

Middle School Mathematics

Pathways

For Parents



Why Did Some MS Math Courses Change?



- What Research Says
- New Standards & Expectations
- An Emphasis on Rigor and Conceptual Understanding
- Redefining Challenge

What VDOE says about Algebra Readiness

► In 2009....


“Students who **successfully** complete the **seventh-grade standards** should be prepared to study Algebra I in grade eight.”

► Now...

“*Algebra readiness*' describes the **mastery of**, and the **ability to apply**, the Mathematics Standards of Learning, including the Mathematical Process Goals for Students, for kindergarten **through grade 8.**”




VDOE: Math SOLs



The K-8 Mathematics Standards of Learning form a **progression of content knowledge** and develop the reasoning necessary to be well-prepared for mathematics courses **beyond Algebra I**, including Geometry and Statistics.

Where should we compact Middle School Mathematics to prepare students to take Algebra I in middle school?



In order to take Algebra, students must have a compacted curriculum in 6th or 7th grade:

Mathematics standards in grades 7 and 8 align well vertically and can be easily compacted.



Change Timeline: 2018 - 2020

- **2018-2019:** 2016 SOLs are fully implemented
- Elimination of courses: Math 7 for 6th graders, Math 8 for 7th graders, and Math 8
- Introduction of courses: Pre-Algebra for 6th graders, Pre-Algebra for 7th graders, and Pre-Algebra for 8th graders
- Traditional first quarter Algebra topics are infused throughout the grade 6, 7, and 8 curricula providing time to conceptually scaffold and build understanding prior to Algebra.




Change Timeline: 2018 - 2020

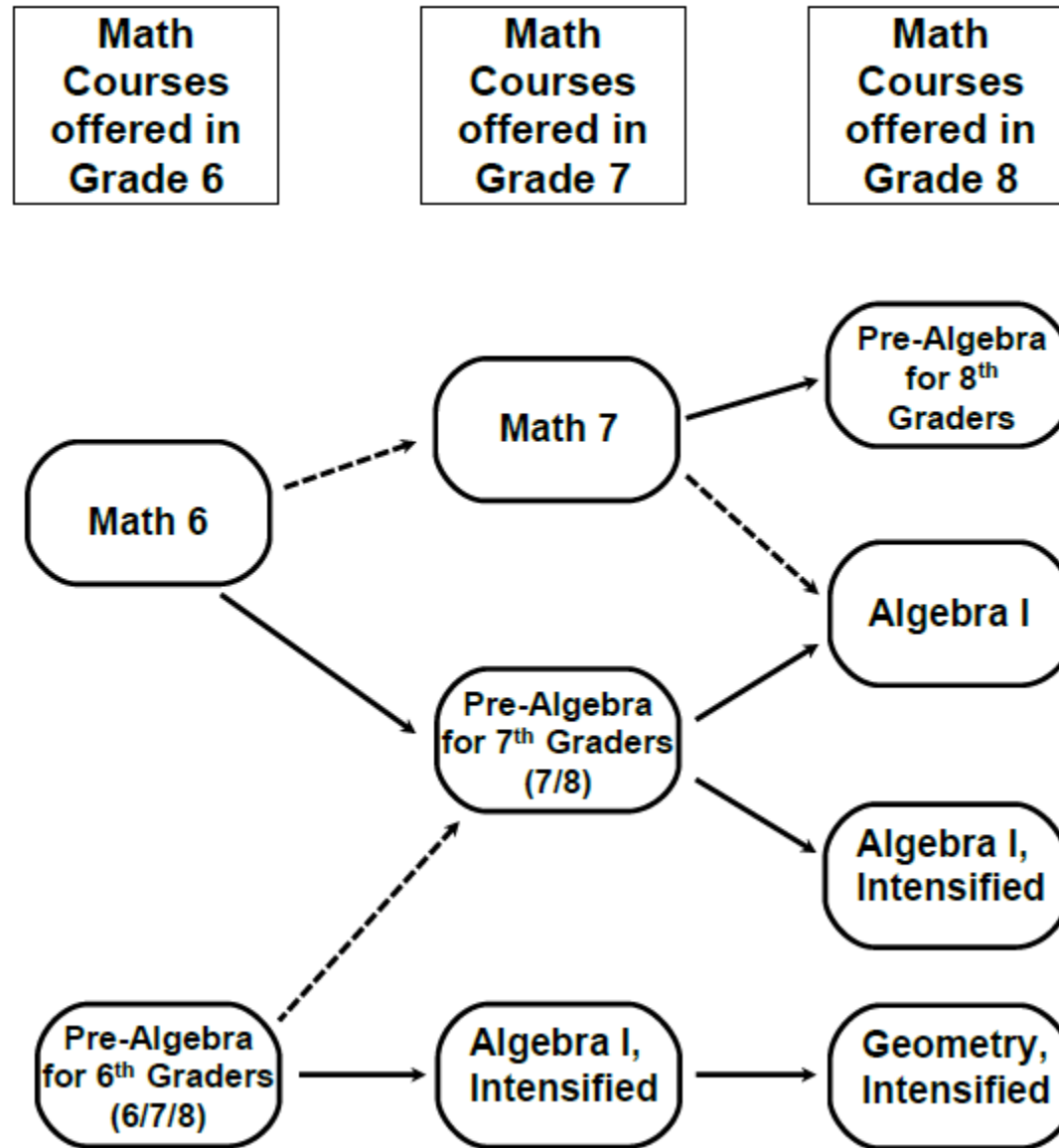
- **2019-2020:** Covid-19 Pandemic. No new content introduced beginning Mid-March. Not enough **objective** data to determine appropriate MS course placement.
- Power [critical] Standards revisited from Mid-March through June
- Decision made to delay MS placement recommendations & Determine those who have data points that suggest extension required in Grade 6 (Math 6 Extended)



