

Mathematical Pathways

A Journey to Mathematical Excellence



What are the Pathways?

- An effective process for placing students on the appropriate trajectory for mathematics instruction through the middle school level.
 - A placement process to ensure all students will master key concepts and practices in order to develop and utilize their mathematical competence.
 - Our goal is to find the mathematical “sweet spot” for our learners including the provision for students to move fluidly and flexibly between courses when appropriate.
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Reasoning for the Pathways

- To clearly define data driven benchmarks and criteria for placement into math courses that will maximize foundational learning and decrease potential learning gaps.
 - To provide clear and transparent communication to teachers, students and parents regarding best instructional placement options for students.
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Reasoning Continued

- To support and monitor student transitions into appropriate pathways enhancing the achievement of mathematical standards.
 - To utilize cross-grade placement options for elementary to middle and middle to high school level classes when appropriate and necessary to meet student needs.
 - To emphasize mathematical enrichment and remediation at all levels to the maximum extent possible for all students.
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Creation of the Pathways

- ✓ The Math Curriculum Renewal **Team**, including Middle School math teachers, the math instructional coach and building and central office administrators met during Phase 1 of the Curriculum Renewal Process to analyze the current curriculum and instructional pathways.
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Pathways Creation continued

- The team carefully designed new pathways for Middle School students and these recommendations were presented to all Middle School Math teachers for their feedback.
 - The new math pathways were presented to Dr. Butler, Superintendent of Schools and the Board of School Directors.
 - The development of the new math pathways was handled with care to ensure the needs of all students would be met through the continuity of the Pennsylvania Department of Education mathematics learning progression.
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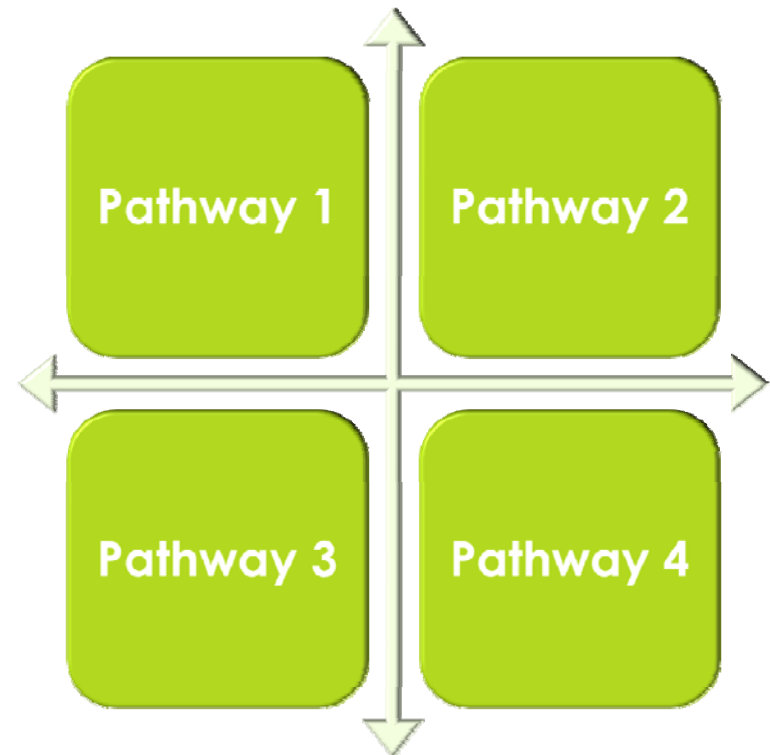
Four Mathematical Pathways

Pathway 1----Algebra 1 in 9th grade

Pathway 2----Algebra 1 in 8th grade

Pathway 3----Option for Algebra 1 in 7th grade for students who have been identified based upon mathematical and academic need.

Pathway 4----Option for Algebra 2 in 8th grade for students who have been identified based upon mathematical and academic need.



Goals of the Pathways

- The goal of the Math Pathways is to place each and every student into math courses that will provide the appropriate level rigor and productive struggle while reducing the potential for overwhelming frustration.
 - Support a culture of mathematical appreciation and understanding leading to future success at higher levels in the content area.
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Key Points

The Pathways will be phased in over the course of the next **4 years** ensuring parents and students have accurate understanding of placement criteria and the implementation timeline.



Phase One: 2018-2019

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- ▣ **Pilot** year for **all** grade level courses and qualifying criteria offering time to determine accuracy and effectiveness at all grade levels.
- ▣ All students moving into a middle school grade level math courses will be placed into the proper level of courses using **prior** guidelines and practices at the Middle School.
- ▣ Currently accelerated/placed students will follow historical classroom placement procedures and be moved to the next grade level course in the next school year.
- ▣ MAP scores are based on the Spring administration of the prior year to the course placement.

Phase Two: 2019-2020

- Rollout year for grades 5 and 6 for **all** grade level courses and qualifying criteria.
 - Currently accelerated/placed students moving into grades 7 and 8 will follow historical classroom placement procedures and be moved to the next grade level course in the next school year.
 - Students need to meet all criteria for placement. Teacher recommendation will be considered.
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Phase Three: 2020-2021

- Rollout year for grades 5, 6 and 7 for **all** grade level courses and qualifying criteria.
 - Students need to meet **all** criteria for placement. Teacher recommendation will be considered.
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Phase Four: 2021-2022

- Rollout year for all grades and all level courses and qualifying criteria.
 - Students need to meet all criteria for placement. Teacher recommendation will be considered.
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The Pathways

5th Grade	PA Core 5 *EOY Assessment Score for potential movement to Grade 6 Enriched Course	PA Core 5 Enriched * MAP - 235+ on MAP 2-5 * PSSA - Pro/Adv * 87%+ on 4th Grade EOY Assessment		
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The Pathways

5th Grade	PA Core 5 *EOY Assessment Score for potential movement to Grade 6 Enriched Course	PA Core 5 Enriched * MAP – 235< on MAP 2-5 * PSSA - Pro/ <u>Adv</u> * 87%+ on 4th Grade EOY Assessment		
6th Grade	PA Core 6 *EOY Assessment Score for potential movement to Grade 7 Enriched Course	PA Core 6 Enriched * MAP – 239< on the MAP 2-5 *PSSA – Pro/ <u>Adv</u> * 96%+ Core 5 Yearly Average * 87-92% PA Core 5 Enriched Yearly Average	PA Core 6/7 * MAP – 245< on the MAP 2-5 * PSSA - <u>Adv</u> * 93% + PA Core 5 Enriched Yearly Average	

The Pathways

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7th Grade	PA Core 7	PA Core 7/8 * MAP – 244< * PSSA - Pro/ <u>Adv</u> * 96% + on PA Core 6 Yearly average *87+% PA Core 6 Enriched Yearly Average *80 – 86% PA Core 6/7 Yearly Average	PA Core 8 Enriched * MAP – 247< * PSSA - <u>Adv</u> * 87% + on PA Core 6/7 Yearly average	Algebra 1 * MAP – 251< * PSSA - <u>Adv</u> * 93% + PA Core 6/7 Yearly Average *Keystone Pro/ <u>Adv</u>

The Pathways

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8th Grade	PA Core 8	Algebra 1 * MAP – 251< * PSSA - Pro/Adv * 87% + in PA Core 7/8 Yearly Average *80%+ in PA Core 8 Enriched Yearly Average		Algebra 2 * MAP – 254< * Keystone Adv * PSSA - Adv * 87% + Algebra 1 Yearly Average