Blueprint for Maryland's Future:

2024 Comprehensive Mathematics Plan

Harford County Public Schools

September 2024;

Pre-Kindergarten through 5th Grade

BLUEPRINT for our students' future

HARFORD COUNTY PUBLIC SCHOOLS
Inspire • Prepare • Achieve

MARYLAND STATE DEPARTMENT OF EDUCATION
EQUITY AND EXCELLENCE

Accountability & Implementation Board
BLUEPRINT FOR MARYLAND'S FUTURE

BOARD OF EDUCATION OF HARFORD COUNTY STRATEGIC PLAN

MISSION
- Each student will attain academic and personal success in a safe and caring environment that honors the diversity of our students and staff.

VISION
- We will inspire and prepare each student to achieve success in college and career.

CORE VALUES
- We empower each student to achieve academic excellence.
- We create reciprocal relationships with families and members of the community.
- We attract and retain highly skilled personnel.
- We assure an efficient and effective organization.
- We provide a safe and secure environment.

LONG-TERM GOALS

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Harford County Public Schools Mathematics

Mission

The Harford County Public Schools Office of Mathematics provides high quality curriculum, assessments, and professional learning to educators and leaders. Through ongoing partnerships and collaboration, these resources and experiences empower educators and leaders to design instruction and programming that support students' college and career readiness.

Vision

Every day, HCPS students will engage in reasoning, modeling, sense making, problem solving, and communication so that they can see, use, and enjoy mathematics in their daily lives.

Mathematics Team

Laura Potter, *Supervisor of Mathematics*
Andrew Bleichfeld, *Assistant Supervisor of Mathematics*
Debra Meagher, *Curriculum Specialist, Elementary*
Deborah Mateer, *Curriculum Specialist, Secondary*
Amy Ernst, *Teacher Specialist, Early Childhood*

The following individuals provided their expertise, input, and feedback on the HCPS PreK – 5 Comprehensive Mathematics Plan:

Dr. Martha Barwick, *Supervisor of Innovation in Learning*
Kathy Griffin, *Coordinator of Early Childhood Education*
Kimberly Heeter, *Coordinator of Special Education, Elementary*
Chandra Krantz, *Supervisor of Multilingual Instruction*
Heather Kutcher, *Executive Director of Curriculum, Instruction, and Assessment*
Andrew Renzulli, *Director of Curriculum, Instruction, and Assessment*
Katie Ridgway, *Director of Strategic Initiatives*
Sara Saacks, *Coordinator of North Star and School Performance Initiatives*
Phillip Snyder, *Supervisor of Accountability*
Rebecca Spencer, *Supervisor of Teacher Preparation and Professional Learning*
Mary Beth Stapleton, *Manager of Family and Community Partnerships*

I. Narrative Overview

Purpose and Audience: The purpose of the Harford County Public Schools (HCPS) PreK – 5 Comprehensive Mathematics Plan is to share the current and future work that will enhance high quality teaching and learning and increase student achievement in mathematics. This plan is meant for district administrators, central office staff, school administrators, school-based teacher leaders, math educators, families, and other stakeholders involved in shaping the district's educational policies and student learning experiences.

Communication: Systemwide communication occurs in a variety of ways. Public facing information can be found on the HCPS Website and the Office of Mathematics Website. Internal communication happens via the Weekly Superintendent's Bulletin (systemwide leadership), on demand HCPS 411 (all HCPS), monthly CIA Connect (principals), "Monthly Math Minute" (teachers), bimonthly Information Items (Title I Mathematics Teacher Specialists and Department Chairpersons), and on demand emails to groups of individuals.

Systemwide Mathematics Priority: Ensure all PreK – 5 students are on the path to becoming college and career ready in mathematics. The table describes the system actions based on the priorities.

System Actions	Summary from SY 22-23 and SY 23-24
HQIM Curriculum Adoption	In SY 23 – 24, HCPS researched and determined that the updated *enVision Mathematics 2024* edition meets HQIM requirements. *enVision Mathematics 2024* is being implemented K-5 starting Fall 2024. No changes for Tiers 2 and 3.
High Quality, Content Rich, Culturally Responsive Instructional Materials	A committee selected Pearson's enVisionMATH2.0 for implementation in Fall 2016. *enVision Mathematics 2024* edition meets HQIM requirements and includes culturally diverse content. It will be implemented K-5 during SY 24-25. Teacher training was completed in March 2024. Although the Curriculum Equity Audit is still in progress, HCPS expects these materials to meet the audit criteria.
Professional Development and Support	Professional learning sessions were reduced due to a focus on increasing teachers' self-directed time for planning and grading. Systemwide professional learning in SY 23-24 focused on connecting digital aspects of *enVision* with Canvas and the new and updated features of *enVision Mathematics 2024* resource. Grades K and 1 teachers learned about Number Sense Routines and Mental Computation Activities. Support was available upon school request based on student need.
Systems and Structures for Ongoing, Job-Embedded Professional Development and Organizational Structures and Support	During SY 23-24, the Office of Professional Learning coordinated new teacher visits and data discussions. Early dismissal days were dedicated to teacher planning or professional development, which reduced math-specific professional learning sessions. Office of Mathematics Specialists remain available for individualized support as needed.

I. Narrative Overview

System Actions	Summary from SY 22-23 and SY 23-24
Professional Learning and Fidelity of Implementation	During SY 23 - 24, the walkthrough process included every elementary school being visited twice. The purpose of the walkthroughs was to collect data about curriculum implementation strengths and needs and provide feedback to building administrators. A common data collection form focused on key components, and instructional dialogues have been used to plan follow-up support. The Office of Mathematics also surveyed schools post-training to offer tailored support.
Systems and Structures for Progress Monitoring and Measures for Success	During SY 23-24, the Office of Mathematics supported Kindergarten and Grade 1 teachers with assessment tools, data analysis, and instructional strategies based on systemwide progress monitoring tools. Grades 3 – 5 MCAP scores were used to identify students needing additional support. An assessment review committee evaluated replacements for current diagnostic tools, with iReady being piloted in Spring 2024 and used systemwide during SY 24-25.
Supplemental and Intervention Materials	HCPS maintains its rigorous review process for supplemental and intervention materials. Approved SY 23-24 resources included DreamBox Learning, Do the Math, and First in Math. Although the Curriculum Equity Audit is still in progress, HCPS expects these materials to meet the audit criteria.