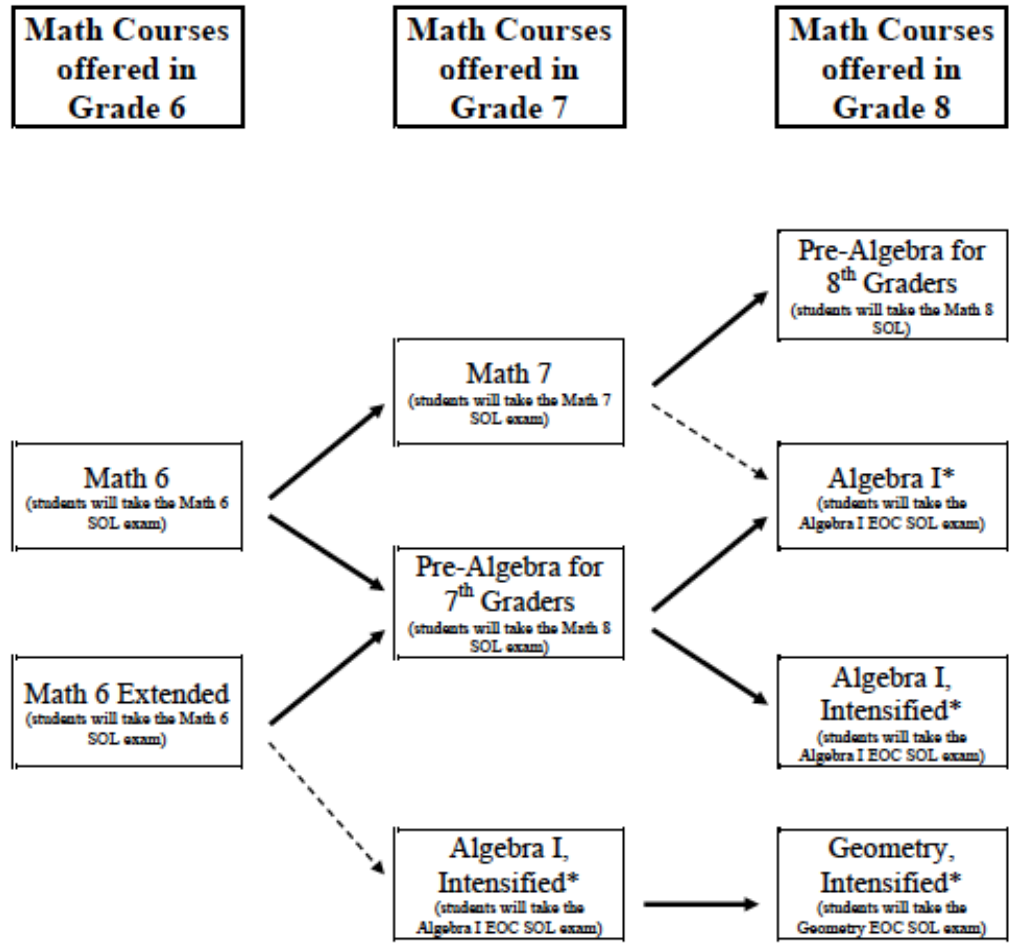
Change Timeline: 2018 - 2020

- **2020-2021:** Math 6 Extended option implemented.
More inclusive option for students
 - Algebra readiness determined in October once MI data was collected.
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Suggested APS Middle School Mathematics Pathways



