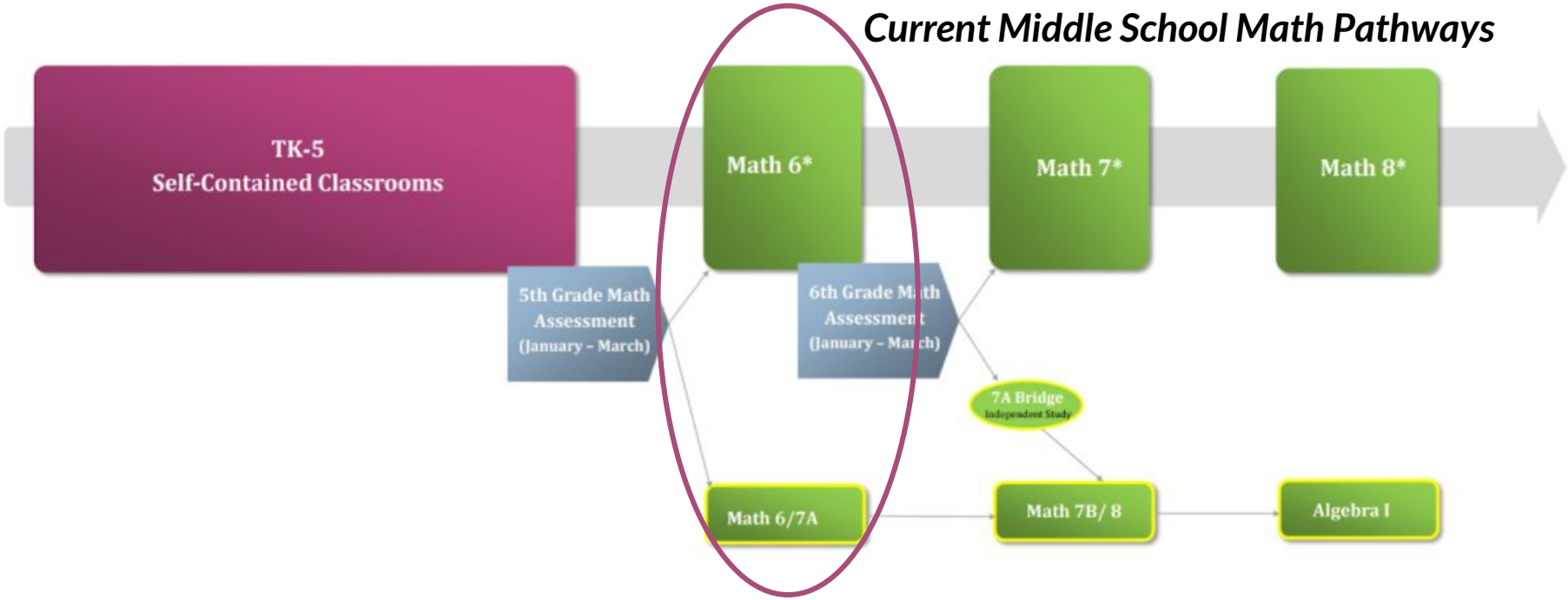
Middle School Math Pathways

SMFCSD Board Presentation

April 22, 2021

Overview:



On March 25, the District presented the Board of Trustees a proposal to create a single **heterogeneous** Math 6 course and provide pathways in 7th and 8th grade that give more students access to Algebra

District Proposal and Goals

- Create a single heterogeneous Math 6 course for all 6th graders

  thereby, improving the quality and rigor of grade 6 math learning for all students

- Provide pathways in 7th & 8th to Algebra

  thereby, providing access for as many interested, prepared, and diverse students as possible

District Proposal does NOT eliminate the "Compacted 6-8 Math Pathway"

YES: Change in 6th grade offerings for current 5th graders
One Heterogeneous Math 6 with increased intervention/enrichment supports

No: No change in math pathways for current middle school students.

