

**Boston Collegiate Charter School  
Grade 6 Math Syllabus 2011 - 2012**

**Ms. Bridget Adam**

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**Course Overview**

Welcome to 6<sup>th</sup> Grade Mathematics! It is our goal 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. By the end of the 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 covers the concepts and skills that are listed in the Massachusetts Curriculum Frameworks. During past years, the BCCS math curriculum has prepared students to do very well on standardized exams such as the Massachusetts Comprehensive Assessment System (MCAS) and the Stanford 10.

Our 6<sup>th</sup> grade curriculum is designed primarily to ensure that students develop a solid understanding of proportional numbers (fractions, decimals, and percents). We will also be covering some elementary principles of algebra, statistics and probability, as well as geometry.

- **Unit 1 Number Sense** - Review of whole numbers, fractions, decimals, and percents. Introduce the manipulation of ratios.
- **Unit 2 Number Sense Application** - Operate on fractions, decimals and percents.
- **Unit 3 Introduction to Integers** - Perform operations with positive and negative integers.
- **Unit 4 Introduction to Algebra** - Master the Order of Operations, solve basic one and two-step equations, connect their understanding to graphs representing linear functions
- **Unit 5 Statistics and Probability** - Understand the “likelihood” of an event, and use statistical measures to make predictions and conclusions.
- **Unit 6 Patterns and Algebra** - Identify a pattern and consecutive terms in a sequence, create an algebraic rule for a pattern.
- **Unit 7 Geometry** - Identify 2D and 3D figures, transform objects, and find area and perimeter of shapes, explore nets, find the surface area and volume of 3D figures.
- **Unit 8 Linear Equations** - Construct a graph given an input/output table, an equation for a line, or sequential points.

## Primary Performance Standards

By the end of the 6<sup>th</sup> grade, students are expected to be able to meet all of our 5<sup>th</sup> grade standards, plus:

- Show competence with the base-ten number system in the form of rounding, knowing place value, and comparing decimals
- Show understanding of fractions – simplifying, comparing, multiplying, dividing, converting to decimals, relate to ratios
- Be proficient with decimals – performing all operations, converting to fractions, understanding repeating decimals
- Demonstrate understanding of percents and their relationship to fractions and decimals
- Construct and manipulate ratios
- Demonstrate algebra skills, such as using the property of inequality, solving simple one and two step equations, expressing patterns using variables, graphing linear functions and recognizing non-linear functions
- Understand and calculate mean, median, mode, and range
- Understand probability as the result of a set of outcomes
- Know plane geometry of polygons, calculate and understand basic areas, measure angles, know parts of a circle and calculate its area, find volume and surface area of simple and complex 3D shapes

## Assessment

Homework is given daily and expected to be thoroughly and thoughtfully completed by the next morning. Students will be quizzed or tested on a weekly basis. In addition, there will be cumulative exams administered at the close of each unit. These will culminate in a comprehensive final exam to be taken at the year's end.

## Grading Policy

### **Quarterly**

Both student achievement and effort are represented within the grade; however, students must display mastery of mathematical skills and procedures in order to successfully complete 6<sup>th</sup> grade mathematics.

Homework	20%
Classwork	20%
Major Assessments	30%
Minor Assessments	30%
<hr/> Total	<hr/> 100%

## Tutoring

This year, the Lower School will continue to implement a targeted tutoring program, designed to provide additional skill support to struggling students. **As a result, tutoring is by invitation only.**

## **Class Materials**

The materials required for math class each day are:

- 1-3 sharpened pencils with erasers
- a hand-held pencil sharpener with catch basin
- a 1-inch, 3 ring binder with sufficient blank, loose-leaf paper
- 5 dividers (labeled: Do Now, Notes, CW, HW, and Assessments)

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.

As a result of not having a traditional textbook, students will be expected to keep all Math I work in a 3-ring binder. Students must keep all work unless otherwise directed by a teacher. *Students do not need a calculator and should never use one to complete homework.*

## **Class Policies and Procedures**

**Absences:** If you are absent, it is **your** responsibility to complete all assigned work in the allotted time. To encourage independence, students must check in with the appropriate teacher to ensure they understand all classwork and homework that was missed.

**Finally, please refer to the BCCS Student and Family Handbook for additional policies regarding attendance, behavior/code of conduct and homework expectations.**

I am looking forward to working with you this year.

Sincerely,

Ms. Bridget Adam

## Course Description Agreement

*Once you and your family have read the above course description, please sign and comment (if necessary) below. Please return this last page tomorrow for your first homework grade.*

**I have thoroughly read the above material and understand the expectations set forth for Math.**

\_\_\_\_\_  
Student Name (printed)

\_\_\_\_\_  
Advisory

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Parent/Guardian Name (printed)

\_\_\_\_\_  
Best Phone Number

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Email Address

Comments: