Presentation Overview

- Welcome
- Community Math Study Group
- General Education Math Pathways and Placement Process Recommendations from the Community Math Study Group (CMSG) to Superintendent
- Next Steps
- Questions & Answers
Superintendent’s Charge

To study and formulate recommendations:

● *To ensure that our students are placed in the middle school course for which they are best prepared to succeed and in which they will be challenged to learn*

● *That both respect and reflect the diversity of values held by our community concerning mathematics education and achieve consensus about math curriculum pathways and course placement guidelines in SUSD.*
Community Math Study Group Summary

- **Outcomes:** Agreement on a set of recommendations to the Superintendent on the math pathways and the corollary course placement assessments for students.
- **Representation:** 19 members (parents, SUSD teachers and administrators, and SHS math teacher); one consultant/facilitator
- **Meetings:** 33 hours of meetings from October - March (informational presentations, data analysis, discussion, collaboration)
- **Research and Preparation:** Data collection and analysis from RMS and SHS; comparison of similar districts; reading and research
Community Math Study Group Members

Parents:
- Kelly Chai
- Hardy Leung
- Nimisha Mahuvakar
- Allyson Moore
- Sumangala Prasad
- Vidya Vineet
- Jun Wei
- 2 parents withdrew participation

Staff:
- Nicole Fleck
- Elisa Gove
- Barbara Neal
- Snehali Marimuthu
- Rhonda McEntee
- Rebecca Poon
- Julie Scola (SHS and parent)
- Cassie Sprenger
- Karen van Putten
- Roberta Zarea
CMSG Timeline

September 11: Superintendent Memo to SUSD Community; beginning of window to accept applications for Working Group (CMSG WG)
September 22: Close of window for applications for CMSG WG
September 27: CMSG WG members notified of selection

October 5: CMSG WG: Background information about SUSD’s current math pathways; identification of information and data
October 12: CMSG WG: Background info about SUSD’s current placement system (cont.)
October 19: CMSG WG: Background info about SUSD’s current placement system (cont.)
October 23 & 25: Parent Input Forums
November 9: CMSG WG: Parent Input Forums data; similar districts’ math pathways and placement systems
November 16: Board Meeting - update to Board of Trustees
November 30: CMSG WG: College admissions, similar districts’ systems
December 7: CMSG WG: Student and parent survey data
January 10: CMSG WG: RMS and SHS enrollment and placement data
January 11: CMSG WG: RMS and SHS enrollment and placement data (cont.)
January 18: Board Study Session
January 24: CMSG WG: Parent and teacher survey data
January 25: CMSG WG: Formulate recommendations based on data
January 31: CMSG WG: Formulate recommendations based on data (cont.)
February 8: Board Meeting - update to Board of Trustees
CMSG Timeline (continued)

February 12: CMSG WG: Formulate recommendations based on data (cont.)
February 14: CMSG WG: Formulate recommendations based on data (cont.)
February 26: CMSG WG: Formulate recommendations based on data (cont.)
March 1: CMSG WG: Formulate recommendations based on data (cont.)
March 8: Board Meeting - recommendation to Superintendent
March 14 & 15: CMSG Report to the Community
March 22: Board Meeting - Superintendent’s recommendation to Board of Trustees; Board’s action on recommendation

March/April/May: Placement assessments
Data and Research

- Parent forum feedback
- Parent survey
- Teacher surveys
- Student surveys
- RMS and SHS student enrollment and performance data
- Other districts’ pathways and course placement criteria
- California Mathematics Framework
- College admissions criteria (MIT, Stanford, UC Berkeley)
RMS and SHS Data

Redwood Middle School:
- Course Enrollment
- Movement
- Placement Test Scores
- Course Grades
- Placement test scores and course grades

Saratoga High School:
- Course Enrollment
- Movement
- Course Grades
# Math Support Options at RMS

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Essentials</td>
<td>RSP Math Class (RSP = Resource Specialist Program)</td>
</tr>
<tr>
<td>Math Basics</td>
<td>SDC Math Class (SDC = Special Day Class)</td>
</tr>
<tr>
<td><strong>Course</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>CCSS 6 Math Advisory</td>
<td>Support Class for CCSS 6 for 6th graders (A period)</td>
</tr>
<tr>
<td>CCSS 7 Math Advisory</td>
<td>Support Class for CCSS 7 for 7th graders (A period)</td>
</tr>
<tr>
<td>CCSS 8 Math Advisory</td>
<td>Support Class for CCSS 8 for 8th graders (A period)</td>
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</tbody>
</table>
Recommendation: Pathways

