



Math Matters

State-by-State Policy Implementation Report

Explore Pennsylvania's adoption and implementation of the 11 Math Fundamental Principles.

11

PRINCIPLE ADOPTION
IMPLEMENTATION



Comprehensive Math Policy Implementation Rubric

Comprehensive K-8 Math Policy equips the entire K-8 educational system with the evidence-based resources needed to ensure increased student math outcomes. The policy requires support and interventions for all K-8 students to ensure they are building the 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, real-world problem solving, and productive dispositions) in grade level knowledge and skills.

 <p>FULL IMPLEMENTATION</p>	<p>The fundamental principle is adopted in policy, and there is evidence of full implementation.</p> <p> ABOVE & BEYOND BADGE: This badge recognizes efforts that exceed full implementation.</p>
 <p>PARTIAL IMPLEMENTATION</p>	<p>The fundamental principle is adopted in policy, but there is limited evidence of implementation.</p>
 <p>FUTURE IMPLEMENTATION</p>	<p>The fundamental principle is adopted in policy with a future date for implementation.</p>
 <p>PRINCIPLE NOT ADOPTED</p>	<p>The fundamental principle is not adopted in policy, does not meet minimum implementation requirements or is grant-based and not sustainable.</p>

Comprehensive Math Policy Implementation Rubric

PURPOSE

The purpose of this document is to provide an analysis of Pennsylvania's implementation of K-8 math policies aligned to ExcelinEd's fundamental principles of math policy. It builds on an analysis of Pennsylvania's adoption of statutes and regulations establishing requirements for each component of the four fundamental principle areas, which are:

1. [Supports for Teachers & Policy](#)
2. [Assessment & Parent Notification](#)
3. [Instruction & Intervention](#)
4. [Ensuring Algebra I Success](#)

This report summarizes evidence of Pennsylvania's math policy using a rubric designed to gauge state progress toward full implementation of math policies. Each of the fundamental principles is addressed in a separate page.

ADOPTION IMPLEMENTATION



STATE POLICY ADOPTION REFERENCE MATERIALS

- N/A

Educator Preparation Programs (EPP) Alignment



IMPLEMENTATION LEVEL

PARTIAL IMPLEMENTATION

Educator Preparation Program required math coursework not aligned with all National Math Panel recommendations including: 4 Strands of Math Proficiency in math knowledge & skills or lacks evidence-based methods.

POLICY DEFINITION

EPPs required coursework is aligned with all National Math Panel recommendations, that include evidence-based methods to build the 4 Strands of Math Proficiency.

EVIDENCE/GUIDANCE

- [22. Pa. Code 354.23 Academic preparation](#)

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy where EPP required math coursework is aligned with National Math Panel including evidence-based methods to develop 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, productive dispositions & real-world problem solving) in math knowledge & skills (numbers/operations, algebra, geometry/measurement, data/probability).

Elementary Math Coaches



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

Math coaches, trained in evidence-based pedagogy & 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, real-world problem solving & productive dispositions), are assigned to each elementary school to deliver PD & coaching.

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy where math coaches are trained in evidence-based pedagogy, the 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, productive dispositions & real-world problem solving), provide data driven PD & coaching & assigned to each elementary school.

Math Professional Development (PD)



IMPLEMENTATION LEVEL

PARTIAL IMPLEMENTATION

State requires districts to adopt PD, participation in PD may be optional.

POLICY DEFINITION

State-adopted math PD is required for all K-8 educators, develops evidence-based pedagogy & builds the 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, real-world problem solving & productive dispositions).

EVIDENCE/GUIDANCE

- [SAS, Empowering English Learners in Math: Tier 1, Universal Practices with the PLUSS Framework](#)

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy where state-adopted math PD is required for all K-8 educators, builds evidence-based pedagogy & the 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, productive dispositions & real-world problem solving).

K–8 Math Screening & Progress Monitoring (PM)



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

Universal math screeners & progress monitoring allow teachers to make instructional decisions based on students' needs & provide specific information to educators & parents about student progress.

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that funds & requires a state-approved universal math screener to be administered to K-8 students 3 times/year.

Parental Notification



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

When parents have specific information about how their child is performing & are provided resources to use at home to support struggling students, they are empowered to help their child succeed mathematically.

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that requires parental notification for students who need math support within 15 days of screening.



Math taught for at least 60 minutes per day



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

Consistent, daily math instruction is vital for providing all students with a strong foundation. Students in countries that perform well on international math assessments have an average of 60 minutes of math per day (300 minutes per week).

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that requires 60 min/day of core math time in K-5.

Adoption of High-Quality Instructional Materials (HQIM)



IMPLEMENTATION LEVEL

PARTIAL IMPLEMENTATION

State provides guidance for districts to identify & select K-8 HQIM or doesn't specify the 4 Strands of Math Proficiency.

POLICY DEFINITION

HQIM must build the 4 Strands of Math Proficiency (conceptual understanding, procedural fluency, productive dispositions, real-world problem solving) in the grade-level appropriate mathematical knowledge & skills as defined by state standards.

EVIDENCE/GUIDANCE

- [Pennsylvania Math Curriculum](#)

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that requires districts to adopt HQIM from a vetted & approved list aligned to the 4 Strands of Math Proficiency (procedural fluency, conceptual understanding, productive dispositions & real-world problem solving) & districts must post adopted HQIM on their website.



Individual Math Plans



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

The state requires schools to create & implement an individual math plan K-8 within 30 days of screening for students needing additional math support, monitor its implementation & follow a set timeline to notify parents of plan development.

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that requires schools create & implement individual math plans within 30 days of screening for students needing support.

Parent Math at Home Plans



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

When K-8 students need additional support to reach grade level math expectations, educators must provide personalized math-at-home plans with evidence-based resources for parents to support student learning at home.

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that requires schools to give parents evidence-based personalized math-at-home plans as soon as a student is identified with a math deficiency.

Guaranteed Access to Advanced Math



IMPLEMENTATION LEVEL

PRINCIPLE NOT ADOPTED

State has not adopted a policy, statute or regulation that meets this fundamental principle.

POLICY DEFINITION

The best indicator of student success in Algebra I is mathematical readiness. Guaranteed access ensures that students who are mathematically ready are identified & enrolled in advanced math that leads to Algebra I in middle school.

EVIDENCE/GUIDANCE

- N/A

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that guarantees access to advanced math that leads to Algebra I in middle school.

Take & Pass Algebra I or Integrated Math I No Later Than Grade 9



IMPLEMENTATION LEVEL

PARTIAL IMPLEMENTATION

Students are required to take and/or pass Algebra I/Integrated Math I (IM I); no minimum grade level established.

POLICY DEFINITION

Require students to take & pass Algebra I/Integrated Math I (IM I) no later than grade 9 to ensure students are mathematically prepared for high school & post-secondary opportunities.

EVIDENCE/GUIDANCE

- [22 Pa. Code 4.23 High school education](#)

CONSIDERATION(S) FOR STRENGTHENING POLICY

Consider policy that requires students to take & pass Algebra I/IM I no later than grade 9.

