

Green Township Public Schools
8th Grade Mathematics Curriculum Summary Report 2018

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Summary

During July 2018, Ann Marie VanSickle created the 8th grade Mathematics Curriculum. The following is a summary of the accomplishments and recommendations for continued development of the curriculum:

- Reviewed the New Jersey Student Learning Standards (NJSLS) for Grade 8 Math in order to develop a curriculum that is focused on the major and supplementary work of the grade, both horizontally and vertically aligned to promote a cohesive progression of skill mastery, and rigorous, meaning that there is an equal emphasis placed on procedural skill and fluency, building conceptual understanding and the application of skills to real world situations.
- Created seven units for instruction.
 - Unit 1: Integer Exponents & Scientific Notation
 - Unit 2: The Concept of Congruence
 - Unit 3: Similarity & Introduction to the Pythagorean Theorem
 - Unit 4: Linear Equations & Real Numbers
 - Unit 5: Examples of Functions in Geometry
 - Unit 6: Linear Functions & Statistics
 - Unit 7: Irrational Numbers & Geometry
- Each unit includes the following items:
 - The NJSLS addressed in each unit
 - Standards for Mathematical Practice that are to be addressed throughout each unit
 - Critical knowledge, skills and learning goals
 - Interdisciplinary connections
 - 21st Century skills and career ready practice standards
 - Links to the 2014 NJ Technology standards
 - Primary and suggested supplementary resources, materials and tasks
 - Suggested formative and summative assessment activities
 - Mathematical terms and vocabulary

- Grade level fluency requirements and prerequisite skills & standards needed to be successful with unit material
- A suggested list of differentiated instructional practices, accommodations and modifications that may be used to enrich or aid the instruction for Gifted and Talented students, English Language Learners, Students with Disabilities, and Students at Risk of Failure.

Teachers should make note of the following resources available in the curriculum:

- *Overview Document:* This document gives a snapshot view of the year. It includes the NJSLS that are addressed in each unit, the main Standards for Mathematical Practices addressed in each unit, the big ideas covered by each unit and the approximate number of instructional periods needed for the unit.
- *Pacing Guides:* Pacing guides were created to support teachers through each unit. The pacing guide provides visual representation of approximately how much time should be spent focusing on each lesson/unit. It also leaves out lessons that are deemed “enrichment” lessons for this grade level. Individual teachers should determine the best use of those lessons, if included, based on the needs of students.
- *Standards for Mathematical Practices* (see following) are included with each unit. These mathematical practices develop students’ problem solving and reasoning abilities and are to be taught in concert with the learning goals of each unit. Teachers should refer to the overview document of each Eureka Math module for summaries of how the mathematical practices can be specifically tied into the learning goals for each unit.
 - a. *Make sense of problems and persevere in solving them.*
 - b. *Reason abstractly and quantitatively.*
 - c. *Construct viable arguments and critique the reasoning of others.*
 - d. *Model with mathematics.*
 - e. *Use appropriate tools strategically.*
 - f. *Attend to precision.*
 - g. *Look for and make use of structure.*
- *Resources:* Within each unit is a section for suggested tasks and supplementary resources. As the teachers work with the curriculum throughout the year, this section should be revised to include activities, extension projects, real world applications, exemplars, etc.

- *Interdisciplinary Connections:* A section is provided for each unit that contains a link to the Next Gen Science Standards and connections to the English-Language Arts standards. Teachers should review the learning goals for each unit and determine where connections can be made with other curriculum.
- *Differentiation/Accommodations/Modifications:* A general accommodations and modification section was created. Teachers should refer to the accommodations and modifications document that accompanies their content curriculum for additional suggestions. Teachers should follow the recommendations given in a student's 504 or Individualized Education Plan (IEP) as well.
- *21st Century Skills/Technology standards:* A general 21st Century Skills section and a Technology standards section were created within each unit. Teachers should use the links to the Framework for 21st Century Learning document to connect the learning in the math classroom to the goals for 21st Century learning, and utilize the goals of the NJ Technology standards to find ways to utilize technology in the student learning experiences.