5th Grade:
- Math 5

6th Grade:
- Math 6
- Math 6/7A
- Math 7B/8

7th Grade:
- Math 7
- Math 7B/8
- Algebra 1

8th Grade:
- Math 8
- Algebra 1
- Geometry
Elementary to Middle School Transition

5th Grade:
- Math 5

6th Grade:
- Math 6

Student is best prepared to succeed and will be challenged to learn grade-level content at the grade-level pace.

Math 6/7A

Student is best prepared to succeed and will be challenged to learn grade-level content and half of the next level at a faster pace.

Math 7B/8

Student has gained proficiency in Math 6/7A content outside of SUSD and is best prepared to succeed and will be challenged to learn the next levels of content at a faster pace.
Middle to High School Transition

Grade

6th
Math 6

7th
Math 7

8th
Math 8

9th
Algebra 1

10th
Geometry

11th
Algebra 2 or Algebra 2 Honors

12th
Pre-Calculus or Pre-Calculus Honors

Math 6

Math 6/7A

Math 7B/8

Algebra 1

Geometry

Algebra 2 or Algebra 2 Honors

Pre-Calculus or Pre-Calculus Honors

Calculus or Calc AB (AP) or Calc BC (AP)

Algebra 2 or Algebra 2 Honors

Pre-Calculus or Pre-Calculus Honors

Calculus AB (AP) or Calculus BC (AP)

Math 7B/8

Algebra 1

Geometry

Algebra 2 or Algebra 2 Honors

Pre-Calculus or Pre-Calculus Honors

Calculus BC (AP) or Statistics (AP)
Summary of Pathways Recommendation

- Similar to current math pathways, plus **flexibility** points have been added (on-ramps to accelerated pathways, red arrows; details in slides 31-32)
  - Solid  = on-ramp *without* skipping of math content
  - Dotted  = on-ramp *with* skipping of math content

- Acceleration begins in 6th grade and highest level course on RMS Pathways is high school-level Geometry (taught at RMS)

- Algebra 1 in 6th grade: Students recommended for this level will be addressed on a case by case basis

- Students may not skip Algebra 1 or Geometry at RMS
Rationale for Pathways Recommendation

- For compaction and acceleration (skipping)
  - RMS student survey: 17% desire compaction, 23% desire acceleration
  - Parent survey: 41% desire compaction, 36% desire acceleration
- For starting acceleration in 6th grade
  - 4th-5th grade teacher survey, RMS math teacher survey: 100% agree that acceleration in 5th grade would not benefit most students
- For no compaction to Geometry in 8th grade
  - Compacting five years of math coursework into the three years of middle school is untenable
  - Compacting Algebra 1 and Geometry into one course is not supported by SHS course sequences
  - Compacting Algebra 1 and Geometry is not supported by our curriculum
Placement Tests
Recommendation: Placement Tests

To qualify for accelerated courses (red arrows):
● MARS* (in early March during school)
● NWEA** (in early April during school)

To inform parent/student choice where there is flexibility to skip course content (red dash arrows); required if interested in skipping:
● Course end-of-year test (in May after school hours)

* MARS = Mathematics Assessment Resource Service
** NWEA = Northwest Evaluation Association
Rationale for Placement Test Recommendation

- Multiple and objective measures

<table>
<thead>
<tr>
<th>Recommended Assessment</th>
<th>Purpose: To assess...</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARS</td>
<td>Problem solving skills</td>
</tr>
<tr>
<td>NWEA</td>
<td>Computation skills</td>
</tr>
<tr>
<td>Course End-of-Year Test</td>
<td>Course proficiency</td>
</tr>
</tbody>
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- Alignment to Common Core State Standards in Mathematics
- Minimize number of assessments
Rationale for MARS

- Features: Paper/pencil, five grade-level performance tasks, completed in two periods over two days (about 240 minutes)
- Content: Concepts and procedures, problem solving, modeling, data analysis, and communicating math reasoning
- Designed and coordinated by Silicon Valley Math Initiative (SVMI) since 1999
- Used by SUSD (since 2001) and Cupertino, Los Altos School Districts
- RMS Math Teacher Survey: 5 of 7 (71%) agree that MARS is useful
Rationale for NWEA

