

# Comprehensive K-8 Math Policy

Model Policy | 2025

It is the intent of the Legislature that each student builds math proficiency in grades Kindergarten through 8 and is prepared for success in Algebra I, or the integrated equivalent by requiring:

- [Evidence-based math professional learning](#);
- [Math coaches in every elementary school](#);
- [Alignment of educator preparation programs](#);
- [Math screening and progress monitoring](#);
- [Parental notification](#);
- [Adoption of high-quality instructional materials](#);
- [At least 60 minutes of daily math instruction \(300 weekly minutes\)](#);
- [Individual math plans for students who need support](#);
- [Parent math-at-home plans for students who need support](#);
- [Guaranteed access to advanced math](#);
- [Taking and passing Algebra I, or the integrated equivalent no later than grade 9](#).

## A. Definitions

1. **The Department.** The state Department of Education.
2. **Student who needs intervention.** Demonstrated by a student scoring below proficient on the state math assessment or equivalent measure as determined by the Department.
3. **Intervention.** A specific program, activity, or set of steps used to help students improve in an area of need that may include additional time, evidence-based tutoring, small group instruction, etc.
4. **Screening.** Assessment that identifies students who are not meeting grade-level learning goals and checks to see if students might be at risk for math difficulties.
5. **Progress monitoring.** A systematic process of regularly assessing student performance to evaluate learning growth and inform instructional decisions. Progress monitoring enables educators to track progress toward specific goals and adjust instruction to meet individual student needs.
6. **Evidence-based approaches to teaching math.** Teaching practices that are supported by research grounded in quantitative and/or qualitative empirical evidence and are shown to positively impact student math learning outcomes.
7. **Explicit instruction.** A purposeful way of instructing students using clear explanations of concepts, modeling strategies and providing immediate feedback to students.
8. **Math learning trajectories.** Research-based math knowledge progressions that draw connections between the mathematical knowledge learned in previous grades, the mathematical knowledge that is to be learned in the current grade level and how the student will build on this math knowledge in the future.

9. **Four strands of mathematical proficiency.** A combination of real-world problem-solving skills (connecting math to students' lives), procedural fluency (the ability to perform math procedures with speed, accuracy, efficiency and flexibility), conceptual understanding (knowing how and why math "works") and productive dispositions (seeing math as sensible, useful and worthwhile).
10. **Advanced Math Pathway.** A sequence of courses that accelerates and/or combines math content from grades 6 through 11 which culminates in students taking Algebra I, or the integrated equivalent, in middle school and multiple college-credit bearing mathematics courses in high school such as AP, IB and dual or concurrent enrollment.
11. **High quality instructional materials (HQIM) for math.** Curricula, textbooks, supplemental materials, and teacher guides that are rooted in evidence-based approaches to teaching as defined by this Act and learning math, are aligned to state math content standards that build math knowledge and skills, include intervention materials, simultaneously develop the four strands of mathematical proficiency as defined in this Act, reflect evidence-based approaches to teaching math as defined by this Act that improve student outcomes and support all students in achieving grade-level math learning goals.
12. **Integrated Math I.** A standards-aligned, credit-bearing high school math course that is equivalent to Algebra I in an integrated math pathway. It replaces the traditional Algebra I course and introduces students to foundational mathematical concepts across algebra, geometry, statistics and data through a cohesive approach.

## **B. System of Support for Educators.**

1. The Department shall require districts to provide:
  - a. Professional learning to all educators who lead, coach and teach math in grades kindergarten through 8. The professional learning shall:
    - i. Develop the four strands of mathematical proficiency as defined by this Act in math knowledge and skills;
    - ii. Implement evidence-based approaches to teaching math as defined by this Act that support the development of the four strands of mathematical proficiency as defined by this Act; and
    - iii. Use data from an approved assessment system(s) selected by school districts to inform instruction and intervention based on student needs.
  - b. Job-embedded coaching support for educators who teach math in grades Kindergarten through 5 shall include:
    - i. On-site teacher training on evidence-based approaches to teaching math as defined by this Act and data-based decision making;
    - ii. Demonstrated lessons;
    - iii. Leading professional learning;
    - iv. Co-teaching or observation with immediate feedback for improving instruction; and
    - v. Development of all aspects of an educator's math proficiency as defined by this Act.

2. Educator Preparation Programs. The Department shall require educator preparation programs to provide:

a. Training and instruction that:

- i. Effectively teaches math knowledge and skills that develop the four strands of mathematical proficiency as defined by this Act;
- ii. Implements evidence-based approaches to teaching math as defined by this Act using high-quality instructional materials as defined by this Act;
- iii. Provides effective instruction and interventions for students who need intervention as defined by this Act; and
- iv. Understands and uses student data to make instructional decisions.

### C. Assessment and Parent Notification.

The Department shall require districts to implement a system of assessments for district use for screening and progress monitoring student progress toward grade level math in grades K-8.

