

# MCPS Math Pathways

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# Rigor in Math: Key Messages

1. Rigor is the expectation for ALL students.
2. Rigorous tasks may not always have a direct path towards a solution and can have multiple access points for solving.
3. Rigorous instruction builds students' deep and conceptual understanding of mathematics.
4. Rigor requires students to do the reasoning about mathematics for themselves. Productive struggle helps students to make sense of the mathematics.

# Key Enrichment Messages

- Infuse enrichment throughout math instruction on all levels for all students
- Use enrichment as an instructional pathway for students who have already mastered grade level benchmarks
- Implement enriched tasks with an emphasis on differentiation and discourse

# Pathways

Elementary						Middle			High			
K	1	2	3	4	5	6	7	8	9	10	11	12
C2.0 Math K*	C2.0 Math 1*	C2.0 Math 2*	C2.0 Math 3*	C2.0 Math 4*	C2.0 Math 5*	C2.0 Math 6*	C2.0 I.M.**	C2.0 Algebra 1	C2.0 Geometry	C2.0 Algebra 2	C2.0 Pre-Calculus	AP***
				C2.0 4/5	C2.0 5/6	C2.0 I.M.**	C2.0 Alg. 1	C2.0 Geom.	C2.0 Alg. 2	C2.0 Pre-Cal.	AP***	AP***
							C2.0 Math 7	C2.0 Math 8	C2.0 Alg. 1	C2.0 Geom.	C2.0 Alg. 2	C2.0 Pre-Cal.

\* Including MCPS enrichment and acceleration opportunities  
 \*\* Investigations in Math

\*\*\* Advanced Placement Calculus, Advanced Placement Statistics, or other college-level courses

# Acceleration Core Principles

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1. When students are challenged with a rigorous mathematics program and supported, they meet or exceed the expectations.
2. The MCPS curriculum is designed for all students to reach the goal of success in Algebra 1 or higher by Grade 8, and there will be options in every school for students to reach courses beyond Algebra 1 by Grade 8.
3. MCPS will broaden access to math acceleration for all students.
4. There will be no barriers to participation in accelerated curriculum.

# Essential Understandings: Math 4/5

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- Math 4/5 and Math 5/6 are accelerated math courses which follow a different pacing schedule to allow the complete instruction of Math 4, Math 5 and Math 6 over 3 years.
- Math 4 and Math 5 do not parallel the instructional sequence and offer different level of exposures to enrichment unique to this class.

# Secondary Pathways

		Middle			High			
4	5	6	7	8	9	10	11	12
C2.0 Math 4*	C2.0 Math 5*	C2.0 Math 6*	C2.0 I.M.**	C2.0 Algebra 1	C2.0 Geometry	C2.0 Algebra 2	C2.0 Pre-Calculus	AP***
C2.0 4/5	C2.0 5/6	C2.0 I.M.**	C2.0 Alg. 1	C2.0 Geom.	C2.0 Alg. 2	C2.0 Pre-Cal.	AP***	AP***
			C2.0 Math 7	C2.0 Math 8	C2.0 Alg. 1	C2.0 Geom.	C2.0 Alg. 2	C2.0 Pre-Cal.

opportunities \*\*\* Advanced Placement Calculus, Advanced Placement Statistics, or other college-level courses

# MCPS Mathematics Graduation Requirements

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## Math Credits:

**4 credits:** 1 full-year (A/B) algebra credit or subsequent mathematics courses which algebra I is a prerequisite and 1 geometry credit required. Students who successfully complete a calculus course may be exempted from this 4-credit requirement.

## Math Assessment:

Pass Algebra 1 PARCC:

- 725 current 7th graders and above
- 750 current and subsequent 6th grade students



# MSDE Mathematics Enrollment Requirements

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**NEW STATE REQUIREMENT FOR STUDENTS GRADUATING IN 2018 AND LATER:** Students graduating in 2018 and later must be enrolled in a math course in each year of high school. This may result in students earning more than 4 credits in math for graduation.

# The University System of Maryland (USM)

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## (USM) Requirement

The coursework must include Algebra I, Geometry, and Algebra II. Students who complete Algebra II before their senior year must also complete the fourth-year math requirement. They can do so by taking a course during their senior year that utilizes non-trivial algebra.

## MCPS Course Offerings

- Statistics and Mathematical Modeling
- Quantitative Literacy
- **Precalculus**
- AP Statistics
- Calculus w/ Application
- **AP Calculus**
- Multivariable Calculus and Differential Equations

# General Questions/Answers

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- Can a student repeat a math class in high school? If so, how does a repeated course affect GPA and credits?
- Why is math the only official MCPS subject matter to offer formal, data-driven screening and acceleration at the ES level? Why doesn't MCPS formally screen for other subject areas when AP course offerings at the HS level require an equal amount of rigor and preparation?
- How do we promote a better dialogue around acceleration beyond mathematics?

# Additional Questions