Yes: Improved 7th/8th pathways, starting Fall 2022, as a result of April-December 2021 stakeholder engagement and planning

Focused on Improved Outcomes

- From 20% to potentially 100% of 8th graders accessing Algebra
- Proportional enrollment in 8th grade Algebra
- From 71% to potentially 100% of high school graduates satisfying math requirements to be UC/CSU eligible
- Proportional eligibility for UC/CSU “C” requirements after high school math coursework

Follow-up to March 25 ...

What have we done:

- Convened 3 community engagements (~400 participants)
- Posted FAQs, Q&As from meetings, and additional resources
- Met with elementary and middle school teachers to update and shared info, screencastify,
  - Including SMETA Town Hall
- Met with elementary and middle school site leaders
- Answered emails, phone calls, ...

Follow-up to March 25 …

What has been discussed:

- Three Drivers for proposed changes:
  1. Pandemic impact;
  2. Ongoing 5th grade placement concerns;
  3. Inequitable outcomes
- SMFCSD student achievement and enrollment data
- Shifts in content standards that incorporate linear algebra concepts into Math 6-8
- Examples of low floor-high ceiling math tasks
- Research from math education field

Follow-up to March 25 …

Objections persist, even after much clarification. Why?

What have we learned from families:

- Concerns about heterogeneous math experiences in elementary and belief work should begin there
- Proposed Math 6 shift heightens these concerns
- Don't agree a heterogeneous Math 6 can be challenging for higher performing students
- Belief that 7th/8th Pathways should be decided before launching new Math 6 proposal.

Follow-up to March 25 …

Concerns about heterogeneous math experiences in elementary and the belief that work should begin there

- Intensified efforts to strengthen elementary math learning
  - Grade level math planning teams: curating curriculum, lessons, math routines, & assessments for all teachers
  - Site & Central increased professional learning time for teachers
  - Abbott Complex demonstration: instructional shifts, teams, and coaching
  - Counting Collections training for Pre-K to 3rd for Gen and SPED
- Efforts must be made in elementary and middle
- Concerns shaped by beliefs about higher/lower performing students' needs, gaps, and the possibility of accelerating together: more learning together!

Follow-up to March 25 …

Proposed Math 6 shift extends concerns to middle school

- Compacting = Going Faster = More Rigor = Meeting My Child's Needs
- If the District takes away one year of compacting = Not Meeting My Child's Needs

  … even if we still get to Algebra in 8th grade

- Do more to build understanding:
  - Going Faster = Going Faster, and can often = Creating Gaps
  - More Rigor = Going Deeper
  - Math as College gatekeeper: give it necessary time!

Follow-up to March 25 …

Don't agree a heterogeneous Math 6 can be challenging for higher performing students

Rigor for diverse learners achieved through

- Curriculum Tasks
- Instruction
- Supports
- Assessment & Monitoring

Curriculum Tasks that ensure rigor for diverse learners in MS Math classrooms

Low floor - high ceiling tasks:

- Allow students to enter into the content at their level and to deepen their understanding
- Students will share these approaches with one another which will allow all students to deepen their understanding, to communicate their reasoning, and to make connections between representations.

Instruction that ensures rigor for diverse learners in MS Math classrooms

- Students work in randomized groups, on tasks to generate multiple representations of “the answer”, explain, and justify
- Students having think time and work in flexible, strategic groups to strengthen or extend understanding
- Teachers work as “facilitators”, as much as “providers”, to support student sense-making of mathematical concepts
- Class works on mathematical mindset and math practices to “expect” strong performance from all learners

Supports that ensure rigor for diverse learners in MS Math classrooms

- Summer learning, especially for rising 6th graders
- Extended math learning opportunities during the school year: more time for intervention & enrichment
- Math workshop/foundations/electives
- Teacher opportunities for team teaching and collaboration
- Summer and site-based professional learning (e.g., lesson study) and coaching

