CCSS Math Pathways
San Mateo-Foster City School District & San Mateo Union High School District

HIGHLANDS
NOVEMBER 24, 2014
Outcomes for Tonight

• Share information about SMFC & SMUHSD Math Pathways

• Share current timeline for 2015-2016 placements

• Answer questions
Movement to Common Core

• The State Board of Education adopted new academic content standards on August 2, 2010.

• The California Common Core State Standards were developed through a state-led initiative to establish consistent and clear education standards across the nation for English-Language Arts and Mathematics that would better prepare students for success in the competitive global economy.
Movement to Common Core

• SMFC and SMUHSD partnered to develop pathways for both our district that were responsive to the new guidelines and the needs of our communities.
• Districts followed guidelines, however, the had discretion to develop their pathways.
• Continued collaboration across our two districts and with other local districts takes place.
CCSS Mathematical Practices

**REASONING AND EXPLAINING**
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others

**MODELING AND USING TOOLS**
4. Model with mathematics
5. Use appropriate tools strategically

**SEEING STRUCTURE AND GENERALIZING**
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning
California Mathematics Frameworks: **Possible Pathways to Calculus**

For clarity HS Course 1, 2, 3 could be Integrated Math 1, 2, 3 or Algebra I, Geometry, Algebra II

1. **Compacting in Middle School**

<table>
<thead>
<tr>
<th>Grade 6 students</th>
<th>Grade 7 students</th>
<th>Grade 8 students</th>
<th>Grade 9 students</th>
<th>Grade 10 students</th>
<th>Grade 11 students</th>
<th>Grade 12 students</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSS 6</td>
<td>CCSS 7 and 8A</td>
<td>CCSS 8B and HS Course 1</td>
<td>CCSS HS Course 2</td>
<td>CCSS HS Course 2</td>
<td>Pre-Calculus</td>
<td>AP Calculus</td>
</tr>
</tbody>
</table>

2. **Doubling up in High School**

<table>
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<tr>
<th>Grade 6 students</th>
<th>Grade 7 students</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CCSS 6</td>
<td>CCSS 7</td>
<td>CCSS 8</td>
<td>CCSS HS Course 1 and 2 in two periods or Course 2 in summer</td>
<td>CCSS HS Course 3</td>
<td>Pre-Calculus</td>
<td>AP Calculus</td>
</tr>
</tbody>
</table>

3. **Compacting in High School**

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<tr>
<td>CCSS 6</td>
<td>CCSS 7</td>
<td>CCSS 8</td>
<td>CCSS HS Course 1 and 2A</td>
<td>CCSS HS Course 2A and 3</td>
<td>Pre-Calculus</td>
<td>AP Calculus</td>
</tr>
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</table>

4. **Enhanced courses in High Schools**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>CCSS 6</td>
<td>CCSS 7</td>
<td>CCSS 8</td>
<td>CCSS HS Enhanced Course 1</td>
<td>CCSS HS Enhanced Course 2</td>
<td>CCSS HS Enhanced Course 3</td>
<td>AP Calculus</td>
</tr>
</tbody>
</table>

5. **Pre-Calculus Acceleration**

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<td>CCSS 6</td>
<td>CCSS 7</td>
<td>CCSS 8</td>
<td>CCSS HS Course 1</td>
<td>CCSS HS Course 2</td>
<td>CCSS HS Course 3 + Pre-Calculus</td>
<td>AP Calculus</td>
</tr>
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</table>
California CST Data for Algebra

• In 2012, 59% of all eighth grade students took the CST Algebra 1 exam and more than half were not successful.

• In 9th grade, 49% of the students took the CST Algebra 1 exam and 75% of those did not pass.

• Studies indicate that nearly 65% of students who were placed in Algebra in the eighth grade were repeating Algebra in the ninth grade.
SMUHSD Data for Pre-Calculus

• 27% of accelerated students taking Pre-Calculus in SMUHSD were receiving D’s and F’s at first marking period this year.

• 30% of students accelerated into Geometry as freshmen do not take Pre-Calculus in high school.

• 12% of students accelerated into Algebra II as freshmen do not take Calculus in high school.
Middle School Math 2014-2015

Course development with SMUHSD - Spring 2014
  ◦ Cross-district Team led by Andrea Gould & Dr. Heather Olsen
  ◦ Purpose is to align our courses with SMHUSD for student success

Professional Development for staff - 2014 – 2015; ongoing

Selection of new MS materials - 2014-2015

Selection of new Elem materials - 2015-2016
6th Grade CCSS

If they skip CCSS 6th grade they miss...

Integers and their operations

Division of Fractions

* Ratio and proportional reasoning

* Expression, Equations and Inequalities

* Statistics

* Were in higher grade levels and moved down.
7th Grade CCSS

If they skip CCSS 7th grade they miss...

Properties of rational numbers, percents, discounts, markups, etc.

Rate and problem solving using rates

*Similarity, proportional reasoning

*Algebraic Modeling with Equations

*Probability

*Geometry: Angles, Volume, Surface Area, 3-D shapes

*Were in higher grade levels and moved down.
If they skip CCSS 8th grade and take ‘old Algebra I’ they miss...
Irrational numbers and estimating them with rational numbers.
* Congruence and Similarity through transformations
* Relationship between slope and similar triangles and unit rate
* Scatterplot, line of best fit and linear regression analysis
* Applications of Pythagorean Theorem
* Applications of 3-D geometry
* Analytic geometry
* Exponential, step, non-linear/non-quadratic functions: their interpretation and usage.
* Probability of 2-way tables
Depth of understanding of proportional reasoning
* Mathematical modeling using linear functions
* Mathematics applications in the real world

* Were in higher grade levels and moved down.

1. **Focus:** Focus strongly where the standards focus.
2. **Coherence:** Think across grades, and link to major topics
3. **Rigor:** In major topics, pursue conceptual understanding, procedural skill and fluency, and application
Placement & Timeline for 5th Graders in 2015-2016

- Galileo Benchmark – Performance and Growth
- Letter sent to families of eligible students and an informational letter sent to all families
- Students may opt in to the test if not identified
- Test given at each school site by Feb 4th
- Specific dates communicated by school site
- Placement letters will be aligned with the Feb 27th transfer notification date
Placement & Timeline for 6th Graders in 2015-2016

- All 6th graders will take the exam by Feb 4th
- Galileo Benchmark – Performance and Growth
- All 6th grade parents will receive an information letter
- Specific testing dates communicated by school site
- Placement letters will be aligned with the Feb 27th transfer notification date
Placement & Timeline for 7th Graders in 2015-2016

• We are meeting with the Middle School principals to further discuss this placement process the first week in December.
• Parents will receive a letter with information about course selection of 8th CCSS or California Algebra 1 (CCSS enhanced).
• This is a one year transition plan choice.
Curriculum Selection

Current Curriculum
◦ Holt Mathematics 6th – 8th
◦ Everyday Math K-5th

Adoption Process
◦ Middle School—Spring 2014- Spring 2015
Parent Involvement

• “local educational agency shall ensure that a majority of the participants of any review process conducted by the local educational agency are classroom teachers who are assigned to the subject area or grade level of the materials.” Ed Code

• Month on display prior to adoption at district office for parents and community to review prior to adoption

• Public input at board meetings
Professional Development in SM-FC

• Cathy Humpherys – Ph.D candidate at Stanford working under Jo Boaler
  • November 3rd Professional Development Day
  • Two more sessions planned for the year

• Pull out sessions throughout the year with math teachers focused on Math Talks with rich mathematical discussions and strategies presented.
Questions

HIGHLANDS
NOVEMBER 24, 2014