Summarized from the HCPS Public Schools 2024 Implementation Plan.

I. Narrative Overview

Challenges: The following challenges were identified in the HCPS Comprehensive Plan during the 2022 – 2023 and 2023 – 2024 submissions. The Grades PreK – 5 Comprehensive Mathematics Plan aims to overcome these challenges.

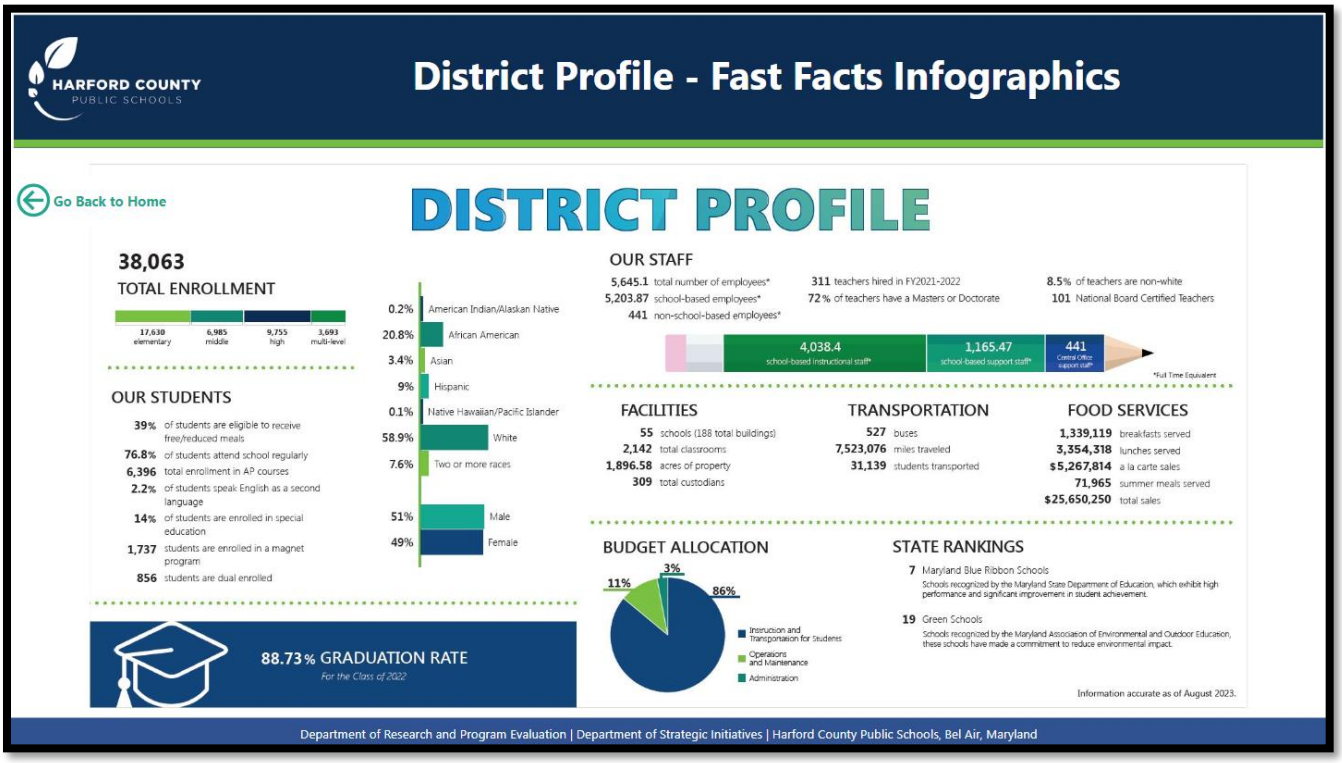
Challenge #1: Budget	• Often the programs and resources available to teachers are affected by the HCPS operating budget. For example, in SY 22 - 23, HCPS purchased Dreambox for all students in grades K – 8. In SY 23 - 24, Dreambox licenses were available to students in grades K – 7. In grade 7, only students in Mathematics 7 had licenses. In SY 23 - 24, the budget further limited Dreambox licenses on a systemic basis. To address this, school administration can purchase seat licenses for Dreambox or First in Math for students. HCPS is moving from systemic purchases for all students to strategic purchases at the school level at the principal's discretion. Additional budget implications include reduction in staffing and professional learning opportunities.
Challenge #2: Teacher Implementation of the Curriculum	• Some teachers may implement the curriculum using non-primary resources. These alternate resources may not be at the level of rigor required to meet the expectations of the state. Additionally, some teachers may not use the additional resources provided in the HCPS course notes and learning management system. In 2023-2024, the Office of Mathematics educated school administration and teachers about the level of expectation of the State and monitored teacher curriculum implementation through classroom walk throughs and observations. In 2024-2025 and beyond, the plan describes efforts to overcome this challenge in sections III and IV.
Challenge #3: Teacher Pacing	• Some teachers may not follow the recommended pacing provided by the Office of Mathematics. The pacing guidance provided describes a way to give all students access to the entirety of the course. In 2023-2024, the Office of Mathematics educated school administration and teachers about the pacing guidelines and to monitored teacher class pacing through classroom walk throughs and observations. In 2024-2025 and beyond, the plan describes efforts to overcome this challenge in sections III and IV.
Challenge #4: Student Unfinished Learning	• Due to the pandemic and other factors, some students may enter a course with unfinished learning. In 2023-2024, the Office of Mathematics educated teachers about implementing a variety of learning activities, including differentiating with small groups, teaching mini-lessons, using just-in-time instruction, and utilizing Dreambox and First in Math, if available. In 2024-2025 and beyond, the plan describes efforts to overcome this challenge in sections II, III, and IV.

Summarized from the HCPS Public Schools 2024 Implementation Plan.

II. System Context, Goals, and Progress Monitoring

The Harford County Public Schools (HCPS) is home to 7 Maryland Blue Ribbon Schools and 19 Green Schools. The HCPS Board of Education has established a Strategic Plan that is outlined on page 2 of the Comprehensive Mathematics Plan.

The District Profile below describes the students, staff, facilities, transportation, food services, budget allocation, and state rankings for HCPS in alignment with the Board of Education's Strategic Plan.



