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Updated Neenah High School Math Curriculum

Members of the Neenah High School Mathematics Department completed a curriculum audit during the 2019-2020 and 2020-2021 school years. As part of the process, we reviewed our current curriculum and textbooks, investigated new curriculum, took virtual site visits, and participated in many discussions surrounding student learning; Consideration was only given to curriculums that were rated proficient in the areas of focus and coherence (assessing appropriate grade level content), rigor (balance between procedural skills, conceptual understanding, and application), and usability as indicated by edReports. Ultimately the team recommended the implementation of the College Preparatory Mathematics (CPM) curriculum for Algebra 1, Geometry and Algebra 2.

CPM Research Base:

- CPM is built upon the following three pillars:
 - 1. Collaborative Learning: Students learn ideas more deeply when they discuss ideas with classmates.
 - 2. Problem-Based Learning: Students learn ideas more usefully when they participate in problem solving—ideally from the real world.
 - 3. Mixed, Spaced Practice: Students learn ideas more permanently when they are required to engage and re-engage with the ideas for months or even years.
- A comprehensive synthesis of research can be found here: Original CPM Research Base Report

CPM Instructional Priorities:

- CPM classes are structured to actively involve every student in the process of learning mathematics.
 CPM coursework challenges all students so that they must problem solve together. Students spend the majority of their time working in teams. Each student has a defined role in the solution process. The specific responsibilities of each position eliminate the damaging team behavior of having one student solve the problems and then "tell" the other students how to complete them.
- There are often several ways to solve problems in CPM. Teams are designed to allow students to have conversations about the ways in which they solved a particular problem.
- During collaborative work time, teachers are rotating around the classroom questioning, correcting
 misunderstandings, developing an understanding of what students know and determining the next
 steps for instruction.

- At the close of a CPM lesson, the teachers assure that the big mathematical ideas of each lesson are consolidated and conveyed to students.
- Homework (the "Review and Preview" sections) practices ideas from the current chapter and previous topics, but spreads the practice over several days and weeks so that students have time to become proficient with ideas and skills.
- CPM problems accommodate a variety of learning styles, including visual and hands-on. Consistent with the requests we frequently hear from leaders of business and industry, CPM routinely has students solve non-routine problems, helping them build problem-solving strategies that apply to most academic disciplines, the workplace, and daily life.
 - CPM curriculum is designed for <u>ALL</u> students. The activities are designed to enhance the learning of both the struggling and accelerated learner alike. Challenging problems allow for rich dialogue to take place, creating a high ceiling for learning. The use of manipulatives, technology tools, and looking at problems in multiple ways is integrated throughout the curriculum and supports all levels of learners.

<u>Additional Resources for Families:</u>

- CPM Homework Support Site
- CPM Parent Support Site