COATESVILLE AREA SCHOOL DISTRICT

MATH CURRICULUM UPDATE

JANUARY 10, 2023

Mathematics Curriculum Focus

- Initial Implementation of Math MTSS in grades K-7
- Secondary math core resource pilot and selection in courses supporting grades 6 through Algebra II
- Elementary math core resource review

Mathematics Curriculum: MTSS Implementation

- Math MTSS introduced in 2022-23
  - Monthly data meetings are held
    - Grade K-5: Attended by Supervisor of math and science, CCIU consultant, Building principal(s), Grade level teacher teams including MTSS Facilitators
    - Grade 6 and 7: Attended by Supervisor of math and science, Math specialist, CCIU consultant, Building principal(s), and Teacher teams
    - Optional attendees include Special ed teachers, Guidance counselors, EL teachers, and School psychologists
    - Data to be reviewed:
      - Acadience Screener (Grades K-6) or NWEA MAP data (Grade 7)
      - Spring Math Intervention Data
      - IXL Diagnostic Data
    - Teams are building capacity as teachers assume meeting roles

Mathematics Curriculum: Student Data

- Second year of implementation of the Acadience Universal Screener (grades Kindergarten – 6)
  - Used to identify which students are struggling
  - Used to determine the level of intensity of support a student is likely to need
  - Screeners include Early Numeracy skills, Computational Fluency, and Concepts and Applications
  - Screening occurs in Fall, Winter, and Spring
    - Winter Screening 2022-23 is currently underway

Mathematics Curriculum: Student Data

- Second year of NWEA MAP assessment implementation (grades 7-11)
  - MAP Growth 6+ measures achievement and growth
    - Numbers and Operations, Algebraic Concepts, Geometry, and Data Analysis and Probability
  - Screenings occur in Fall, Winter, and Spring
    - Winter Screening 2022-23 is currently underway
  - Additional teacher training in data analysis to support instruction will be provided

Spring Math Intervention Program

- Acadience data from 2021-22 and 2022-23 reflect difficulties in math computation
  - Spring Math was piloted in Spring 2022 in eleven classrooms across grades 2, 4, 5 and 6
  - Spring Math was purchased for three years for grades 1-7 beginning in 2022-23
  - Initial implementation began in October 2022 following teacher and administrator training in September 2022
  - Spring Math Winter Screening will be completed by the end of January 2023

Spring Math Intervention Program

- Spring Math Intervention Program
  - Paper and pencil intervention program
  - Initial implementation is class-wide
  - Focuses on computation and problem-solving
    - Including whole number arithmetic, fractions, decimals, equations, proportions, order of operations, exponents, and systems of equations
  - Uses paired learning to lift all students and build enduring mastery and mathematical confidence
  - Future extension will support small group intervention

Spring Math Intervention Program

- Spring Math class-wide intervention data and feedback
  - Computational fluency is improving
    - Teachers provide additional exercises to build conceptual understanding as needed
    - Spring Math dashboard tracks individual and class growth
  - Students are motivated to participate in the daily learning activity
    - Individual student progress monitoring is a critical component of Spring Math that supports student awareness of personal growth

Supplemental Math Tools

- IXL Math was purchased for 3 years beginning in 2022-23
  - Completion of IXL Diagnostic Snapshot in grades 2 through 11 provides insight into student achievement and progress across six mathematical strands
    - Numbers and Operations
    - Algebra and Algebraic Thinking
    - Fractions
    - Geometry
    - Measurement
    - Data, Statistics, and Probability

Supplemental Math Tools

- IXL Math data
  - CASD students in grades K-12 have answered over 1,763,000 questions in IXL so far in 2022-23
  - The average number of questions per student per week is 16 which exceeds the IXL minimum goal of 15 questions required to realize the "IXL Effect"
  - Teachers continue to explore IXL features:
    - Reports to support differentiation in instruction
    - Implementation of Leadership Boards to motivate students
    - Live classroom, Group jams, Quizzes, Skill plans and more

Supplemental Math Tools

- Xtra Math is available for use by students in K-7
  - XtraMath is an online math fact fluency program that helps students develop quick recall and automaticity of basic math facts (addition, subtraction, multiplication, and division)
  - XtraMath guidelines suggest approximately 10 minutes per student per day
  - XtraMath generates individual practice sessions automatically based on assessment of each student's progress
  - The Xtra Math dashboard clearly reflects the facts that have been mastered for the student
  - Teachers have noted that use of Xtra Math is also supporting Spring Math growth during Math MTSS

Mathematics Curriculum: Secondary Core Resource Pilot

- A team of sixteen secondary teachers of courses in grade 6 Mathematics through Algebra II are piloting new core resources
  - HMH Into Math and Into Algebra I/Geometry/Algebra II
  - enVision Mathematics
- Pilot process is supported by a combination of in-person training and virtual training
- Pilot teachers are collaborating as they plan lessons and explore the resources

Mathematics Curriculum: Secondary Core Resource Pilot

- Core resource selection will occur in mid-March
  - Pilot teachers will share completed rubrics
    - Part 1: Content Alignment to PA Core, Concept Development & Rigor, Emphasis on Skill Fluency, Differentiation for All Learners, Teaching Approach (Pedagogy)
    - Part 2: Assessment Data, Embedded Interventions, Progress Monitoring, Additional Language Support
    - Part 3: Professional Development, Digital Learning Resources, Family Support, Teacher/Student Ease of Use, Program Technical Support
  - Cost of materials and professional development will also be reviewed

Mathematics Curriculum: Elementary Core Resources

- Review of our current elementary core mathematics resources is occurring as part of the curriculum alignment process
  - Our elementary teachers continue to implement Everyday Mathematics in K-5 general education classes (2015-2016 version)
  - Comparison of the 2015-16 version with the 2020 version is underway with insight from a curriculum specialist from McGraw Hill
    - Differences include improvements in teacher materials
    - EdReports are highly rated for 2021 copyright
  - Teachers completed a survey to share feedback regarding use of EDM instructional components

Thank You