Assessment & Monitoring that ensure rigor for diverse learners in MS Math classrooms

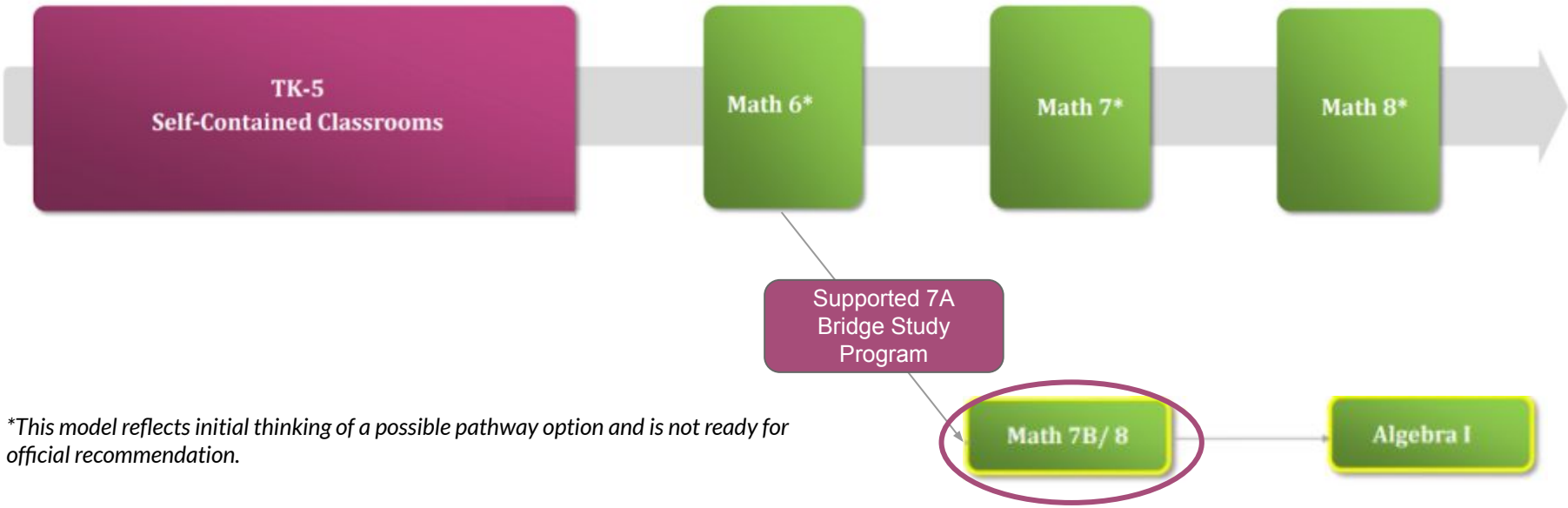
- Student Assessment: Curriculum-embedded; MARS tasks; SBAC math assessment
- Student surveys/focus groups on mathematical mindset, math practices, and experience in class
- Math pathways enrollment and grade data
- UC/CSU A to G: meeting the C (Math) requirement

Follow-up to March 25 …

Belief that 7th/8th Pathways should be decided before launching new Math 6 proposal