The District Profile was captured on August 21, 2024 via Microsoft Power BI.

In 2018, HCPS established North Star Learner Attributes for Success with the goal of each HCPS student meeting college and career readiness by the end of grade 10. The North Star Learner Attributes include milestones (benchmarks) for success. Note that this resource reflects the 2023-2024 school year. With the use of iReady Math this school year, milestones and growth targets will be updated.

Yearly Mathematics / Problem Solver goals for Grades PreK – 5 are established in School Performance and Achievement (SPA) Plans. Schools use the elementary SPA plan template to establish their school specific goals based on trends in data, needs assessment, and specific student groups. The SPA plan includes specific action plans / strategies and progress monitoring and objectives during the interval of the plan (fall, winter, spring). Schools designated as Comprehensive Support and Improvement (CSI) or Targeted Support and Improvement (TSI) are required to establish goals based on their targeted student group in their SPA plan (elementary Title I SPA template). HCPS has 12 schools with a TSI or ATSI designation and one school with a CSI designation. Of the thirteen schools (six elementary and seven secondary), twelve have the Students with Disabilities (SWD) student group identified and two schools with the English Learners (EL) student group identified. CSI/TSI growth targets are provided by the Maryland State Department of Education (MSDE). There is a Central Office team of individuals that meets on a regular basis to plan for and evaluate school support for CSI/TSI schools, discuss best practices across schools, and share data with schools not identified as CSI/TSI but data indicates that they may be close to the cut score for one or more identified student group.

II. System Context, Goals, and Progress Monitoring

Progress monitoring for math / problem solver goals in SPA plans may include these district wide assessments:

PreK Checklist in Grade PreK:

- administered three times per year (two required and one for targeted students)

Student Numeracy Assessment and Practice (SNAP) in Grade K:

- administered three times per year (two required and one for targeted students)

Mathematics Benchmark Assessment in Grade 1:

- administered three times per year (two required and one optional)

iReady Mathematics in Grades 2 – 5:

- administered three times per year (two required and one optional)

Schools may also elect to use curriculum embedded topic assessments to monitor their goals.

During the 2024 – 2025 school year, the implementation of iReady Mathematics assessment is new. The iReady Mathematics assessment was selected as an assessment tool because of the quality of the MCAP-like items and alignment to the MCCRS. In addition, student data is displayed by domain levels and can be displayed by standard at each grade level. The purpose of this assessment is to have benchmark measures and a tool to respond to student data by informing standards aligned instruction. The Office of Accountability and North Star and School Performance Initiatives developed guidance for SPA teams about using the data for progress monitoring purposes, and has shared links to both the iReady Data Analysis Guide and iReady Data Analysis Protocol.

Throughout the school year, system and school level data from the progress monitoring assessments is monitored through the SPA process and used to provide direct service to schools. The use of these progress monitoring assessments and progress monitoring tools helps teacher understanding of students' current strengths and areas of growth (Student Unfinished Learning; HCPS Challenge #4).

The SPA planning process and North Star Learner Attributes for Success milestones provide a pathway for student success of the Maryland Comprehensive Assessments (MCAP) for Mathematics. Student Performance on MCAP for Mathematics is summarized in the table below (data includes all test takers). The growth targets are in alignment with the 5% increase shared in the MSDE Board of Education presentation in August 2024.

School Year	Grade 3 Percent Proficient/Advanced	Grade 4 Percent Proficient/Advanced	Grade 5 Percent Proficient/Advanced
2021 – 2022	44.8%	34.9%	26.2%
2022 – 2023	49.8%	38.4%	32.6%
2023 – 2024	49.5%	40.9%	35.8%
2024 – 2025: Target	54.5%	45.9%	40.8%
2025 – 2026 Target	59.5%	50.9%	45.8%
2026 – 2027: Target	64.5%	55.9%	50.8%

A full list of growth targets by grade level and student group is provided here.

II. System Context, Goals, and Progress Monitoring

Individual school SPA plans and the action items presented in this plan will work towards achieving the targets identified in the chart above.

The Office of Accountability provides professional learning to schools regarding the analysis of MCAP data. This analysis includes a review and explanation of the various reports provided by the assessment vendor including the Evidence Statement Reports, the Content Standards Reports, and the Content Roster Reports. Individual student data is reviewed to determine strengths and areas of growth in the specific domains. In addition, these professional learning sessions provide educators the opportunity to review released practice state assessment items, the blueprints, and evidence statements for each tested grade level, and the rubrics utilized in the state assessments. These learning sessions help promote the learning of educators for what is required of students as they take a state assessment and align with how instruction can improve in the classroom, which better prepare students for end-of-the-year assessments.

Looking Ahead:

System Context, Goals, and Progress Monitoring

By the end of the 2024 – 2025 school year:

- The Office of Mathematics will implement components of the plan described in this section with the identified stakeholder group using the communication methods identified in Section II as appropriate.
- The Offices of Mathematics, Accountability, and North Star and School Performance Initiatives will collaborate to understand how to interpret and use iReady data at the system, school, classroom, and student level to improve instruction and use this knowledge when providing professional learning and individualized support for schools.
- The Offices of Mathematics and Communications will update the public website and internal SharePoint site with the mission, vision, and goals set forth in the Comprehensive Mathematics Plan PreK – 5.
- The Offices of Mathematics and Accountability to establish MCAP Math Proficiency targets at the Elementary level using MSDE Aligned Metrics from the August 27 State Board of Education Presentation and develop a communication plan to share this information.
- The Offices of Mathematics, Accountability, and North Star and School Performance Initiatives will establish iReady growth goals aggregated by grade and student group for SPA plans and develop a communication plan to share this information.

