

# Community Information Meeting

AUSD: Accelerated Math in Middle School

December 11 and 12, 2018

# What's new?

In 2019 - 2020, AUSD is introducing a compressed 7th and 8th grade year long math course

- ▶ Students can accelerate without missing critical content; replaces current practice of students skipping 7th and/or 8th grade math courses
- ▶ Students still have the opportunity to complete AP Calculus and AP Statistics by their senior year

# Why change?

- ▶ Common Core moved most Algebra 1 content standards to 9th grade and shifted significant content into the 7th and 8th grade standards
- ▶ District has been monitoring
  - ▶ student progress
  - ▶ how other districts are implementing
  - ▶ advice from math education experts
- ▶ Consensus: Focusing on depth of understanding in middle school is critical to build a solid foundation for advanced math in high school and college

# CA Mathematics Framework

“Mastery of the algebra content, including attention to the Standards for Mathematical Practice, is fundamental for success in further mathematics and on college entrance examinations. Skipping over material to get students to a particular point in the curriculum will create gaps in students’ mathematical background.”

# Math Myths

**Myth:** Many math topics at the middle school level are repeated over several years.

**Reality:** The CCSS greatly reduced the repeating of topics in math for grades 5 - 8. Each grade focuses on its own significant topics that are built upon in the next course.

**Myth:** The UC A-G requirements includes passing Calculus in high school.

**Reality:** A-G requires three years of college preparatory math, and recommends four. All of the high school level courses including Algebra 1, Geometry, Algebra 2, Precalculus, Statistics, and Calculus satisfy these requirements.

# CCSS Aligned Math Classes

CCSS Math 6

CCSS Math 7

CCSS Math 8

- ▶ More rigorous
- ▶ Increased depth and complexity
- ▶ Increased problem solving and application of conceptual and procedural understanding
- ▶ Additional integration of the Standards for Mathematical Practices

# CCSS Math 8: The Foundation of Algebra

- ▶ In-depth study of linear relationships and equations
- ▶ Connecting linear relationships with representations of bivariate data
- ▶ More formal treatment of functions
- ▶ Exploration of irrational numbers
- ▶ Basics of formal geometry
- ▶ Transformations and triangle proofs
- ▶ Relate graphing to algebra
- ▶ Statistics

# Math Pathway - Starting 2019 - 2020

6	6th	
7	7th	7th and 8th Accelerated
8	8th	Algebra 1
9	Algebra 1	Geometry / Algebra 2
10	Geometry	Algebra 2 / Precalculus
11	Algebra 2 / Statistics	Precalculus / Calculus / Statistics
12	Precalculus / Statistics	Calculus / Statistics



# 7th and 8th Accelerated Course

Integrates 7th and 8th grade standards into cohesive units that prepare students for success in advanced math

- ▶ Applying proportional reasoning to solve problems including scale drawings and geometric constructions
- ▶ Formulating and reasoning about expressions and equations using rational number operations
- ▶ Modeling with linear equations, solving systems of equations
- ▶ Understanding and using functions to describe quantitative relationship
- ▶ Analyzing two- and three- dimensional figures using distance, angle, similarity and congruence, and understanding and applying the Pythagorean Theorem

# Benefits of This Change

- ▶ Provides better options for both accelerated and grade-level students
- ▶ Reflects the intent of Common Core to build deeper understanding
- ▶ Prepares students better for upper level math courses, thereby reducing student struggles and stress
- ▶ Allows Algebra and Geometry teachers to focus more deeply on current content rather than use class time to teach missed content
- ▶ Aligns with best practices which have shown positive results when implemented in other districts
- ▶ Avoids early tracking of students and promotes later acceleration options leading to more math success

# Placement in Accelerated Math

In keeping with math best practices and recommendations in the CA CCSS for mathematics, we:

- ▶ Use multiple objective academic measures of student performance for placement, including CAASPP, grade level benchmark tests, and MDTP assessments
- ▶ Examine student placement data to ensure students who are qualified to progress in math based on performance are not held back
- ▶ Provide information and options for the student, parent and/or guardian to have input in placement decision

# Additional District Math Initiatives

- ▶ Monthly cross-district collaboration by course
- ▶ Training of all secondary math teachers in integrated strategies to support EL learners and build academic discourse for all
- ▶ Diagnostic assessments for all math courses Grade 6 through Calculus
- ▶ Common benchmark assessments by course
- ▶ Math coaching focused on Tier 1 instruction, data analysis, and general support
- ▶ Progress in developing a variety of intervention programs

## In summary

- ▶ Access to critical content in a supported way and not skipping standards is important for long-term success in advanced math
- ▶ In 2019, 7th grade students will take grade level CCSS 7 or an accelerated 7th and 8th compressed class
- ▶ In 2020, 8th grade students will take grade level CCSS 8 or Algebra 1
- ▶ Students in both grade level and accelerated classes still have the opportunity to complete high school with AP math courses