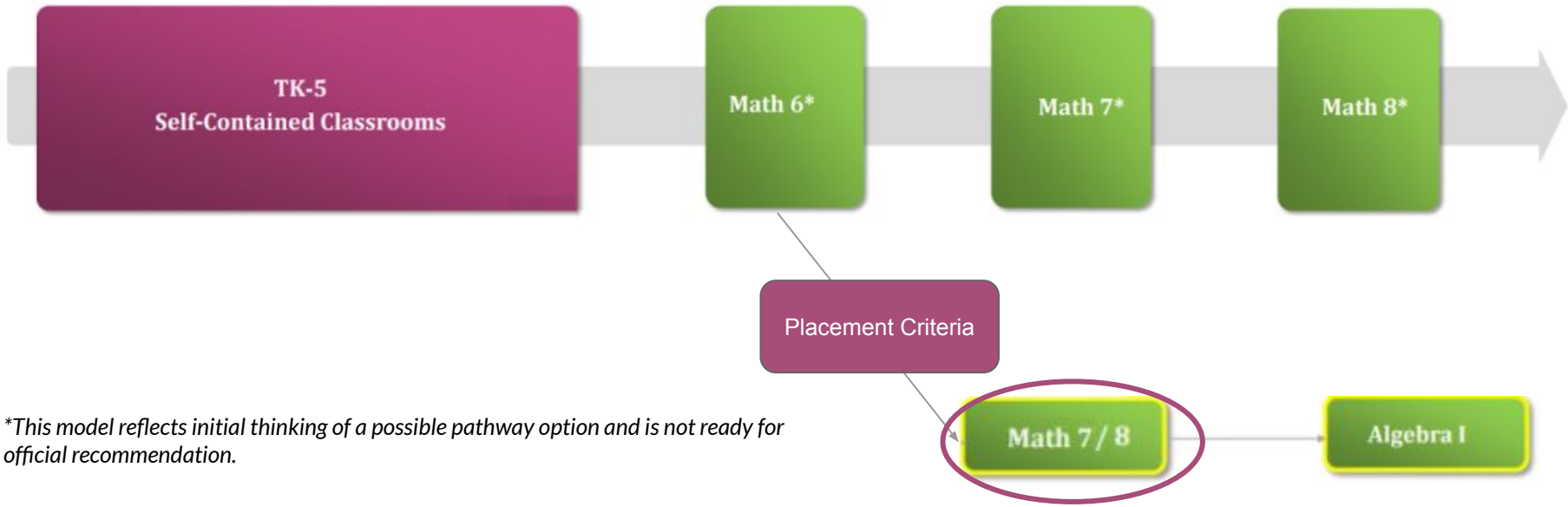
- Committed to providing access to 8th Algebra for as many interested, prepared, and diverse students as possible
- 4 years of math deserve 4 courses
- April-December 2021 stakeholder engagement and planning re several 7th/8th pathway options
- Time to address issues raised, because implementing Fall 2022

Possible 7th/8th Pathways



**This model reflects initial thinking of a possible pathway option and is not ready for official recommendation.*

Possible 7th/8th Pathways



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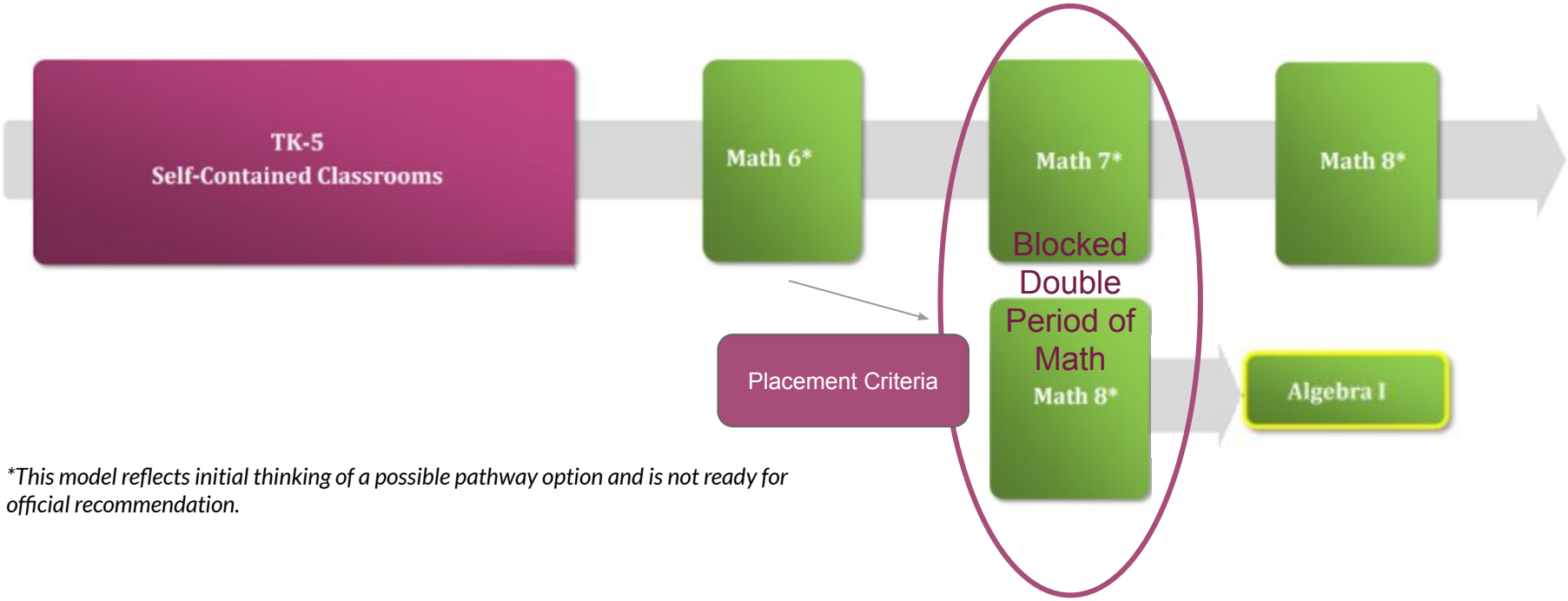