During the 2025 – 2026 school year and 2026 – 2027 school year:

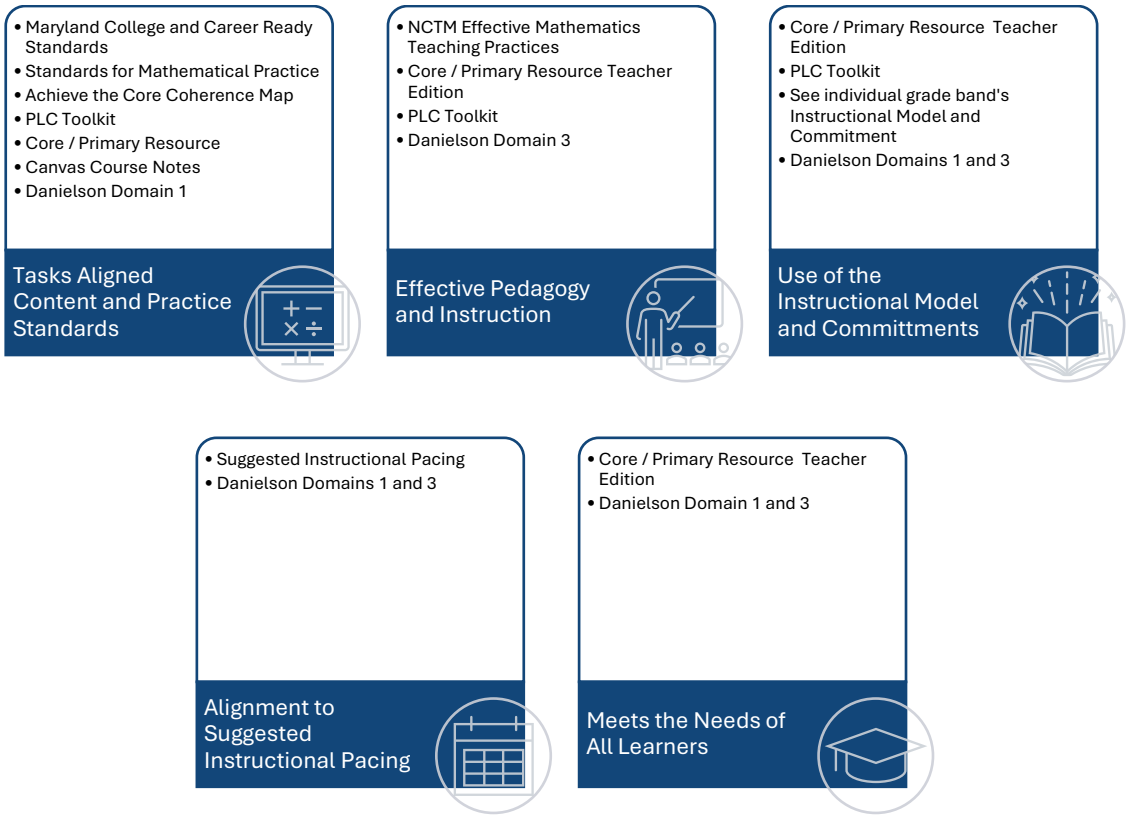
- The Offices of Mathematics, Accountability, and North Star and School Performance Initiatives will develop a systematic approach to collecting and analyzing data for the purpose of progress monitoring and direct service to schools alongside a communication plan to share this information.
- The Offices of Mathematics, Accountability, and North Star and School Performance Initiatives will review iReady data from 2024 – 2025 and MCAP scores from Spring 2025 to identify if iReady data is predictive of MCAP scores.
- The Offices of Mathematics and Accountability will develop and implement a plan to deliver district wide curriculum-based assessments for the use of progress monitoring (also included in Section II).
- The Office of Mathematics will increase its participation and membership on SPA teams.

III. Curriculum, Instruction, Assessment, Intervention, and School Support

Curriculum and Instruction

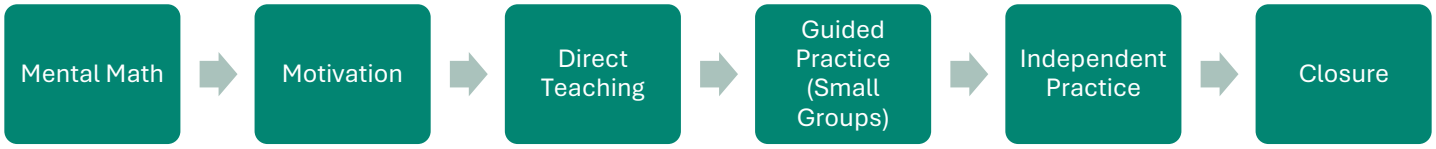
Equitable and rigorous mathematics instruction requires developing a solid foundation in conceptual understanding, applying mathematical principles to real-world problems, and mastering procedural skills with fluency while developing student agency and belonging in mathematics.

At the core of equitable and rigorous mathematics instruction lies a set of shared instructional commitments, as outlined below. These commitments serve as the foundation for planning and instruction for all grade levels and all courses. Each commitment includes resources that support the work of the teacher in designing high quality, equitable mathematics instruction.



Tier 1 Instruction

Twenty-three schools offer Prekindergarten (PreK) to students. Of these schools, three offer half-day PreK (Church Creek, Homestead Wakefield, and Prospect Mill Elementary Schools), and the rest offer full-day PreK for students. Implementation across the remaining elementary schools is described in the HCPS Blueprint 2024 Implementation Plan. The PreK Instructional Framework is linked here. Students engage in at least 40 minutes of daily Tier 1 instruction using district-created curricular resources aligned to the Maryland College and Career Ready Standards for Mathematics (Pre-Kindergarten). The Standards for Mathematical Practice are referenced in the instructional pacing guide. The mathematics instructional model for PreK includes the following components:



III. Curriculum, Instruction, Assessment, Intervention, and School Support

The "Sets of 3" lesson provides an example of the components and how they are described for teachers. Kindergarten students engage in at least 40 minutes of daily Tier 1 mathematics instruction aligned to the Maryland College and Career Ready Standards. The Kindergarten Framework is linked here. Grade 1 through 5 students engage in 65 minutes of daily mathematics instruction.

