

Adoption:	6-12 Mathematics
Adoption Lead:	Dr. Kristin Moon & Dr. Susan Holveck
Date:	3/25/2022
Proposed Decision:	Bond purchases: Grades 6-8 - Full adoption Grades 9-12 - Full adoption

Why was the decision made?

The previous 6-8 adoption was completed in 1999 with Connect Math Project. In 2009, PPS updated the adoption of Connected Math Project 2. As of the 2018-2019 school year, the SBAC three-year average for all middle grades mathematics student proficiency was 47.5%. Our historically underserved range from a proficiency level of 8% to 9%.

The previous 9-12 adoption was completed in 2001. As of the 2018-2019 school year, the three-year average for all high school mathematics students' proficiency was 29%. Our historically underserved range from a proficiency level of 5% to 6%.

This is not to say that the lack of updated materials alone is the cause for such low proficiency, but the lack of alignment between the mathematics standards and the instructional materials creates conditions such that classroom educators are forced to create their own resources and adjust practice without necessarily being certain they are achieving the goal of alignment to grade-level standards. There were also challenges around ensuring the materials reflect cultural relevance that students and educators will benefit from.

Why?

The full adoption process was needed so that we could include as many stakeholders as possible in the decision, to provide educators with an understanding of how instructional resources play a role in strong, equitable and culturally relevant mathematics instruction. It is also necessary so that instructional materials could be updated to sustain alignment with 21st-century learning experiences. This process includes more than upgrading currently adopted resources.

- Oregon adopted new math standards in October 2021. The adoption also includes new graduation requirements for mathematics. For a high school, diploma students are to required to earn 1.0 credit of Algebra 1, 0.5 credit of Geometry, and 0.5 credit Statistics. Students may then choose the 3rd credit of mathematics from an array of +1 courses aligned to a college and career pathway.



Instructional Resource Decision

Centrally providing 6-12 mathematics instructional resource materials to every 6-12 teacher means:

- Teachers are able to focus on instruction and differentiation rather than spend time searching for instructional resources from various books and websites.
- Provides instructional materials to ensure all students have access to rigorous, coherent, standards-aligned mathematics instructional materials.
- Common mathematics instructional resources enable district-wide shared focus on implementing and sustaining culturally relevant teaching practices through ongoing professional development and using student work to reflect on the effectiveness of instructional practice.
- Reduces the risk of learning interruptions for students due to students navigating housing insecurity because of a common scope and sequence and instructional resource students will spend less time figuring out how to engage with the instructional materials during these transitions.
- Supports equitable assessment practices for all students and allows vertical and horizontal articulation and alignment to support all students based on evidence-based mathematical best practices.

No purchased set of instructional materials will ever provide the full range of support that is needed for daily classroom instruction and differentiation. The literature tells us that it is the pedagogical practices and moves that teachers make that can have the greatest impact on student success. We plan to implement a 3 - year professional learning plan including a train-the-trainer model as well as a gradual release of responsibility, including a focus on culturally responsive and sustaining instructional practices, such that educators within the district can sustain high-quality instructional implementation and ensure that all educators, including those new to the district or grade level, understand and are able to execute high-quality instructional practices within their context. There will be a strong focus on shifting instruction such that we see better outcomes for our students, especially historically underserved students.

How was the decision made to fully adopt MidSchoolMath Core Curriculum (MS) and McGraw-Hill Illustrative Math (HS)?

How?

The decision to fully adopt MidSchoolMath Core Curriculum for Middle School and McGraw-Hill Illustrative Math for high schools was a highly involved process including a cross-district 6-12 Mathematics Adoption of Instructional Resources (AIR) committee and a field test of 6-12 mathematics instructional resources. A deep analysis of the instructional resources was completed to evaluate instructional resource alignment with 6-12 mathematics standards, RESJ lens, student engagement, and integration of assessment and technology. A brief description of the 6-12 Mathematics AIR process and the Field Test are below.

