



PALO ALTO
UNIFIED SCHOOL DISTRICT

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PAUSD Middle School MATH FAQ

In October 2019, the Superintendent directed the Educational Services team, in partnership with site principals, to look specifically at the existing middle school mathematics program, with the bold goal of a redesign to better serve students across a wide range of backgrounds, abilities, preparation, and previous success. Here is a link to the report made to the Board of Education on December 10, 2019:

<https://bit.ly/2VP4BcE>.

The team identified a set of high leverage practices that can be taught, learned, and implemented by teachers to support student learning outcomes. The result of this work is a coherent program that builds a strong foundation for advanced mathematics in high school. The redesign of the middle school math program includes the following elements:

- Rigorous course content for all students
- Compacted Standards to balance both pace of instruction and depth of content
- Review and Reteaching
- Standards-based grading
- Formative assessment and quality teacher feedback
- One-time acceleration for highly advanced students with test validation
- Teacher professional learning focused on building capacity for teachers to sustain the shifts in instruction
- Bell schedule changes
- Program evaluation

This FAQ is intended to provide details about different changes you may notice in the program.

- **What is the course sequence for middle school? How does that compare to Common Core State Standards for Mathematics (CCSS)?**
 - The traditional course sequence for most students will cover 4 years of Common Core Math standards in 3 years (Common Core 6, 7, 8, and Algebra)
 - 6th Grade: Foundational Math
 - 7th Grade: Concepts in Math



- 8th Grade: Algebra MS
- The course sequence for students who pass the validation tests before entering 6th grade will cover 4 (different) years of Common Core math standards in 3 years (Common Core 7, 8, Algebra, and Geometry).
 - 6th grade: Concepts in Math
 - 7th Grade: Algebra MS
 - 8th Grade: Geometry H
- The course sequence for students who pass the validation tests before entering 7th grade, will cover 3 (different) years of Common Core math standards in their remaining 2 years.
 - 7th Grade - Algebra MS
 - 8th Grade - Geometry H
- **In which grades are validation tests offered?**
 - Students entering 6th grade may choose to take validation tests in the Spring of their 5th grade year.
 - Students entering 7th grade may choose to take validation tests in the Spring of their 6th grade year.
- **How does Foundational Math (taken in 6th grade) compare to the former Math 6 course offered at the middle schools?**
 - The majority of the 6th grade CCSS topics will be covered. This course will also include some topics that are 7th grade common core standards.
- **How does the Concepts in Math (taken in 7th grade for most students) compare to the former Math 7 or Math 7A course formerly offered in the middle schools?**
 - The Concepts in Math course is a compacted course containing some standards from Math 6 and Math 8 and the majority of standards from the Math 7 course which can be found in the Common Core State Standards for Mathematics (see [here](#)).
- **Can a 6th grade student take 7th grade math?**
 - Yes. The only way for a 6th grade student to be placed into 7th grade math is to pass the validation tests.



- **Can a 7th grade student take 8th grade math?**
 - Yes. The only way a 7th grade student who passed the validation tests will be enrolled in 8th grade math, Algebra MS.

- **Can a 6th grade student take 8th grade math?**
 - 6th grade students may take 7th grade math if they pass the validation tests; 6th grade students may not take 8th grade math.
 - 7th grade students may take 8th grade math if they have either completed 7th grade as a 6th grade student or pass the validation tests.

- **How many years of math can a student skip while in middle school?**
 - Students may skip a total of 1 year of math while in middle school.

- **Is there an option for a student to skip Algebra?**
 - No, students are required to take Algebra at a PAUSD site. They can skip between 5th and 6th grade, or 6th and 7th grade.

- **Why did PAUSD eliminate a choice in math classes for 7th or 8th grade?**

The middle grades mathematics courses in PAUSD are designed to provide a coherent program that builds a strong foundation for advanced mathematics in high school. The course offerings, based upon the Common Core State Standards and the Standards for Mathematical Practice, will focus on building conceptual understanding, problem solving skills, and procedural fluency. For additional information, please see the December 2019 report to the PAUSD Board of Education: <https://bit.ly/2VP4BcE>.

Experts in mathematics education agree that tracking (or laning) students early in their education limits both high and low performing students, which ultimately leads to lower achievement overall. Heterogeneous classes result in a deeper understanding of mathematics for the high achieving students, while simultaneously raising the achievement of struggling students.

As we focus our attention on closing the achievement gap, we also acknowledge that a very large percentage of PAUSD students are above grade level in mathematics. Historically, students on the two extremes of the math spectrum



have received the bulk of attention, resources, and energy. We are confident that the revisions will positively impact the large “middle” band of students by reducing redundancy of content, and mapping a clear path for the overwhelming majority of students to enter high school prepared for Geometry.

- **What does the validation process look like?**
 - When choosing to partake in the validation process, students will partake in a two part process.
 - Students will take the first part of the validation test TBD. Contingent on their results on this first part, students will get notified of whether they qualify to continue onto part two.
 - Students who qualify, will take the second part of the validation test in TBD.

- **When will the validation tests take place?** (how long is the test, where is the test, etc)
 - Grade 6 validation tests will be held on TBD, and TBD.
 - Grade 7 validation tests will be held on TBD, and TBD.
 - For Spring 2022, the validation tests will be in person.