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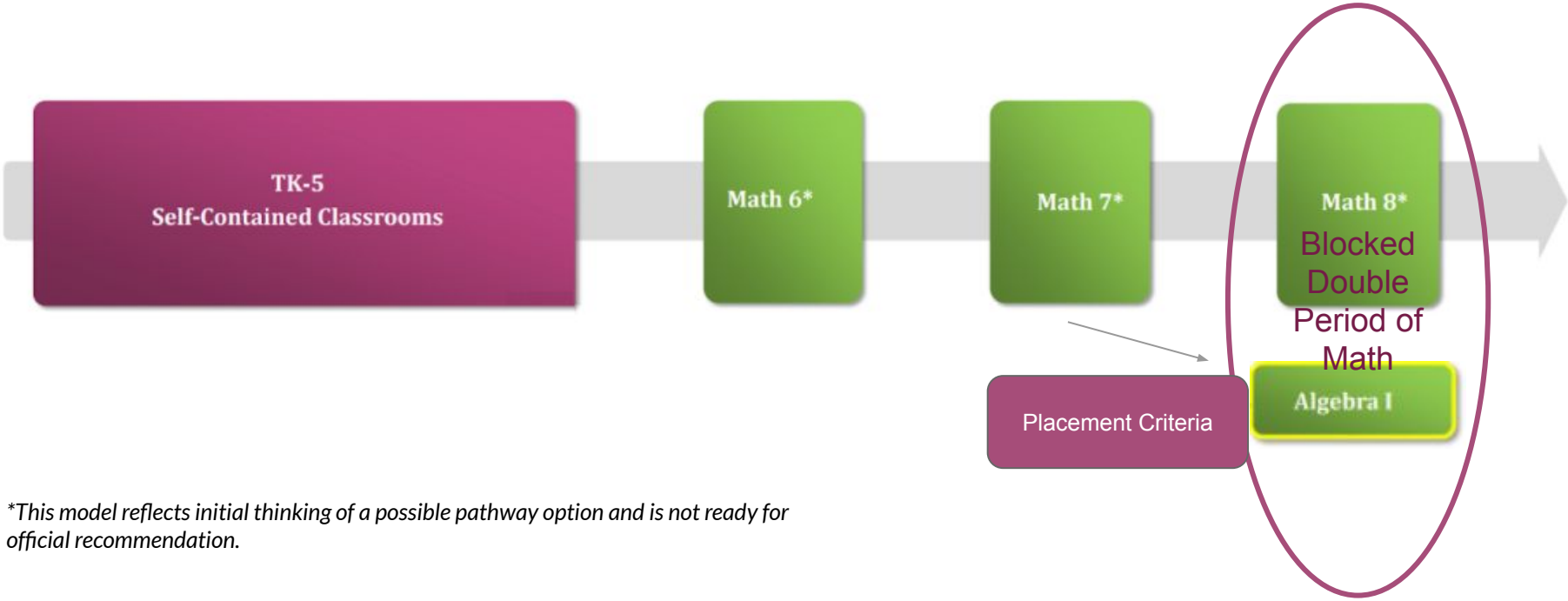