1. The math screening system shall:

- a. Include a vetted and approved list of one or more reliable and valid screeners to be administered 3 times per year (fall, winter, spring) with progress monitoring capabilities and a diagnostic tool to support teachers with targeted instruction based on student needs;
  - i. The fall screening shall be administered within the first 30 days of the beginning of the school year; and
  - ii. Progress monitoring shall be required for students who are identified as needing support through screening.
- b. Measure, at a minimum, the four strands of mathematical proficiency as defined by this Act with grade level-appropriate math knowledge and skills;
- c. Provide screening results to educators and parents no later than 15 calendar days after the screener is administered;
- d. Identify students who need intervention as defined by this Act; and
- e. Report screening data to The Department.

2. The school or district must notify the parent of any K-8 student who needs intervention at any time during the school year in writing, in language understandable to the parent, of the exact nature of the student's intervention in math no later than 15 calendar days after the identification of the need for intervention. The written notification must include:

- a. A notice that the student has been identified as needing intervention; and
- b. A notice that a math improvement plan will be developed by the teacher, principal and other pertinent school personnel, in collaboration with the parent(s) or guardian.

3. In determining which screening assessment systems to approve for use by school districts, the Department shall also consider, at a minimum, the following factors:
  - a. The time required to conduct the assessment to minimize the impact on instructional time;
  - b. The timeliness in reporting assessment results to teachers, administrators, and parents; and
  - c. The integration of assessment and instruction the system provides.

#### **D. Math Instruction and Intervention.**

Districts and schools shall adopt high-quality instructional materials, provide at least 60 minutes of daily core instructional time (300 minutes per week), offer evidence-based math intervention programs and create math-at-home plans for each K-8 student who needs intervention as defined by this Act.

1. The Department shall establish a process for reviewing instructional materials in grades K-8 to ensure they meet the criteria for high-quality instructional materials (HQIM) for math as defined by this Act. The Department shall provide a list of effective, standards-aligned math instructional materials from which districts shall select.
  - a. Math instructional materials shall be evaluated on:
    - i. Alignment to state standards that build both mathematical knowledge and skills;
    - ii. Math learning trajectories as defined by this Act that are coherent and mathematically accurate;
    - iii. The development of the four strands of mathematical proficiency (real-world problem-solving skills, procedural fluency, conceptual understanding and productive dispositions) as defined by this Act;
    - iv. Incorporation of evidence-based approaches to teaching math as defined by this Act, including but not limited to, explicit instruction as defined by this Act;
    - v. The inclusion of intervention materials that support the development of grade level math knowledge; and
    - vi. The extent to which materials are accompanied by vendor-led professional development enhances teacher knowledge of evidence-based approaches to teaching math as defined by this Act, use of materials and math learning trajectories as defined by this Act.
  - b. Districts shall publicly post an annual report detailing the HQIM adopted.
2. The school or district shall require at least 60 minutes of daily core math instructional time, 300 weekly minutes, for grades Kindergarten through 5.
3. The school or district shall implement a math intervention program in addition to daily math instruction that is provided to students in the general education classroom. Any student in grades K-8 who needs intervention at any time, based on The Department-approved assessment system, shall receive an individual math improvement plan no later than 30 days after identifying the need for intervention.

- a.** The school or district’s math intervention program shall:
    - i.** Be provided to K-8 students who need intervention;
    - ii.** Be aligned with evidence-based approaches to teaching math as defined by this Act that includes explicit instruction as defined by this Act to develop the four strands of mathematical proficiency as defined by this Act in math knowledge and skills;
    - iii.** Include targeted individual or small group math intervention for at least 30 minutes 3 times per week or 60 hours in a school year based on student need, including explicit instruction as defined by this Act;
    - iv.** Be delivered by a highly effective math teacher as demonstrated by student math performance data and teacher performance evaluations;
    - v.** Continuously monitor math progress of each student’s math skills throughout the school year and give teachers student data so that instruction can be adjusted according to student needs; and
    - vi.** Be implemented during regular school hours and as needed before and after school.
  - b.** The math improvement plan shall:
    - i.** Be created by the teacher, principal, other pertinent school personnel and the parent(s);
    - ii.** Include the math knowledge and skills that are underdeveloped;
    - iii.** Describe the effective, evidence-based math intervention services the student will receive; and
    - iv.** Be provided until the student no longer needs intervention services by demonstrating the development of the four strands of mathematical proficiency as defined by this Act in grade level math knowledge and skills.
- 4.** The school or district must provide a personalized “Math-at-Home” plan with evidence-based resources for parents to support student learning at home. The Math-at-Home plan must include:
- a.** A copy of the individual math improvement plan;
  - b.** Notification that the parent will be informed in writing of the students’ progress toward grade-level math at least monthly; and
  - c.** Strategies and resources for parents to use at home to help the student succeed in math.
- 5.** Departmentalize math instruction, as needed, to ensure all students have effective math instruction.