● Content: Computation, operations and algebraic thinking, real and complex number systems, statistics, probability, and geometry
● Used by SUSD (since 2014) and Cupertino Union School District
Rationale for End-of-Year Tests

● Features: Multiple choice/response (and short answer) - scantron
● Content: Course-specific concepts in Math 6/7A, Math 7B/8, Math 8 to determine student’s proficiency of content and readiness for the next level course
● Used in RMS’s math courses as end-of-course tests
● Palo Alto Unified School District uses course-specific “Mastery Test”s to qualify for skipping content
Rationale for Recommended Timing of Tests

- To minimize movement in the fall (all testing will occur in spring)
  - Fall 2017 movement from week 1 to week 14:
    - 18 of 160 (11%) 6th graders moved from Math 6/7A to Math 7B/8
    - 26 of 137 (19%) 7th graders moved from Math 7B/8 to Algebra 1
- To comply with SVMI’s requirements for MARS testing
- To accommodate the decision-making timetable (NWEA)
- To ensure adequate time for administering end-of-year tests
- To reduce loss of instructional time and negative impact on students (administer end-of-year tests during after-school hours)
Qualifying Scores
Recommendation: Qualifying Scores

5th Grade:
- Math 5
  - To qualify: MARS = 3 AND NWEA = 60th to 89th percentile (225 to 241)
  - To inform: End-of-Year Math 6/7A Test ≥ 70%

6th Grade:
- Math 6
  - To inform: End-of-Year Math 6/7A Test ≥ 70%
  - Math 6/7A
    - To qualify: MARS = 3 to 4 AND NWEA ≥ 84th percentile (≥ 242)
    - To inform: End-of-Year Math 6/7A Test ≥ 70%

7th Grade:
- Math 7
  - To qualify: MARS = 4 AND NWEA ≥ 90th percentile (≥ 247)
  - To inform: End-of-Year Math 7B/8 Test ≥ 70%
  - Math 7B/8
    - To inform: End-of-Year Math 7B/8 Test ≥ 70%

8th Grade:
- Math 8
  - To qualify: MARS = 3 to 4 AND NWEA ≥ 85th percentile (≥ 247)
  - To inform: End-of-Year Math 8 Test ≥ 70%
  - Algebra 1
    - To inform: End-of-Year Math 8 Test ≥ 70%

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Rationale for Qualifying Scores Recommendation

MARS
- Comparable to qualifying score levels of local, similar high-performing districts (Cupertino and Los Altos)

NWEA
- Entering Math 6/7A: Lowered the NWEA qualifying score to err on the side of false positive readiness indicators
- Entering Math 7B/8 (skipping 1½ years of math content): 90th percentile on NWEA is comparable to high-performing neighbor district’s qualifying scores for same pathway

End-of-year test for skipping course
- 70% equates to C- (passing) in a skipped course
Rationale for Qualifying Scores Recommendation

MARS
- Comparable to Cupertino and Los Altos’ qualifying scores (similar school districts)

NWEA
- Entering Math 7B/8: Kept same minimal scale score as rising 6th graders entering Math 7B/8
- Entering Algebra 1 (skipping 1½ years of math content): 90th percentile on NWEA is comparable to Cupertino’s qualifying scores for same pathway

End-of-year test for skipping course
- 70% equates to C- (passing) in a skipped course
Rationale for Qualifying Scores Recommendation

MARS
- Comparable to Cupertino and Los Altos’ qualifying scores (similar school districts)

NWEA
- Entering Algebra 1 (skipping 1 year of math content): Kept same minimal scale score as rising 7th graders entering Algebra

End-of-year test for skipping course
- 70% equates to C- (passing) in a skipped course
Flexibility
Recommendation: Flexibility

5th Grade:
- Math 5
  - Flex
  - To qualify: MARS = 3 AND NWEA = 60th to 89th percentile (225 to 241)
  - To inform: End-of-Year Math 6/7A Test ≥ 70%