- **6-12 Mathematics AIR committee** - Four meetings of the AIR committee occurred between February 11, 2021 and April 30, 2021. Selected AIR committee participants convened for 2.5 hours virtually to learn about instructional materials evaluation, practice using the tools of such evaluation, and apply learned skills to reviewing suggested resources prior to selecting programs for vendor presentations. Using data from these opportunities, the AIR committee narrowed choices down to 4 vendor



Instructional Resource Decision

programs for middle school and 5 vendor programs for high school. Data analysis of the teacher responses from the evaluation tool indicated the two instructional resources for the field test. The middle school AIR committee members selected MidSchoolMath Core Curriculum and Carnegie Middle School Math Solutions 2022. The high school AIR Committee selected Carnegie High School Math Solutions 2022 and Illustrative Math. Illustrative Math is an open-source curriculum, which means the planning team were required to select an approved vendor of the materials. The team selected Mc-Graw-Hill Illustrative Math.

- **Description of the Meetings:** Four full committee meetings occurred between February 11, 2021 and April 30, 2021. The AIR committee then split into grade band subgroups for each of the vendor meetings. Middle School members met four times between May 1, 2021 and May 31, 2021. High School members met five times between May 1, 2021 and May 31, 2021. The data analysis resulted in the decision to field test for middle school MidSchoolMath Core Curriculum and Carnegie Middle School Math Solutions 2022. The high school AIR Committee selected Carnegie High School Math Solutions 2022 and Illustrative Math. Below is a short description of each meeting.
 - **Meeting 1** - (Feb. 11) Grounding in equity and the work; Introduction to and engagement with the four tools used for analysis: GIMET, EQUIP, Bias Tool, and the Student Engagement, Assessment, and Technology (SEAT) tool.
 - **Meeting 2** - (Mar. 4) Continued learning about equity and math identity; grounded the work in connection between the graduate portrait and instruction; introduction to EdReports resource and focusing on the highly rated materials for the adoption
 - **Meeting 3** - (April 1) Practiced and normed using the analysis tools; reviewed proposed vetted instructional resources.
 - **Meeting 4** - (April 15) AIR committee members were assigned instructional materials to review and analyze using the tools (Bias, SEAT, Grade Level IMET, and final recommendation form). Use of these tools allowed participants the opportunity to gauge aspects relative to equity for suggested programs.
 - **Meetings 5 through 8** - The AIR committee split into grade bands (6-8 and 9-12) for these meetings. Each of the vendors selected presented during a 2 hour synchronous meeting. The 6-12 Math AIR Committee members then completed the 3 evaluation tools after each meeting. After the last vendor presentation, four reminder emails went out to individual 6-12 Math AIR committee members to submit all forms for all vendors in order to be emailed the link to complete the final ranking form. The data from these forms was analyzed by the PPS Math department.
 - **Meeting 9** - The results of the data analysis were shared with the 6-12 Math AIR committee for the two instructional resources recommended for field testing by the committee.
- **Description of Evaluation Tools:** Three Evaluation tools were developed for the committee to use during the instructional resource evaluation process. The tools were based on research and best practices described below.
 - [GIMET Tool](#) - Grade-Level Instructional Materials Evaluation Tool-Quality



Instructional Resource Decision

Review from the Council of Great City Schools, is designed for use by professionals as a framework for evaluating the quality of instructional materials and choosing materials that are best suited to provide a coherent learning experience for students. Specifically, it is designed to help reviewers identify the extent to which the materials under review promote a balance of the three components of rigor (conceptual understanding, applications, and fluency) along the K-8 progression to algebra continuum. (See [Companion Guide to the GIMET QR tool](#) for additional information).