Kindergarten through grade 5 instruction uses the *enVision Mathematics 2024 Common Core* text. HCPS adopted *enVision Mathematics 2024 Common Core* for use beginning in the 2024 – 2025 school year in alignment with the HQIM requirements. The mathematics instructional model for Grades K – 5 includes the following components:

enVision Math K – 5 Instructional Model and Commitments 🔑		*Students are . . .*	*Teachers are . . .*
🔑 **Step 1: Problem-Based Learning 10-15 minutes**	Before	Making sense of the problem.	Unpacking the Solve & Share without telling how to do it.
	During	Using manipulatives, drawings, and/or mathematical notation to represent the problem; discussing ideas and strategies in small groups or with a partner.	Noticing and noting student solution strategies and how students represent their thinking; selecting student work to share and deciding order for sharing.
	After	Engaged in discussion of the shared student work.	Facilitating whole class discussion of the shared student work.
Step 2: Visual Learning 20-30 minutes	🔑 Visual Learning Bridge	Participating in mathematical discourse.	Asking purposeful questions while facilitating direct instruction and student discourse.
	🔑 Convince Me	Demonstrating their current understanding of the lesson concept.	Noticing and noting student work to inform instructional decisions moving forward in the lesson.
	Guided Practice	Practicing new skills, asking questions, and receiving feedback.	Observing and guiding students as they work and providing feedback.
	Independent Practice & Problem Solving	Practicing the new learning and demonstrating their understanding.	Evaluating student understanding using selected Independent Practice and Problem-Solving items.
Step 3: Assess & Differentiate 15-30 minutes	Possibilities: • Intervention Activity • Technology Center • Reteach • Build Mathematical Literacy • Enrichment • Additional Practice	Demonstrating and applying their understanding of the new learning and engaging in differentiated opportunities to improve/enhance their understanding.	Using formative assessment data gathered during the lesson to determine student proficiency with the new learning; offering differentiated practice and/or reteaching to meet the needs of their students.

From 2024.2025 HCPS Mathematics Instructional Model and Commitments

During the 2024 – 2025 school year, the items with a 🔑 represent the set of shared instructional commitments that all teachers and schools will focus on for their implementation. These commitments were selected for their intentional engagement of students in:

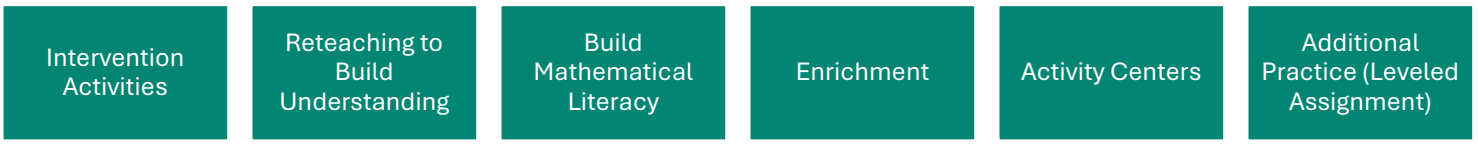
- The rigor of the Maryland Common Core Readiness Standards and Standards for Mathematical Practice.
- The components of equitable mathematics instruction, including going deep with mathematics, leveraging multiple mathematical competencies, and affirming mathematics learning identities (Aguirre, Mayfied-Ingram, Martin. *The Impact of Identity in K – 12 Mathematics*. Reston, NCTM 2024).

III. Curriculum, Instruction, Assessment, Intervention, and School Support

In addition to the *enVision Mathematics 2024* Teacher Guide and Ancillary Resources, grades K – 5 teachers are provided with implementation materials and resources via Canvas that support planning, implementation, and assessment, including the following:

Item	Implementation Materials and Resources	Link to Samples
Course Overview	Course Information, mathematics content and practice standards, scope and sequence, suggested pacing, big ideas in mathematics, essential questions, and implementation guide.	• Course Overview • Elementary Essential Understandings and Big Ideas • Elementary Implementation Guidance • Course Notes • Suggested Pacing
Topic Overview	Topic overview, established goals, enduring understandings, essential questions, assessment evidence, and learning plan.	• Topic Overview
Topic and Lesson Planning Guidance	Directions for topic planning (reading the standards, completing the topic assessment and performance tasks, examining the teacher/student resources) and directions for lesson planning (referencing the implementation guide, reading the lesson overview, watching videos, doing the math, and planning for active learning).	• Planning Guidance
Topic Resources	Mathematics Diagnosis and Intervention System (MDIS) and additional resources.	• MDIS Training Video • MDIS Teacher Booklet • MDIS Student Page

Within the core / primary resources (*enVision Mathematics 2024*), there are resources and guidance for teachers to use with students receiving special education services, English Learners (ELs), and students needing enrichment during differentiated Tier 1 Instruction. Tier 1 differentiated instruction takes place during all instructional components. Lesson specific resources provided for teachers to differentiate their instruction include the Teacher Edition Wrap around suggestions. Lesson specific resources provided for teachers to differentiate their instruction include these resources:



Teachers use in class formative assessment data, specifically observational data, class discussions, and the Convince Me portion of the *enVision Mathematics 2024* lesson to make decisions about differentiating Tier 1 instruction.

In addition to the core / primary resource and implementation materials and resources, all teachers have access to the PLC Toolkit, which is a compilation of resources that help Professional Learning Communities engage in discussion about the four critical questions of a PLC. The PLC Toolkit references research and works from Rick DuFour and John Hattie.

III. Curriculum, Instruction, Assessment, Intervention, and School Support

The resources provided by the core / primary resource (*enVision Mathematics 2024*), implementation materials and resources, and the PLC toolkit are designed to provide clear guidance for teachers regarding what they should be teaching and how they should be teaching it (Teacher Implementation of the Curriculum and Teacher Pacing; HCPS Challenge #2 and 3).

Tier 2 and Tier 3 Instruction

Teachers use in class formative assessment data, curriculum-based topic assessments, and district based assessments to make decisions about providing Tier 2 and Tier 3 instruction for students. Tier 2 differentiated instruction takes place during Assess and Differentiate portion of the lesson through small group instruction. Student progress is monitored to determine if additional supports are needed. Lesson specific resources provided for teachers include these resources:

Intervention Activities	Reteaching to Build Understanding	Build Mathematical Literacy	Enrichment	Activity Centers	Additional Practice (Leveled Assignment)

Additionally, when data indicates that students need additional Tier 2 or Tier 3 support outside of differentiated small group instruction, schools select from a variety of Tier 2 and Tier 3 strategies and programs for their students via the Multi-Tier Systems of Support (MTSS) Catalog. For the 2024 – 2025 school year, all grade K – 3 students have a DreamBox license. Schools were able to request additional licenses for students in Grades 4 – 7. All other programs, except for Do the Math Modules, are available to schools to purchase using their funds. The Office of Mathematics has selected Do the Math Modules available for schools to borrow. The use of these strategies and programs supports school level and teacher understanding that can accelerate student learning (Student Unfinished Learning; HCPS Challenge # 4).