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Follow-up to March 25 …

What have we learned from teachers:

- Importance of continued and expanded support
- Strong teacher support for proposal
- High school teachers at our feeder high schools expressed strong support for the proposal

Focused on Improved Outcomes

- From 20% to potentially 100% of 8th graders accessing Algebra
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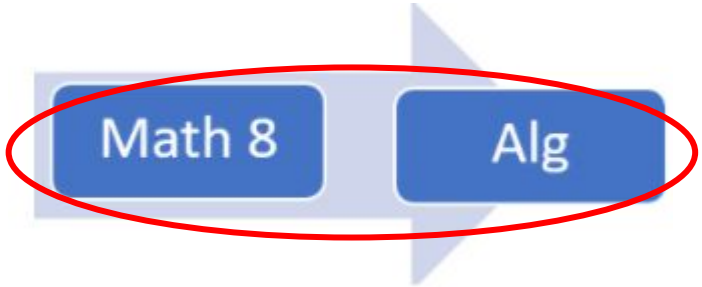
Preparing for High School Pathways

- Algebra in 8th grade ensures access to HS most advanced math offerings
- Math 8 in 8th grade ensures access to HS Advance Placement (AP) offerings

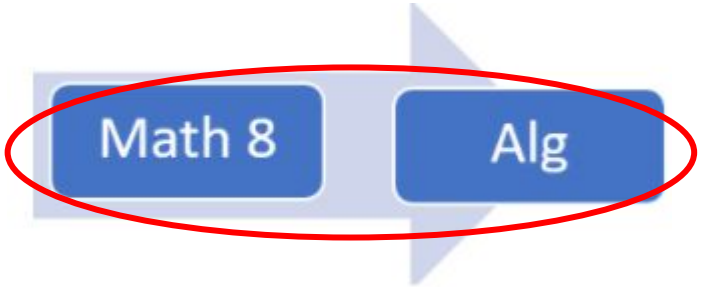
Pathways in High School



Aragon High School

9th	10th	11th	12th
Algebra 1	Geometry *Compressed Math 1	Algebra II Integrated II **Compressed Math 2	~~Pre-Calculus~~ AP Statistics AP Calculus AB/BC Finite Math Path to Statistics Algebra II