- [Student Engagement, Integrated Technology and Assessment Tool](#) - The Integrated Technology and Assessment Tool is a PPS tool designed to evaluate the digital resources and assessment resources in an instructional resource. The tool is create from [Kolb's EEE Framework](#) and the [PPS K-12 Quality Assessment Framework](#).
- [Evaluating Instructional Materials for Bias Tool](#) - The Screening for Bias Content Tool from the Washington Office of Superintendent of Public Instruction is intended to support schools as they work towards equity, culturally responsive educational communities, and increasing success for all students. It is critical to recognize the impact of bias in instructional materials and teaching strategies on student identity development, pride, sense of community, belonging, and empowerment. Certain groups or perspectives may be underrepresented or not present in instructional materials. The omission or minimization of these groups can imply that they are less important or significant in our society.
- **6-8 and 9-12 Mathematics Field Test** - The Field test occurred from September 1, 2021 to March 18, 2022. All field test teachers are able to use the materials through the end of the school year to minimize the disruption to student learning.
 - **Field Test Assignment:** Teachers were assigned to teach one of the two instructional resources to maximize for the most diverse representation of all grade levels, school clusters, and student demographics. Consideration was given to have grade level teaching partners in the same school assigned the same instructional resource to facilitate collaboration.
 - Scope and sequences were created using the field test materials for all courses.
 - **Professional Development:** Field test teachers participated in initial PD led by the respective vendor for two days in August 2021.. The PD focused on navigating the digital teacher and student materials and the content of the unit teachers were to field test (see [21-22 Math Teacher Interaction Calendar](#))
 - **Data Collection Methods:** Classroom observation data collection occurred twice during the field test: October/November 2021 and February/March 2022. Field Test teachers submitted student artifacts at within the same time periods. Field Test teacher feedback using the GIMET, SEAT, Bias Tool, and Usability Tool occurred March 2022. All field test teachers were then asked to completed a final recommendation of the instructional resource with explanations for their recommendation or not.
 - Classroom observation protocol - The PPS math department participated in professional development on using Melissa Boston's Instructional Quality Assessment (IQA) Tool to observe students during



Instructional Resource Decision

the field test math lessons. Each teacher was observed by two members of the PPS math department for the same lesson. The observers documented what the teacher said and what the student said. Each member of the team then individually scored using the notes and the IQA tool and recorded in a Google Sheet. Teams then discussed scores to reach consensus and recorded the consensus score. The tool looks at academic rigor and student accountable talk (see [Classroom Observation Rubric](#)).

- Student Artifact scoring protocol - Each teacher was asked to submit two student work artifacts via a Google Form. At least two different members of the PPS math department individually scored and then met to discuss and reach consensus for each artifact. The artifacts are scored in three areas: potential of the task, implementation of the task, and clear expectations (see [Student Artifact Rubric](#).)
- **Student Data Collection:** Students data was collected through a pre and post math identity assessment and a student feedback survey.
- **Family and Community Data Collection:** Families and the community were offered two opportunities to review the field test materials, ask questions of the vendors, and hear presentations from the vendors about each of the presentations. Families, community members, non-field test teachers, building and district administrators, and support staff were emailed via district communication about the two opportunities.
 - In-person Review - (February 10, 2022) Materials were available in the BESC foyer from 9 a.m. - 8 p.m. People who reviewed the materials were invited to complete a paper or electronic survey. Vendors were available from 12 p.m. to 8 p.m. to answer any questions. From 6:00 - 7:30 p.m. vendors provided 20 minute presentations about their materials in the board room.
 - Virtual Review - (February 17, 2022) People were able to join a zoom meeting from 6:00 - 8:00 p.m. During the zoom meeting each vendor provided a 20 minute presentation. After the presentations, each vendor was in a breakout room available for questions from any participant. All participants were invited to complete an electronic survey. The presentations were recorded and made available for public review on the PPS adoption website. The electronic survey was available on the adoption website until the end of February 2022.
- **Data Analysis Methods:** Data Analysis of data collected occurred March 18 - March 31, 2022. Systems Planning & Performance met with the PPS Mathematics Administrators to determine data analysis methods. Quantitative analysis used categorical averages and then an overall composite average. The composite scores from all of data collected during the field test was recorded in the [Decision Matrix](#)). The cells highlighted green indicate the vendor with the higher score in the category.
- **Final Recommendation:** The Decision Matrix has 12 areas for consideration.
 - Middle School - In three areas MidSchoolMath Core Curriculum and Carnegie MS Math Solutions 22 are equal (implementation supports, alignment to PPS vision, and EdReports). MidSchoolMath CoreCurriculum scored higher than



Instructional Resource Decision

Carnegie MS Math Solutions 2022 in six areas (classroom observations, students artifacts, teacher surveys, teacher final recommendations, student growth data, and family/community engagement) These results have informed the recommendation to adopt MidSchoolMath Core Curriculum (see [Decision Matrix](#)).