### **E. Ensuring Algebra I/Integrated Math I Success.**

- 1.** **Guaranteed Access to Advanced Math.** Each school district shall develop an advanced math pathway as defined by this Act that is designed to enable students to be prepared for and enroll in Algebra I, or Integrated Math I, in middle school and college credit bearing math courses in high school.

- a. A school district shall automatically enroll in a Middle School or High School advanced math pathway as defined by this Act a student who scores proficient/grade level or higher on the statewide annual end of year math assessment in grades 5 through 11.
- b. Districts must provide transparent information to students and parents about:
  - i. How advanced math enrollment in middle and high school affects students' progression through math pathways;
  - ii. The purpose and goals of guaranteed access to advanced math;
  - iii. The available math pathways including high school math pathways; and
  - iv. How each math pathway supports preparation for post-secondary college and career opportunities.
- c. The parent or guardian of a student who does not meet the criteria for automatic enrollment under Subsection (1.a.) may opt the student into advanced math courses.
- d. The parent or guardian of a student described by Subsection (1.a.) may opt the student out of automatic enrollment under that subsection.
- e. To ensure students succeed in advanced math, the district and school must provide reasonable instructional support beyond the core math instruction. The school and/or district must provide a system of support for students to achieve success in the advanced math pathway. These supports may include, but are not limited to
  - i. A specific high-quality instructional program, or
  - ii. A set of steps used to help students improve in math and instruction
    - 1. instructional time,
    - 2. high-dosage tutoring,
    - 3. small group instruction, or
    - 4. technology enabled activities during the school day.
- f. The state shall annually report to the Legislature:
  - i. The number of students who score proficient/grade level or higher on the statewide annual end of year math assessment in grades 5 through 11 by school, district, and state for each student group (race, ethnicity, income, gender, etc.).
    - 1. Of the students in subsection (1.a.), the number and percentage of students who were:
      - a. Enrolled in advanced math courses the subsequent year, including Algebra I, or Integrated Math I, in middle school;
      - b. Enrolled in advanced math courses in high school;
      - c. Not proficient/grade level and opted in; and
      - d. Automatically enrolled and opted out.

- ii. The grade 5 through 11 math scores on the statewide annual end of year math assessment of students in each category of subsection (1).
    - iii. Information about the advanced math pathway offered to middle school and high school students in each school or district.
    - iv. A list of support offered at each school and district, and number and percentage of students participating in each support option.
2. Algebra I or Integrated Math I completed no later than grade 9. To ensure that students are mathematically prepared for post-secondary opportunities, all school districts shall:
- a. Offer Algebra I, or Integrated Math I as defined by this Act, in middle school for students who qualify in middle grades through guaranteed access to advanced math section (E.1.);
  - b. Require that students complete Algebra I or Integrated Math I as defined by this Act, no later than grade 9; and
  - c. Require written notification to parents whose student is at risk of not passing Algebra I or Integrated Math I as defined by this Act. The written notification shall include:
    - i. A detailed and personalized math improvement plan as described by Section (D.3.b.);
    - ii. Resources available to the student both during and outside of the school day as described by Section (D.3.); and
    - iii. Evidence-based resources for parents to use at home as described by Section (D.4.c.).

## F. State Board Authority and Responsibilities.

The State Board of Education shall have authority to enforce this chapter.

### Research

Austin, M. ; Backes, B.; Goldhaber, D.; Li, D.; Streich, F. *Leveling Up: A Behavioral Nudge to Increase Enrollment in Advanced Coursework*. Working Paper No. 271-1022. National Center for Analysis of Longitudinal Data in Education Research. October 2022. CALDER WP 271-1022.pdf (caldercenter.org).

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Plucker, Jonathan A., Berg, Brenda, and Kuwayama, Heena. *Automatic Enrollment in Advanced Courses: A Bipartisan Approach to Excellence and Equity in K-12 Schools*. Johns Hopkins School of Education, Institute for Education Policy. 2024. content (jhu.edu).

Wolfe, Rebecca L., Steiner, Elizabeth, D., Schweig, Jonathan. *Getting Students to (and Through) Advanced Math: Where Course Offerings and Content Are Not Adding Up*. RAND Corporation. March 21, 2023. Getting Students to (and Through) Advanced Math: Where Course Offerings and Content Are Not Adding Up (rand.org)

## Articles

- [We need more automatic enrollment for advanced courses](https://fordhaminstitute.org) (fordhaminstitute.org)
- [States should use test scores to increase student enrollment in advanced math](#) | Assessment HQ
- [Talented Students Are Kept From Early Algebra. Should States Force Schools to Enroll Them?](#) | EdSurge News
- [Common Questions About Automatic Enrollment Policies for Advanced Courses](#) - The Education Trust (edtrust.org)
- [Automatic Enrollment in Advanced Math](#) | Eduprogress.org
- [Expand Access and reduce disparities by auto-enrolling highest-performing math students into advanced math pathways](#) | E3 Alliance
- [One state tried algebra for all eighth graders. It hasn't gone well](#) | The Hechinger Report
- [Thrown into the deep end of algebra](#) | Hechinger Report