Gifted and Talented Services and Grade Level Acceleration

All grade 2 students participate in Cognitive Abilities Assessment (CoGAT) spring testing (along with other data) as universal screening for Gifted and Talented (GT) services. The Iowa Acceleration Scale Tool is used to identify students who meet the criteria for content or grade level acceleration. There is no systemic mathematics grade level acceleration at the elementary level, however, there are a small number of students (less than 15) who receive grade level acceleration in mathematics. After second grade, students, families, peers, or teachers may refer students for screening for GT services or grade level acceleration through their school's SST (Student Support Team) process.

GT teachers are assigned, part time, to every elementary school, and provide co-teaching, pull-out, and/or consultation based on student needs to students in grades 3 through 5. A small number of primary students received this support. Students receiving GT services based on content that begins with the grade level Maryland College and Career Ready standards.

Additional details are available on the HCPS Gifted and Talented website.

School Support

Curriculum resources and implementation materials are used during individual and team planning opportunities by school teams and through support from the Office of Mathematics. During the 2024-2025 school year, schools directly request support from the Office of Mathematics via email or phone call.

III. Curriculum, Instruction, Assessment, Intervention, and School Support

School support is logged into an Excel spreadsheet to monitor equitable allocation of service to schools across the system and to make decisions for systems and structures moving forward. In addition to school-initiated support, each elementary school will receive individualized mathematics feedback during an instructional walkthrough. The Elementary Mathematics Walkthrough Tool for the 2024 – 2025 school year, created in collaboration with other content offices, focuses on instruction aligned to content standards, the implementation of the Effective Mathematics Teaching Practices, and Student Engagement with the Standards for Mathematical Practice. Details about system-level support are outlined in section IV of this document.

Assessments

HCPS identifies assessments to be administered throughout the school year in the Office of Accountability Assessment Calendar. These assessments describe the assessments required for federal and state accountability and local progress monitoring. A list of assessments used for progress monitoring of SPA plans is listed in section II of this document. HCPS also provides a public facing assessment calendar that includes resources for families.

Teachers and grade-level teams make decisions about which classroom assessments to utilize for formative and summative purposes and are encouraged to utilize assessments from the core curricular resource. These formative and summative classroom assessments are not mandated by HCPS due to the 2% assessment time cap dictated by the "More Teaching Less Testing" law. HCPS-required assessments are summarized here.

Looking Ahead:

Curriculum, Instruction, Assessment, Intervention, and Service to Schools

By the end of the 2024 – 2025 school year:

- The Office of Mathematics will implement components of the plan described in this section with the identified stakeholder group using the communication methods identified in Section III as appropriate.
- The Office of Mathematics and school-based leadership will provide information and feedback about mathematics instruction and pedagogy through the walkthrough process and leadership professional learning sessions.
- The Office of Mathematics and the Central TSI / CSI team will investigate a process for improving the current walkthrough process via a book study of the text *Instructional Rounds in Education: A Network Approach to Improving Teaching and Learning* (City, Elmore, Fiarman, and Teitel. Ninth Printing, 2016).
- The Offices of Mathematics, Department of Special Education, and the Central TSI / CSI team will update the Multi-Tiered Systems of Support (MTSS) with strategies from the What Works Clearinghouse Practice guides that describe effective first instruction and intervention strategies.
- The Office of Innovation and Learning will develop gifted program outcomes and service models for mathematics in collaboration with the Office of Mathematics.

During the 2025 – 2026 school year and 2026 – 2027 school year:

- The Offices of Mathematics Reading English Language Arts, Special Education, Accountability, and North Star and School Performance Initiatives will work towards alignment of system initiatives with mathematics.

- The Office of Mathematics will identify, on a yearly basis, instructional commitments from the core / primary resource, and communicate these within HCPS.
- The Offices of Mathematics North Star and School Performance Initiatives will establish and implement a school support model to provide equitable and sustained individualized service to schools.
- The Offices of Mathematics Early Childhood will review the current PreK curriculum using the High-Quality Instructional Materials (HQIM) rubric, and if necessary, recommend for adoption of a PreK Mathematics curriculum.
- The Offices of Mathematics, Accountability, Special Education, and North Start and School Performance initiatives will develop and implement a systematic process to collect and analyze screening data to inform the use of Tier 2 and Tier 3 strategies and programs and organize system-level data about the use of Tier 2 and Tier 3 strategies and programs. Create guidance for school-based teams about how to select appropriate research-based interventions based on the data collected. Clearly identify how to select and use intervention materials aligned to *enVision Mathematics 2024*.
- The Offices of Mathematics and Accountability will develop and implement a plan to administer districtwide curriculum-based assessments for the use of progress monitoring (also included in Section II).
- The Office of Mathematics will revise the walkthrough tool based on the districtwide professional learning goal and will include look-fors regarding the use of curricular resources to ensure that they curriculum is implemented with fidelity.
- The Office of Innovation and Learning to operationalize and implement gifted program outcomes and service models for mathematics in collaboration with the Office of Mathematics.

IV. Professional Learning

Professional learning experiences for adult learners are the cornerstone for improving teaching and learning skills and academic outcomes for students. Throughout this section, references to the *Learning Forward Standards for Professional Learning* will be referenced by noting LFSPL Standard Name.

Yearly professional learning goals are established based on needs assessment using systemwide data and classroom visits. These goals are intentionally curricular agnostic to focus learning and growth on research-based and equity-focused best practices (LFSPL Learning Design and Leadership). The core / primary instructional resource (*enVision Mathematics 2024*) is used during professional learning as a tool for the implementation of research-based best practices (LFSPL Curriculum, Assessment, and Instruction). The Effective Mathematics Teaching Practices and Standards for Mathematical Practice are referenced to center and focus the yearly goals and to serve as the foundation for sharing research-based best practices.

The 2024 – 2025 PreK – 12 Mathematics Professional Learning Goal:

> The Office of Mathematics will provide leadership and professional learning to educators and leaders that support the implementation of tasks that promote reasoning and problem-solving through meaningful mathematics student discourse. This will lead to students constructing viable arguments and critiquing the reasoning of others. By June 2025, all mathematics teachers will use and implement high cognitive demand tasks (procedures with connections and doing mathematics) and student voices will be heard more than 50% of the time.

