

**Boston Collegiate Charter School  
Grade 7 Math Syllabus 2011-2012  
Mr. Brown and Mrs. McLendon**

**Contact Information**

**Mr. Brown** (617) 265 -1172 ext. 271 [jbrown@bostoncollegiate.org](mailto:jbrown@bostoncollegiate.org)

**Mrs. McLendon** (617) 265-1172 ext. 299 [lmclendon@bostoncollegiate.org](mailto:lmclendon@bostoncollegiate.org)

**Course Overview**

Our goal is to prepare all of our students for a rigorous high school math curriculum. It is our belief that in order to be successful in such a program, students need more than anything else, a fundamental mastery of the nature of base-10 whole numbers, proportional numbers of all forms, and the four basic operations. Students should also be developing fluency with the fundamental concepts of algebra, geometry, data analysis, statistics, and probability during the 7<sup>th</sup> grade year. Students will be able to demonstrate the depth of their understanding through their ability to perform computational procedures as well as the ability to solve problems requiring the application of these concepts.

**Units**

The curriculum outline below gives a general description of the topics we will be covering in the 7<sup>th</sup> grade this year.

**August through early October:** Review of number concepts (fractions, decimals, percents, and ratios). Addition & subtraction concepts including addition and subtraction of decimals, fractions, integers, and the commutative property of addition.

**Early October through early November:** Multiplication concepts including scientific notation, multiplication of decimals and fractions, discounts, and the commutative property of multiplication

**Early November through mid-December:** Division concepts including dividing fractions and decimals, and more complex work with percentages.

**Mid-December through February break:** Solving basic algebraic equations. Heavy emphasis on proportional thinking and problem-solving. More algebraic concepts including the beginnings of linear algebra including slope, equations of lines and graphing.

**February break through late April:** Basics of geometry including properties of lines, angles, shapes, solids, area, perimeter, volume, and surface area.

**Late April through early June:** Basics of statistics, probability and data analysis.

**Mid-June through late June:** Final exam preparation

**Primary Performance Standards**

By the end of the 7<sup>th</sup> grade, students are expected to be able to:

- Manipulate and solve number sentences involving whole numbers, fractions and decimals and any of the four basic operations
- Simplify expressions involving exponents

- Distinguish number patterns and identify missing terms
- Solve algebraic equations involving any of the four basic operations, fractions, decimals, exponents, or any combination of these
- Set up and solve proportions in a variety of situations.
- Develop the basic skills of linear algebra including graphing and developing the equations of lines.
- Use properties of lines and angles to identify relationships between them
- Identify and measure a variety of geometric shapes and three-dimensional objects
- Apply the fundamentals of data analysis, statistics and probability.
- Solve applied problems using all of the above skills and concepts.

### Assessment

A test or quiz is given about every week. In addition, there will be occasional interim assessment exams. Homework will be assigned every evening, and will be graded for completion and accuracy.

### Grading Policy

The quarterly grading policy for 7<sup>th</sup> grade math is very simple. Tests are worth 30% of a students' grade, homework is worth 20%, and classwork is worth 20%. Classwork includes student participation, work on classwork assignments and Do Nows, and the quality of the student's binder. Other assessments, worth another 30% of the grade, will consist primarily of quizzes. Given the frequency of the tests, homework assignments, and classwork, there is ample opportunity for every student to perform well in this course.

Final grades will be calculated as follows:

Quarter 1	22.5%
Quarter 2	22.5%
Quarter 3	22.5%
Quarter 4	22.5%
Final Exam	<u>10%</u>
Total	100%

### Text

Instead of a traditional textbook, students take notes in their binder and work on classwork handouts each day in class. Homework assignments mirror the daily classwork assignment, with the addition of review problems.

### Journal Presentations

At the end of each week (Friday), students will be given a problem by which they will need to answer in three different ways. Answers have to be in written form, basically telling how they solved the problem. Show calculations, which are the arithmetic (math) that is done to answer the problem. Finally, answers have to be shown with an illustration, this means that the answer must be shown by a graph, diagram or drawing. These assignments are additional assignments

to homework that might be given on Fridays, and are due on the Monday or Tuesday following. On Monday or Tuesday I will randomly choose two students to present the question and answer to the class that day. This means all students must be ready to present every Monday or Tuesday. The scoring will be done by the following rubric shown below. Presentations will be classwork grades and the assignment that's handed in will be a homework grade.

Goals for Portfolio Presentations:

Presenters Goals

- Annotate or identify the important numbers, words and phrases in the problem.
- *Write* an explanation that answers an open response question. The explanation must include a problem solving technique.
- Show all the calculations needed to answer the question. All the calculations should be presented logically and in order with the final answer correctly labeled.
- Illustrate your answer by using diagrams, graphs and pictures. Illustrations should be clearly labeled.

Audience Goals

- Analyze material that is being presented. Take the information and analyze how the presenter got from starting point to the ending point. (presenters words)
- Evaluate the presenter's information. Express why and answer is correct or why the answer is incorrect using appropriate vocabulary.
- Creating own idea. If possible come up with another way of explaining the information that was presented. (your own words)

**Comment [1]:** darren.burris:  
Now I would come up with a template for this assignment:

Place for them to copy the problem (or you provide the problem)

1. Annotate the problem.
2. Place for calculations
3. Place for explanation
4. Relevant Diagram

This will ease facilitation and help you order their experience.

Presenters	4	3	2	1
Writing	Explanation is concise, accurate, and uses appropriate math vocabulary	Explanation are somewhat concise, mostly accurate, and uses some math vocabulary	Explanation are not concise, many inaccuracies, and uses little math vocabulary	Explanation is wrong and uses no math vocabulary
Calculating	calculations are correct and answers are correctly labeled	one calculation is incorrect and answers are correctly labeled	more than one calculation is incorrect and answers are not labeled	no calculations are correct and answers are not labeled
Illustrating	Illustrations display correct information and correctly labeled	Illustrations display some correct information and correctly labeled	Illustrations show little information and incorrectly labeled	no Illustration

### Special Materials

The materials required for math class each day are:

- ◆ a 1-inch, 3 ring binder with sufficient blank, loose-leaf paper
- ◆ At least 1 folder in your binder at all times for hand-outs and any other loose papers.
- ◆ 1-3 sharpened pencils with erasers or mechanical pencils and sufficient replacement lead
- ◆ a hand-held pencil sharpener
- ◆ protractor and ruler

The school will supply anything else students might need.

\*Students DO NOT need, nor should they use, a calculator at any time – unless expressly told to do so.