- High School - In three areas McGraw-Hill Illustrative Mathematics and Carnegie HS Math Solutions 2022 are equal (student survey, implementation supports, and alignment with PPS vision). McGraw-Hill Illustrative Mathematics scored higher than Carnegie HS Math Solutions 2022 in five areas (classroom observations, student artifacts, teachers survey data, teacher final recommendations, and EdReports). Carnegie HS Math Solutions 2022 scored higher than McGraw-Hill Illustrative Mathematics in two areas (math identity and family/community engagement) . These results have made the recommendation to adopt McGraw-Hill Illustrative Mathematics(see [Decision Matrix](#)).
- **Field Test Results Meeting** - The results of the field tests will be shared with the field test teachers on April 4, 2022 (see [Field Test Results Meeting Slides](#)).

RESJ Lens

The decision to recommend full adoption of MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school supports the PPS System Shift: Transformative Curriculum and Pedagogy, specifically to develop district-wide, vertically aligned preK-12 core curriculum with an emphasis on foundational literacy skills across content areas, along with assessments and tiered supports, to provide comprehensive, rigorous, culturally-sustaining instruction and developmentally-appropriate learning experiences for all students. The instructional resource was evaluated to determine the alignment with PPS' pedagogy and determine that the instructional resource integrates the respectful consideration of culture, disability, race, gender, and language. With equitable learning supports and opportunities for 6-12 Mathematics, every student can develop the foundational requirements of a high-quality mathematics education and accelerate as needed.

The process towards making the decision to fully adopt MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school allowed teachers to address and engage in the following educator essentials identified in the PPS Vision.

- Knowledgeable and committed to lifelong learning
 - 6-12 mathematics educators are required to be highly competent in mathematics. The MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school contain instructional supports for secondary mathematics educators to integrate a variety of evidence-based, engaging teaching approaches, including strategies for social-emotional, culturally-responsive academic learning.
 - 6-12 mathematics educators are proactive about keeping their professional knowledge up-to-date and contributing to innovations and best practices in their schools and departments. The MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school instructional resource partners to support ongoing student-centered professional development will support educators with having current mathematics



Instructional Resource Decision

- instructional material aligned with Mathematics CCSS.
- The digital tools included as part of MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school support 6-12 educators in using a range of tools to inform continuous improvement of practice, collaborate with colleagues throughout the system, and support diverse learners.
- Racial equity and social justice centered
 - 6-12 mathematics educators understand that the perceived reality, based on the dominant culture, has often excluded the perspectives of people of color. They understand that they can replace the narrative with a more inclusive and objective multi-cultural approach that contributes to the positive identity development of adults and students of color. Educators in the process of the adoption of the mathematics instructional materials engaged in professional development about how to evaluate instructional materials for bias and used the Evaluating Instructional Materials for Bias Tool.
 - The adoption of the MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school instructional resources support 6-12 mathematics educators to ensure equitable access to grade level, standards-based learning for every student, and their diverse learning styles, through clearly defined racial equity and social justice based practices, and culturally and linguistically responsive teaching and curricula and materials.
 - 6-12 mathematics educators continue to develop and refine strategies that disrupt predictable patterns of performance based on race by participating in on-going district and school mathematics professional development. Mathematics professional development will continue to focus on supporting 6-12 mathematics educators to create safe, affirming, engaging, and meaningful mathematics learning communities that value diversity in their departments, schools, and classrooms.
- Inclusive and responsive to diverse learners
 - Ensuring equitable access to learning for every student is critical. The MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school instructional resources are translated into Spanish and reviewed by language translation professionals through a developmentally appropriate linguistic lens.
- Community minded connected, and collaborative
 - Throughout our process, we repeatedly heard that teachers want opportunities to collaborate district-wide for 6-12 Mathematics. The process also made clear that many teachers need support in understanding and putting into practice the math practices in CCSS. We believe that those instructional shifts will be more readily accessible to teachers through the district-wide 6-12 Mathematics instructional resource adoption.
- Self-aware and Reflective
 - During the 6-12 mathematics instructional resource adoption educators were reflective about their own areas of growth, enabling them to practice continuous improvement and lifelong learning. All educators have provided critical feedback to inform the selection of the MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school instructional resources adoption.