6th Grade:
- Math 6
  - Flex
  - To qualify: MARS = 3 to 4 AND NWEA ≥ 84th percentile (≥ 242)
  - To inform: End-of-Year Math 6/7A Test ≥ 70%
- Math 6/7A
  - Flex
  - To qualify: MARS = 4 AND NWEA ≥ 90th percentile (≥ 242)
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- Math 7
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  - To qualify: MARS = 3 to 4 AND NWEA ≥ 85th percentile (≥ 247)
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- Math 7B/8
  - Flex
  - To qualify: MARS = 4 & NWEA ≥ 90th percentile (≥ 247)
  - To inform: End-of-Year Math 7B/8 Test ≥ 70%

8th Grade:
- Math 8
  - Flex
  - To qualify: MARS = 3 to 4 AND NWEA ≥ 85th percentile (≥ 247)
  - To inform: End-of-Year Math 8 Test ≥ 70%
- Algebra 1
  - Flex
  - To inform: End-of-Year Math 8 Test ≥ 70%

- Geometry
Recommendation: Increased Flexibility

- Flexibility means that parents/students can make an informed decision between the course for which they qualify (i.e., based on MARS and NWEA qualifying scores) and **within one level** (exception: entering Math 7B/8 as rising 6th graders and requesting Algebra)
  - Example: A rising 6th grader who qualifies for Math 6/7A (i.e., MARS = 3 and NWEA = 60th to 89th percentile) can “flex” into Math 7B/8, by taking the Math 6/7A end-of-year test
- There are five flexibility points (four more than current pathways)
- If parents/students do not accept course placement based on qualifying assessment results, they will sign a “flexibility letter of agreements”
  - Earning D+ or lower in the first six weeks of school - student will automatically be moved to the original placement based on qualifying assessment results
- Teachers will communicate with parents when students are struggling during the first six weeks of school
Teacher Feedback
Recommendation: Teacher Feedback

Recommendation:
Upon request, teachers will provide additional feedback to students after spring assessments, if those teachers have specific input that might be helpful for parents/students to make an informed decision about their placement.

Rationale:
- Parent survey: 77% desire to include teacher recommendation in the placement process
- RMS math teacher survey: 4 of 7 (57%) desire to include teacher recommendation in the placement process
New-to-District Students
Recommendation: New-to-District Students

- Use information from prior school to inform placement
- Contact prior school for clarification information if needed
- If there are placement options for the student entering before day one of the school year, placement tests (slide 19) and flexibility option (slides 31-32) will be given
Summer Coursework
Recommendation: Summer Coursework

● **In-district summer coursework**
  ○ The CMSG agreed that this option is not viable, because summer accelerated coursework instruction by qualified teachers is highly constrained by a lack of certificated teacher availability
  ○ RMS student survey: Least favored option for acceleration (6% want summer accelerated coursework)

● **Other summer coursework**
  ○ In order to reduce major disruption to RMS students’ schedules caused by historically high volume of rescheduling in the fall, extensive flexibility is being provided to families in late spring only
  ○ No further placement testing will occur in late summer/early fall for returning students
Fall Checkpoint
Recommendation: Fall Checkpoint

The purpose of the Fall Checkpoint is to identify students who are grossly misplaced in the preceding spring.

For students who may be grossly misplaced, a district team, comprised of math teachers and administrators, will review the preceding spring’s SBAC overall scaled scores on previous grade-level standards in mathematics and SUSD’s spring placement assessment results (MARS and NWEA), as well as classroom performance in the early weeks of the new school year, to determine if misplacements have occurred.
Rationale for Fall Checkpoint

- **California Mathematics Placement Act of 2015 (SB 359):**
  [Districts’ mathematics placement policies must include] at least one placement checkpoint within the first month of the school year to ensure accurate placement and permit reevaluation of individual pupil progress.

- **SUSD Board Policy 6152.1:**
  All middle school students' coursework will be monitored by math teachers, in consultation with academic guidance counselors and district administrators, within the first month of school to ensure that students are properly placed in mathematics courses. If there is a concern about student placement, a parent conference may be held. The site administrator’s decision shall be final.
Next Steps
Next Steps

1. Parent Workshops:
   ● Purpose: To communicate about the work of the CMSG and its recommendations on pathways and student placement process, and receive parent/community feedback:
     ○ March 14  6:30 pm
     ○ March 15  8:45 am

2. Board is requested to take action on Superintendent’s recommendations at board meeting on March 22

3. Evaluation of Recommended Pathways and Placement Process with “CMSG Advisory Group”
Questions & Answers