This goal has been shared via the CIA Connect, Monthly Math Minute, and Information Items. It is also a talking point for each encounter with educators and leaders during formal and informal professional learning opportunities.

Linked here is the HCPS calendar for professional learning. Professional learning is provided to the following stakeholders:

Stakeholder	Specific Learning
All Educators	• District Professional Learning Dates: Coherent and cumulative content-specific professional learning based on the identified yearly goal (LFSPL Implementation).
School-Based Leaders (elementary mathematics teacher specialists, secondary mathematics department chairpersons, PreK – 12 school-based instructional coaches, assistant principals, and principals)	• Ongoing: Professional Learning based on identified annual goals provided during monthly Administrative and Teacher Leadership meetings (LFSPL Professional Expertise) including follow up visits and support (LFSPL Culture of Collaborative Inquiry). • Ongoing: District-facilitated classroom walkthroughs and debriefs with leadership teams to build instructional leadership capacity. This school-based leadership resource will be shared with principals (LFSPL Resources). • As Needed: Assistance with formal classroom observations to build leadership capacity.
New Educators	• New Hire Orientation: Components of effective instruction and use of the core / primary instructional resource. • Shine University: Optional afterschool sessions to provide supported planning of the curriculum.

	• Ongoing: Classroom visits to observe effective mathematics instruction, job embedded support for planning and implementation of effective instruction through coaching and co-teaching.

Mathematics content-specific professional learning is aligned with the 2024 – 2025 goal, and will include learning about:

- Selecting high-cognitive demand tasks
- Modifying tasks to increase the cognitive demand
- Launching and monitoring tasks during instruction
- Providing support to maintain the cognitive demand
- Self-assessing discourse implementation using a Discourse Rubric
- Using talk moves, questioning, explaining mathematical thinking, centering representations, and building responsibility within the community

Elementary Specific Professional Learning:

enVision Mathematics Ambassadors: Throughout the 2024 – 2025 school year, one lead "enVision Mathematics Ambassador" per school will receive professional learning aligned to PreK – 12 Mathematics goals using the *enVision Mathematics 2024* resources. These full day meetings will occur two times throughout the school year with the expectation that professional learning is redelivered to the entire school staff. Principals will select the teacher and the design for the redelivery of professional learning. The highlighted program components include Solve and Share, Visualize Learning, and Convince Me while highlighting the High Leverage Practices to support students receiving special education services.

The professional learning impact on teachers and students will be monitored via data from the professional learning survey and school visits for walkthroughs. A summary of the professional learning experiences is provided to principals in the monthly CIA connect to support their own growth and monitoring of the implementation of the learning.

Math Teacher Specialist Professional Learning: Each HCPS Title I elementary school (and one additional priority school) has a Title I Mathematics Teacher Specialist (job description). These Teacher Specialists receive professional learning monthly from the Office of Teacher Preparation and Professional Development alongside Curriculum Specialists, Instructional Coaches, and other Teacher Specialists. These sessions focus on effective instructional practices for all students, including targeted populations, strategies for working with adult learners, and opportunities for collaboration across roles to provide "wraparound" supports for teachers PreK – 12.

In addition to the district based professional learning, the Mathematics Teacher Specialists will receive monthly professional learning (2 hours) from the Office of Mathematics. The following goals have been established for these sessions:

- Mathematics Teacher Specialists will analyze [data source] so that they can identify instructional implementations and plan for their next steps and their school's next steps.
- Mathematics Teacher Specialists will investigate [OGAP math content / framework / progression / formative assessment practice] so that they can deepen their own understanding and teachers' understanding of how to move students along the continuum.

- Mathematics Teacher Specialists will investigate [What Works Clearinghouse Practice] and [Coaching Move from *Student Centered Coaching: The Moves*] so that they can effectively coach-teach and improve student outcomes.

The professional learning impact on teachers and students will be monitored via data from the professional learning survey school visits for walkthroughs, and school visits to support implementation. School principals also receive a summary of the professional learning and questions for discussion via the Leveraging Leadership resource provided in the monthly CIA connect. This document also provides details for how principals can monitor the implementation of new learning. In addition, staff from the Office of Mathematics visits schools with a mathematics teacher specialist once between professional learning experiences to ensure timely and impactful implementation of the learning opportunities.

These two professional learning opportunities aim to strengthen the implementation of the written curriculum and teacher pacing (HCPS Challenges #2 and 3) and provide Title I Mathematics Teacher Specialist leaders the tools needed to effectively coach and improve mathematics instruction.

Students Receiving Special Education Services and English Learners

In July 2024, schools with TSI / CSI status sent teams to professional learning around Promising Practices for Small Group Instruction facilitated by the Department of Special Education. Throughout the 2024 – 2025 school year, the Office of Mathematics will collaborate and partner with the Department of Special Education to lift and apply the goals of the Department of Special Education around Promising Practices to mathematics during our professional learning opportunities. These Promising Practices include:

- Specially Designed Instruction
- High Leverage Practices
    - Provide positive and constructive feedback to guide students' learning and behavior.
    - Adapt curriculum tasks and materials for specific learning goals.
    - Provide scaffolded supports.
    - Use explicit instruction.
    - Use assistive and instructional technologies.
- Co-Teaching Approaches (Parallel Teaching, Station Teaching, Teaming, Alternative Teaching)
- Small Group Instruction (including the use of iXL)

English learner support is provided throughout Tier 1 instruction. Professional learning opportunities will consider how to best connect mathematics pedagogy with the Language Comprehension components of Scarborough's Reading Rope (Science of Reading).

All mathematics professional learning is designed using a common agenda (link) and presentation template (link). These resources were developed through resources and ideas from *The PD Book: 7 Habits that Transform Professional Development* (Aguiar and Cohen. Hoboken, John Wile& Sons, Inc. 2022). The Supervisor and Assistant Supervisor of Mathematics provide feedback to staff before and after professional learning implementation using the Observation Checklist for High Quality Professional Development from www.researchcollaboration.org. Data is collected from all mathematics professional learning in one survey (link). The survey was designed to collect data in alignment with evaluation levels 1, 2, and 3 of Guskey's Five Critical Levels of Professional Development Evaluation. The data is analyzed during monthly mathematics team meetings to establish next steps in professional learning (LFSPL Evidence).

