations to predict expected values
  - Identify linear and non-linear relationships and line of best fit (where appropriate)
  - Calculate correlation coefficients and distinguish from causation
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### Systems of Equations and Inequalities

- Solving linear and quadratic systems by Graphing, Substitution and Elimination
- Graphing linear inequalities and systems of inequalities
- Application problems

### Exponential Functions

- Arithmetic (linear) vs. Geometric (exponential) Sequences
  - Compare growth rates of linear vs. exponential functions in graphs/tables
  - Describe functions (linear vs. exponential) according to their intercepts, unit rate of increase/decrease, end behavior, periodicity, maximums and minimums
  - Evaluate multiplicative and additive effects on a function, and how domain and range are affected
  - Application problems

### Polynomials

- Review Rules for simplifying exponents
  - Adding, Subtracting, Multiplying (as closed sets) and Factoring (GCF) Polynomials

### Quadratic Equations and Functions

- Factoring, Graphing, and solving quadratic equations, including completing the square
- Interpreting quadratic relationships

- **The quadratic formula (complex solutions) and discriminant**

**Non-linear Systems of Equations: solve by graphing, substituting, and eliminating, plus applications**

**Rational and Irrational Expressions and Radicals**

- **Understand outcomes for operations with rational and irrational numbers**
- **Simplify exponents (exponent rules for multiplication and division of exponents)**
- **Represent radicals as rational exponents and understand their effects**
- **Simplify radicals**
- **Apply and prove Pythagorean Theorem**

**Data relationships and Statistics**

- **Evaluate shape of data sets by central tendency (mean, median) and spread (interquartile range, standard deviation)**
- **Describe/evaluate/sketch graphic relationships Compare data in histograms and box and whisker plots**

**Special Functions-**

- **Graph root, piecewise, step, rational, logarithmic and trigonometric functions, identifying intercepts, period, midline and amplitude and describing end behavior, plus inverse functions**

**Belmont High School Course Sequence:**

The information below shows the typical progression of mathematics courses beginning in grade 9. If a student hopes to advance in a manner not indicated below there may be opportunities to consider enrolling in two mathematics courses in one year. These decisions are made on an individual basis with BHS staff, students, and the Director of Mathematics.

**SEQUENTIAL CHART**

Grade 9	Grade 10	Grade 11	Grade 12
- Algebra 1(CP) -Geometry (CP ) -Geometry H)	- -Geometry(CP and H) Algebra 2 (CP) -Algebra 2 (H2 and H1) -Geometry(CP and H)	- Algebra 2 (CP) -Algebra 2 (H2 and H1) -Adv Algebra and Trig (CP) -Pre-Calculus (H2 and H1) -Statistics (AP) Computer Science (AP)	- Adv Algebra and Trig (CP) -Advanced Math Decision Making (CP) -Surveys, Statistics and Data Analysis (H) Personal Finance (CP) Spreadsheet Applications (CP) -Matrices and Probability (H) -Pre-Calculus ( H2 and H1) -Calculus (H) -Calculus AB (AP) -Calculus BC (AP) -Statistics (AP) Computer Science (AP)

**Mathematics – 4 year requirement (20 credits)**

**Some possible course sequences:**

- Algebra 1, Geometry(CP), Algebra 2 (H2), PreCalculus(H2)
- Algebra 1, Geometry(CP), Alg 2 (CP), Adv Alg and Trig (CP)
- Geometry(CP), Algebra 2 (H2), PreCalculus(H2), Statistics and Matrices (H) electives
- Geometry(CP), Algebra 2 (H2), PreCalculus(H2), Calculus (H)
- Geometry(CP), Algebra 2 (H2), PreCalculus(H2), Statistics (AP)
- Geometry(H), Algebra 2 (H1), PreCalculus(H1), AP Calculus
- Geometry(H), Algebra 2 (H1), PreCalculus(H1), Statistics (AP)
- Geometry(H), Algebra 2 (H2), PreCalculus(H2), Calculus (H)