Pathways in High School

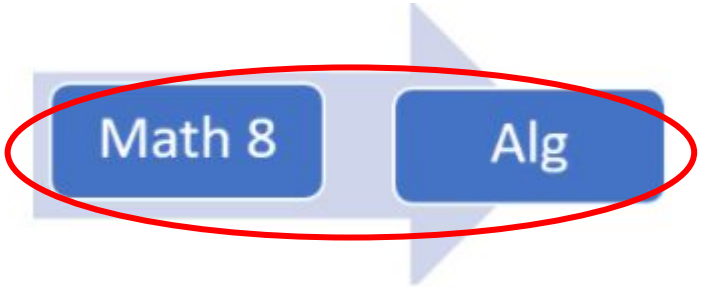


HILLSDALE HIGH SCHOOL

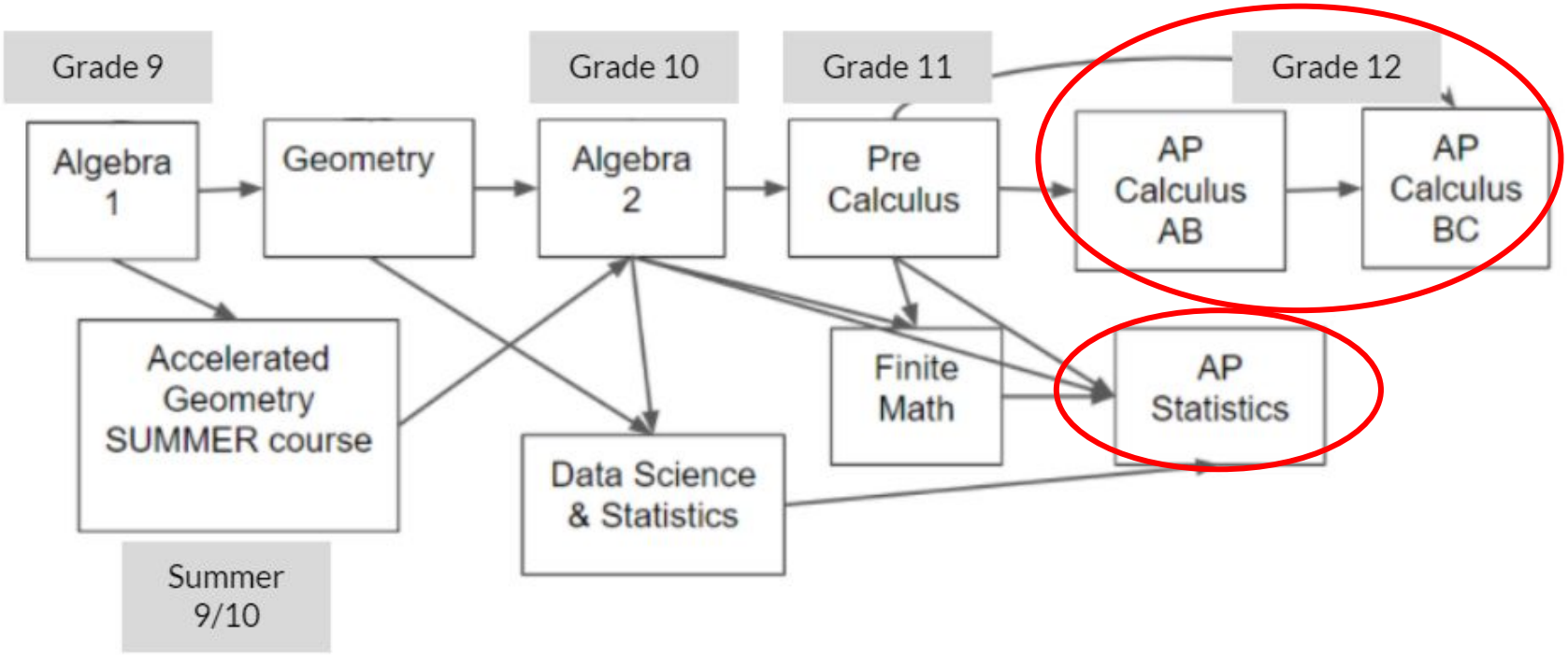
Math Pathways

9th Grade	Geometry			
10th Grade	Algebra 1		Algebra 2	
11th Grade	Data Science	Algebra 2	Data Science	Precalculus
12th Grade	Algebra 2 Finite Math AP Statistics	Data Science Precalculus Finite Math AP Statistics	AP Statistics Finite Math	AP Calculus AB/BC AP Statistics

Pathways in High School



San Mateo High School



For Board Decision

Offer all students a heterogeneous Math 6 course next school year, with a pathway to Algebra by 8th grade.

Continue engagements through this December with teachers, site leaders, and families … to finalize 7th/8th pathways for Fall 2022

Thank You

Questions