- **How do I register for the test to skip 6th grade mathematics?**
 - Register your student for the validation tests by **Friday, April 1st at 5pm.** Registration link.

- **How do I register for the test to skip 7th grade mathematics?**
 - Register your student for the tests by **Friday, April 1st at 5pm.** Registration link.

- **Is there a list of topics covered on the validation tests?**

Yes, the list of topics for the Grade 6 validation tests include:

 - Apply understanding of arithmetic to algebraic expressions and use properties of numbers to generate equivalent expressions
 - Add, multiple, divide, subtraction fractions, decimals, and negative numbers
 - Develop understanding of statistical variables and measure of center, measures of variation, samples and populations



- Understand ratio concepts and use ratio reasoning to solve problems.
- Reason about and solve one-variable equations and inequalities.
- Perform arithmetic operations, including exponents, using order of operations
- Identify geometric aspects of 2-dimensional figures
- Understand basic concepts of the coordinate plane and its application to 2-dimensional geometry
- **Yes, the list of topics for the Grade 7 validation tests include:**
 - Reason about and solve multi-step equations and inequalities
 - Find volume of 3D figures and their surface area
 - Extend understanding of ratios and develop understanding of proportionality to solve multi-step problems, includes percents
 - Reason with the relationships between angles formed by intersecting lines
 - Develop understanding of numbers, recognizing fractions, decimals (finite or repeating), and percents as different representations of rational numbers and manipulate the numbers by apply properties and arithmetic
 - Start to organize and evaluate bivariate data and find relative frequencies
 - Develop a basic understanding of linear equations, how they are graphed, and apply them to proportional relationships
 - Apply the Pythagorean Theorem to find distances, lengths, and analyze polygons
 - Use ideas of distance and angles and how they behave under translations, rotations, reflections, and dilations
 - Know and apply the properties of integer exponents, including Scientific Notation
 - Understand basic probability concepts of simple and compound events, including theoretical and experimental probabilities and be able to compute the expected value of a chance event
- **Is there a deadline for registration for the tests?**
 - The deadline for registration for all the tests is **Friday, April 1st at 5pm**. There is no late registration.



- **What is the expected level of understanding that a student must demonstrate to pass the test?**
 - Students are expected to show mastery of the content and the practice standards. This will require fluency in problem solving and in math procedures paired with clear communication in the documentation of their work.
 - This test is not a test of potential. Students may be terrific mathematicians but not yet have been exposed to material. This test looks for mastery of the material that is covered within the year-long course.

- **If my student doesn't pass the test before 6th grade, is there another opportunity to skip a year of math?**
 - If your student does not pass the test, they will take the 6th grade Foundational Math class. At the end of 6th grade, these students may opt to take the validation tests for 7th grade math. If they pass this test, they would be placed into 8th grade Algebra.

- **Will we receive a score for the mastery test?**
 - Yes. A score for the test will be digitally provided and reported to parents/guardians.

- **What happens if my student is sick on the day of the test?**
 - If your student is sick on the day of the test, please email msmathil@pausd.org.

- **If my student has a 504 or IEP will they receive accommodations for the validation tests?**
 - Yes. Please make a note on the registration if your student has a 504 or IEP with approved testing accommodations.

- **Does my student need to bring anything on the day of the test? Can my student use a calculator on the test?**
 - The test is in-person; students should bring a district issued device, a pencil and an eraser, There are no calculators allowed for the test.



Students should not bring a calculator, smartphone or smart watch with a calculator.

- **If my student passes the test, will they be in a class with older students?**
 - Yes. For students entering 6th grade and who pass the Grade 6 tests are placed into math classes with 7th grade students. There is no guarantee that they will have any other 6th grade students in their class.
 - Yes. For students entering 7th grade and who pass the Grade 7 test will likely be placed into math classes with 8th grade students. There is no guarantee that they will have any other 7th grade students in their class.

- **How do I know if my student is ready to skip a grade of math?**
 - First and foremost, students should be performing strongly in their current grade level course. Students should also have a deep understanding of the material from the course they wish to skip (which is listed above). Additionally, students who are ready to skip a year of math also have solid organization skills, a genuine interest in math, the ability to learn material on their own (without the help of outside tutors), are comfortable asking questions when they are not sure of an answer, are able to work independently, and often look for extensions to the work they are doing in class.

- **Does PAUSD provide preparation materials for these validation tests?**
 - No. Students who are opting to take the validation test, must prepare on their own, outside of their current course. Teachers are responsible for providing material relevant to the current course only.

- **Can my student test out of Algebra or take Algebra outside of the district?**
 - Students are required to take a PAUSD Algebra course. We will not accept outside coursework to replace the PAUSD Algebra course.

- **Can my student test out of Geometry or take Geometry outside of the district?**
 - Students are required to take Geometry within PAUSD.



- **What are the freshman math course offerings for high school?**
 - Students who successfully complete Algebra in 8th grade will take a Geometry course in 9th grade (Geometry A or Geometry H). Students who successfully complete Geometry H in 8th grade will take Algebra 2, Algebra 2/Trig A or Algebra 2/Trig H in 9th grade. Please refer to the [district website](#) for more information.

- **If there are further questions, contact the guidance office of your neighborhood middle school.**
 - [Fletcher Guidance Office](#)
 - [JLS Guidance Office](#)
 - [Greene Guidance Office](#)