Instructional Resource Decision

- The professional development provided as part of the implementation of the MidSchoolMath Core Curriculum for middle school and McGraw-Hill Illustrative Mathematics for high school instructional resources will continue to support educators to recognize their vulnerability as a strength, continue to be open to feedback from peers and mentors, and have high social-emotional intelligence, enabling them to create emotionally safe spaces for students, families, and peers.

Who was involved in making the decision?

Describe participants of the committee and field test

- **6-12 Mathematics AIR Committee:** Began with 41 PAT members, building administrators, and district office administrators; composed of more than 50% building teachers.
- **6-12 Mathematics Field Test:** Consisted of 36 middle school mathematics educators and 11 high school mathematics educators. There was representation from all regions of the district. All who applied were accepted under presumed clearance with the building leader.
- **PPS Mathematics Department:** Director of K- 5 Mathematics - Patrice Woods; Program Administrator Middle Grades Mathematics and Science - Dr. Kristin Moon; Program Administrator High School Math and Science - Dr. Susan Holveck. 5 Mathematics TOSAs - Matthew Marchyok, Doug Mella, Tom Nishimura, Rose Palmer, and Jaclyn Pfenning.

Community and Family engagement did occur during the process. The process is described above as part of gathering the family and community feedback on the field test materials.

Who? RESJ Lens

The process for participation has been informed by the PPS RESJ lens. Two critical questions asked at every step are:

- How can we create an inclusive process?
- Who's voices are missing from the process?

For the 6-12 Mathematics AIR Committee and the 6-12 Mathematics Field Test an invitation to apply was sent to all 6-12 mathematics educators via the Admin Portal and Teacher Weekly Email update. Educators were selected to create the most diverse representations of the school district. All of the regional clusters were represented in the 6-12 Mathematics AIR Committee and the 6-12 Mathematics Field Test

- 6-12 Mathematics AIR Committee:
 - Teachers per grade band:
 - Middle School - 23
 - High School - 15
 - Administrators
 - Jefferson High School
 - Scott Elementary Principal
 - K-12 Science Program Administrator



Instructional Resource Decision

- Number of Educators of Color
 - 4
- Educators from Schools based on enrollment percent of historically underserved students
 - 0 - 30% historically underserved student population = 39%
 - 31 - 60% historically underserved student population = 41%
 - 61 - 90% historically underserved student population = 20%
- 6-12 Math Field Test:
 - Teachers per grade band:
 - Middle School - 35
 - 6th Common Core - 15
 - 7th Common Core - 7
 - Compacted Year 1 - 10
 - 8th Common Core - 12
 - Compacted Year 2 - 12
 - High School - 11
 - Algebra 1-2 - 0
 - Geometry - 8
 - Algebra 3-4 - 7
 - Number of Educators of Color
 - 5
 - Educators from Schools based on enrollment percent of historically underserved students
 - 0 - 30% historically underserved student population = 39%
 - 31 - 60% historically underserved student population = 41 %
 - 61 - 90% historically underserved student population = 20 %

Supporting Documentation:

- [Companion Guide to the GIMET QR tool](#)
- [Kolb's EEE Framework](#)
- [PPS K-12 Quality Assessment Framework.](#)
- [The Screening for Bias Content Tool](#)
- [Student Artifact Rubric](#)
- [6-12 Mathematics Final Recommendation Decision Matrix](#)
- [Field Test Results Meeting Slides\)](#)

Approval:

Dr. Cheryl Proctor, Deputy Superintendent Instruction & School Communities	Meisha Plotzke, Interim Middle Grades Senior Director	Yeng Denbolt, Interim High School Senior Director
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