Suggested APS Middle School Mathematics Pathways **SY2020-2021 ONLY**



At all grade levels, there are additional “Math Strategies” courses available as electives for students who would benefit from assistance to meet grade-level proficiency.

*These courses earn a high school (HS) credit and grades from these courses will appear on a student’s HS transcript and impact their HS G.P.A.

HS Pathways options towards College Credit Courses based on Grade 8 Math Course

(for students who *are not* enrolled in Intensified Math Courses in Grade 9)

Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Pre-Algebra for 8 th Graders	Algebra I	Geometry	Algebra II	<i>Quantitative Analysis*</i> or <i>AP Statistics**</i>
Pre-Algebra for 8 th Graders	Algebra I (w/ Geometry NFW in the Summer AFTER 9 th grade)	Algebra II	Pre-Calculus/ Trigonometry***	<i>AP Calculus AB</i> or <i>Quantitative Analysis</i> or <i>AP Statistics</i>
Algebra I (or Algebra I, Intensified with a C or lower)	Geometry	Algebra II	Pre-Calculus/ Trigonometry***	<i>AP Calculus AB</i> or <i>Quantitative Analysis</i> or <i>AP Statistics</i>
Algebra I (or Algebra I, Intensified with a C or lower)	Geometry	Algebra II	Algebra III	<i>Quantitative Analysis*</i> or <i>AP Statistics</i>
Intensified Geometry (with a C or lower)	Algebra II	Pre-Calculus/ Trigonometry***	<i>AP Calculus AB</i> or <i>AP Statistics</i>	<i>AP Calculus BC</i> or <i>AP Statistics</i>

*To enroll in Quantitative Analysis, students must meet placement criteria. This is a Dual Enrolled course with NVCC thus grades will go on a NVCC transcript

** To enroll in AP Statistics following Algebra II, students must earn a B or higher in Algebra II

*** To enroll in Pre-Calculus/Trigonometry after Algebra II, students must earn an A or higher in Algebra II and have a teacher recommendation

(for students who *are* enrolled in Intensified Math Courses in Grade 9)

Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Algebra I, Intensified	Geometry, Intensified	Algebra II/ Trigonometry, Intensified	Pre-Calculus, Intensified	<i>AP Calculus BC</i> or <i>AP Calculus AB</i> or <i>AP Statistics</i>
Geometry, Intensified	Algebra II/ Trigonometry, Intensified	Pre-Calculus, Intensified	<i>AP Calculus BC</i>	<i>Multivariable Calculus</i> or <i>Vector Calculus & Linear Algebra</i> or <i>AP Statistics</i>
Geometry, Intensified	Algebra II/ Trigonometry, Intensified	Pre-Calculus, Intensified	<i>AP Calculus AB</i> or <i>AP Statistics</i>	<i>AP Calculus BC</i> or <i>AP Statistics</i>

Which SOLs will students take in Spring 2021?



Sixth Grade	Math 6	Math 6 SOL
	Math 6 Extended	
Seventh Grade	Math 7	Math 7 SOL
	Pre-Algebra for 7th Graders	Math 8 SOL
	Intensified Algebra I	Algebra I SOL
Eighth Grade	Pre-Algebra for 8th Graders	Math 8 SOL
	Algebra I	Algebra I SOL
	Intensified Algebra I	
	Intensified Geometry	Geometry SOL

How can you help during these times of transition?



- **Discuss** with your child that readiness does not occur at the same time for everyone. There are many opportunities for advancement in high school! Take time to plan by using the pathways document!
- Make a **plan** with your child and the school counselor if he/she is interested in the following high school options: IB or TJSST High School.
- **Speak** with the Middle School Math Coach later in the year if you are unsure about options for your child next year.
- Support your child's math development by finding out where your child's **gaps** are and help **supporting** those areas.



Questions?