

# FOLSOM CORDOVA UNIFIED SCHOOL DISTRICT

## Pre-AP Math, Course 1

**DATE:** February 2012

**SUBJECT AREA:** Math

**PROPOSED GRADE LEVEL(S):** 6<sup>th</sup>

**COURSE LENGTH:** One Year

**GRADING:** A-F

**NUMBER OF CREDITS:** NA

**PREREQUISITES:** Completion of 5<sup>th</sup> grade math standards

### **BRIEF COURSE DESCRIPTION:**

According to the state mathematics framework, by the end of grade 6, students have mastered the four arithmetic operations with whole numbers, positive fractions, positive decimals, and integers; they accurately compute and solve problems. Students apply their knowledge to statistics and probability, analyze data, work with ratios and proportions, compute percentages, and know about pi and the formulas for the circumference and area of a circle. They can also use variables in formulas involving geometric shapes and in ratios to represent an unknown part of an expression. They solve one-step linear equations.

### **GENERAL GOALS/PURPOSES:**

This course was designed for the advanced learner, to prepare them for AP and college readiness. The course uses *Springboard*, the official Pre-AP curriculum from College Board. According to the College Board website, *Springboard* infuses rigor, sets high expectations, and expands access and opportunity for all students. *Springboard* provides culturally and personally relevant activities designed to engage students in problem solving, academic discourse and critical analysis ([www.collegeboard.org](http://www.collegeboard.org)).

### **STUDENT READING COMPONENT:**

Sample reading strategies are incorporated throughout the text. Building academic vocabulary is a primary focus while learning effective reading strategies. Students will have daily opportunities to interact with the text.

### **STUDENT WRITING/ORAL COMPONENT:**

Students will have opportunities to express their understanding of concepts in writing as well as orally presenting work to the class. All written work will follow standard rules of English. Teachers are provided with several different strategies to incorporate writing and engage students in purposeful conversation throughout the text.

### **DETAILED UNITS OF INSTRUCTION:**

This course is taught using *Springboard, Mathematics with Meaning, Middle School 1* curriculum from College Board, 2010.

Pre-AP, Course 1			
Unit	Essential Questions	Academic Vocabulary	Unit Concepts
Unit 1 Number Concepts	How can you use a prime factorization to find the greatest common factor of two or more numbers?  Why can you use either a fraction or a decimal	Absolute value Additive inverse Exponent Factors Integer Prime number	<ul style="list-style-type: none"><li>Identifying prime and composite numbers</li><li>Using divisibility rules</li><li>Solving problems by applying GCF and LCM</li><li>Comparing and ordering fractions</li><li>Converting between mixed</li></ul>

Pre-AP, Course 1			
Unit	Essential Questions	Academic Vocabulary	Unit Concepts
	to name the same rational number?		numbers and improper fractions <ul style="list-style-type: none"> <li>• Comparing, ordering, and rounding decimals to the thousandths place value</li> <li>• Comparing, ordering, adding and subtracting integers</li> <li>• Finding absolute value</li> </ul>
<b>Unit 2</b> Operations with Numbers	How are operations with fractions similar to and different from operations with whole numbers?  What kinds of numbers do you know about and how do mathematical properties apply to operations with different kinds of numbers?	Equation Expression Factoring Integer Order of operations Property reciprocal	<ul style="list-style-type: none"> <li>• Adding and subtracting fractions and mixed numbers</li> <li>• Multiplying and dividing with fractions and mixed numbers</li> <li>• Operations with decimals</li> <li>• Mathematical properties</li> <li>• Order of operations</li> </ul>
<b>Unit 3</b> Linear Patterns	Why are tables, graphs, and equations useful for representing relationships?  How can you use equations to solve real-world problems?	Inverse operations Linear Ordered pair Rate of change Variable	<ul style="list-style-type: none"> <li>• Graphing and using linear equations</li> <li>• Solving two-step linear equations</li> </ul>
<b>Unit 4</b> Ratio and Rates	Why are proportional relationships an important part of mathematics?  How is percent related to fractions and decimals, and why is it such a useful tool in everyday life?	Percent Rate Unit rate	<ul style="list-style-type: none"> <li>• Writing and solving ratios, rates, and proportions</li> <li>• Determining percents</li> <li>• Applying percents to discounts, taxes, and tips</li> <li>• Estimate a percent of a number using mental math</li> </ul>
<b>Unit 5</b> Geometry	What characteristics do various quadrilaterals share, and why is it possible to determine perimeter and area of quadrilaterals using related formulas?  In what ways is symmetry important in	Altitude Bisect Congruent Equilateral Perimeter Regular polygon Solid Transformation Volume	<ul style="list-style-type: none"> <li>• Find the area and perimeter of triangles, quadrilaterals, and circles</li> <li>• Find the perimeter and area of a composite figure</li> <li>• Classifying triangles</li> <li>• Transformations</li> <li>• Volume</li> </ul>

Pre-AP, Course 1			
Unit	Essential Questions	Academic Vocabulary	Unit Concepts
	real-world situations?		
<b>Unit 6</b> Data Analysis and Probability	How does understanding probability help you make decisions?  Why is it important for you to understand how data is organized and presented in real-world situations?	Outcome Population Probability Sample Survey variable	<ul style="list-style-type: none"> <li>• Sample Space</li> <li>• Theoretical probability</li> <li>• Complement</li> <li>• Venn diagrams</li> <li>• Fractions and percents</li> <li>• Circle graph</li> <li>• Bar chart</li> <li>• Stem plot</li> <li>• Measures of center</li> <li>• Range</li> <li>• Categorical and numerical data</li> <li>• Misleading display</li> </ul>

**SUBJECT AREA CONTENT STANDARDS TO BE ADDRESSED:**

Springboard is fully aligned to both the CA State Standards (1997) and the CA Common Core State Standards (2010) for grade six.

**THIS COURSE WILL PREPARE STUDENTS FOR THE CAHSEE and/or CSTs:**

Math

**LAB FEE, IF REQUIRED:**

None

**DISTRICT ESLR's TO BE ADDRESSED:**

**Students will be:**

- **Self-directed Learners:** who will be able to use notes and a textbook to assist them in continuing their learning outside of the classroom setting.
- **Efficient Communicators:** who can explain mathematical concepts to others and use mathematics to organize and explain data.
- **Quality Producers:** who understand the importance of neat, organized work that demonstrates their thinking and understanding of the solution they've formed to solve a problem.
- **Constructive Thinkers:** who are able to attack problems with organization, logic, and mathematical skills they've developed in a systematic fashion.
- **Collaborative Workers:** who can work in a variety of settings in culturally diverse groups. They will be able to form and use study groups to strengthen their own understanding in addition to providing the same service for classmates.
- **Responsible Citizens:** who accept the consequences of their actions and who demonstrate their understanding of their role in the learning process.

The Folsom Cordova Unified School District prohibits discrimination, intimidation, harassment (including sexual harassment) or bullying based on a person's actual or perceived ancestry, color, disability, race or ethnicity, religion, gender, gender identity or gender expression, immigration status, national origin, sex, sexual orientation, or association with a person or group with one or more of these actual or perceived characteristics. **For concerns/questions or complaints, contact the Title IX Coordinator(s) and Equity Compliance Officer(s): Curtis Wilson, [cmwilson@fcusd.org](mailto:cmwilson@fcusd.org) (grades K-5) and Jim Huber, ED. D., [jhuber@fcusd.org](mailto:jhuber@fcusd.org) (grades 6-12), 1965 Birkmont Drive, Rancho Cordova, CA 96742, 916-294-9000 ext.104625**