IV. Professional Learning

Looking Ahead:

Professional Learning

By the end of the 2024 – 2025 school year:

- The Office of Mathematics will implement components of the plan described in this section with the identified stakeholder group using the communication methods identified in Section IV as appropriate.
- The Offices of Mathematics and Teacher Preparation and Professional development will determine how to best redeliver Ongoing Assessment Project (OGAP) professional learning for elementary teachers through the development of a concrete professional development implementation plan.

During the 2025 – 2026 school year and 2026 – 2027 school year:

- The Offices of Mathematics and Teacher Preparation and Professional Development will collaborate to analyze systemwide data and develop high quality professional learning experiences.
- The Offices of Mathematics, Title I, and Multilingual Instruction will collaborate to develop professional learning experiences to support the needs of English Learners and disadvantaged students.
- The Offices of Mathematics, Accountability, North Star and School Performance Initiatives, and Educational Services will collaborate to develop professional learning experiences for teachers and leaders around accessing, interpreting, and using data to inform instruction.
- The Offices of Mathematics, Organizational Development, and Teacher Preparation and Professional Development will provide ongoing professional learning for new and conditionally certified teachers through "Shine University."
- The Offices of Mathematics and Teacher Preparation and Professional Development will develop professional learning goals based on the process described. Leadership resources will be provided like what is outlined for the 2024 – 2025 school year.
- The Offices of Mathematics and Accountability will establish monitoring tools to evaluate the effectiveness of the professional learning provided and next steps for supporting educators and school-based leaders.

Completing these action steps will engage the HCPS teacher and leadership community in meaningful dialogue around best practices for equitable mathematics teaching and learning and improve the implementation of the Effective Mathematics Teaching Practices.

V. Family and Community Partnerships

The HCPS Parent Page provides information for families. The Office of Mathematics website includes information about K – 12 mathematics education and a description of mathematics at each level (elementary, middle, and high school). Grade level curriculum documents for Grades K – 5 are linked on the website (sample), and include a link to Maryland College and Career Ready Standards, Topics, Enduring Understandings, Essential Questions, and Lesson Overviews.

To guide teachers around conversations with families during conferences, the Office of Mathematics has established Math Conference Family Talking Points for teachers to use to discuss students' academic progress in mathematics.

All Title I schools offer family engagement events throughout the school year. The Office of Mathematics has collaboratively curated resources with Title I Mathematics Teacher Specialists to host mathematics family engagement events and will support planning and implementation efforts. Information regarding these curated resources will be shared via bimonthly communication with Title I Mathematics Teacher Specialists.

HCPS also supports Parent and Community Engagement (PACE) Liaisons in each of our schools. PACE Liaisons work with the HCPS Office of Family and Community Partnerships to expand birth to career support for students and their families. The goal is to increase involvement and participation by all in supporting the social, emotional, and intellectual growth of HCPS students. PACE Liaisons strive to implement best practices related to the National PTA Standards for Family-School Partnerships. All PACE staff work with the School Performance teams to plan *Learn with Me* events during the school day, including math-related activities, providing activities and workshops to help parents understand how to support math learning at home. PACE Staff also work to train teachers in the school on family engagement best practices, using the work of Dr. Steven Constantino, *Engage Every Family*, as a guide. PACE staff focuses on ensuring teachers make a conscious effort to educate families in how to play a proactive role in their child's learning, including in mathematics learning.

The Harford County Public Schools Parent Academy is also a resource for all HCPS families, including a series of workshops designed to engage HCPS parents/guardians as partners in their children's education, and providing useful information and resources needed to help their children succeed in school and in the community. The goal is to connect families, school system staff, and community stakeholders in meaningful partnerships that will help increase student achievement and support wellbeing. One area of focus over the 2023-2024 school year was College and Career Readiness Standards, helping families to understand the importance of student progress in mathematics, and how that impacts College and Career Readiness. Parent Academy - CCR (youtube.com)\

Community partners providing out-of-school time support for students also work closely with our school-based staff. For example, the Boys and Girls Club of Harford County provides out-of-school time support for students both in our schools and in the community. Adult staff and tutors are available to provide supplemental instruction and support to help K – 5 students' progress in mathematics and other core content areas.

HCPS provides a public facing assessment calendar that includes resources for families.

V. Family and Community Partnerships

Looking Ahead:

Family and Community Partnerships

By the end of the 2024 – 2025 school year:

- The Office of Mathematics will implement components of the plan described in this section with the identified stakeholder group using the communication methods identified in Section I as appropriate.
- The Offices of Mathematics and Communications will update the public-facing website to include family resources that align to the *enVision Mathematics 2024* Text. A sample of these family resources is linked here. This information will be shared via the Superintendent's Bulletin, HCPS 411, and Monthly Math Minute.
- The Offices of Mathematics and Educational Services will update report card comments to align with the Standards for Mathematical Practice and domains within the MCCRS to clearly communicate to families the overarching mathematics priorities.
- The Offices of Mathematics, Accountability, and Communications will discuss best practices for communicating with families about assessment results and develop a plan for implementation of this communication.

During the 2025 – 2026 school year and 2026 – 2027 school year:

- The Offices of Mathematics and Family and Community Partnerships will collaborate to develop programs and resources that increase family engagement, identify opportunities for family and community engagement based on the systemwide calendar of events, and establish a process to gather family input and feedback to drive programs and resources.
- The Offices of Mathematics, Family and Community Partnerships, and Communications will reimage the purpose of the public-facing website and add family resources beyond curricular materials. This may include math games and websites, Harford County Public Library book recommendations, real-world math connections, etc.
- The Offices of Mathematics, Family and Community Partnerships, and Communications will develop guidance for teachers with recommendations for resources to send home to families to highlight learning that is upcoming.
- The Offices of Mathematics and Family and Community Partnerships will develop resources for elementary schools to use to implement math nights two times per year.

Completing these action steps will engage the entire HCPS community in meaningful dialogue around mathematics teaching and learning, provide just-in-time resources to families to reinforce mathematics at home, and shift the narrative about doing math towards creative problem solving and away from answer getting.