Course Overview

Middle School | 7/8 | Math - *Last Updated on October 28, 2024*

DESCRIPTION

K-12 Content Area | Mission & Philosophy Statement

- With confidence and perseverance, young people can tackle complex and novel mathematical challenges, becoming skilled problem solvers who take ownership over their learning process.
- Young people possess the ability to reason mathematically, make conjectures, solve problems and build understanding through effective dialogue and collaboration.
- Learners exhibit critical inquiry through the deliberate asking of questions and the integration of conceptual understanding, reasoning abilities, and procedural fluency.
- Strategically selecting materials, technology, and other resources support mathematical learning and aid in achieving mathematical goals.

Course Description

The PA Core 7/8 curriculum is a comprehensive framework designed to equip students with a deep understanding and proficiency in mathematics, segmented into five critical focus areas: ratios and proportional relationships, numbers and operations, algebraic concepts, geometry and measurement, and data and probability.

In the area of ratios and proportional relationships, students will deepen their grasp of ratios and extend their understanding to solve both single- and multi-step problems involving proportionality. When it comes to the area of numbers and operations, students will apply and extend their previous understandings of operations with fractions to operations with rational numbers operations with rational numbers, gaining proficiency in manipulating expressions and linear equations. In this course, emphasis is placed on the formulation and logical reasoning behind expressions and equations. This includes modeling associations with linear equations and solving them. Additionally, students explore functions to describe quantitative relationships. In the area of geometry, students engage in problems involving scale drawings and informal geometric constructions. Students will work with two- and three-dimensional shapes to solve intricate challenges related to area, surface area, and volume. Explorations into two- and three-dimensional space, along with the principles of distance, angle, similarity, and congruence, are also undertaken. Furthermore, students will develop a deep understanding of and proficiency in applying the Pythagorean Theorem. In the final area of focus, statistics and probability, students will draw insightful inferences about populations based on samples of data, honing their skills in statistical analysis and probability assessment.

STANDARDS

Pennsylvania Common Core - Grade 7 - Mathematics

CC.2.1.7.D.1 CC.2.1.7.E.1 CC.2.2.7.B.1 CC.2.2.7.B.3 CC.2.3.7.A.1 CC.2.3.7.A.2

CC.2.4.7.B.1 CC.2.4.7.B.3 CC.2.4.7.B.2

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Pennsylvania Common Core - Grade 8 - Mathematics					
CC.2.1.8.E.1	CC.2.1.8.E.4	CC.2.2.8.B.1	CC.2.2.8.B.2	CC.2.2.8.B.3	CC.2.2.8.C.1
CC.2.2.8.C.2	CC.2.3.8.A.2	CC.2.3.8.A.1	CC.2.3.8.A.3	CC.2.4.8.B.2	CC.2.4.8.B.1

COURSE OBJECTIVES

Specific objectives for this course are aligned to the Pennsylvania Core Standards for Mathematics and the Common Core State Standards for Mathematics as outlined in the Scope and Sequence for Grade 7 and Grade 8 Mathematics

ASSESSMENT TYPES

- Diagnostic Assessments
- Formative Assessments
- Summative Assessments

SUGGESTED METHODS OF INSTRUCTION

Below is a list of suggested strategies for high-quality instruction in Mathematics:

- Instructional components outlined in the Framework for Teaching by Charlotte Danielson
- Collaborative Learning
- Differentiation
- Direct and Guided Instruction
- Hands-on Learning
- Independent Practice
- Math Language Development Routines
- Problem-solving and Critical Thinking Tasks
- Real-World Applications
- Sense-Making Routines
- Use of Technology
- Visual Representations

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RESOURCES

District Approved Program Resources	District Approved Supplemental Resources	District Approved Technology Resources
McGraw Hill Reveal Math. (2025). • Teacher Edition Course 2: Volume 1 (Print & Digital) • Teacher Edition Course 2: Volume 2 (Print & Digital) • Student Edition Course 2: Volume 1 (Print & Digital) • Student Edition Course 2: Volume 2 (Print & Digital) • Teacher Edition Course 3: Volume 1 (Print & Digital) • Teacher Edition Course 3: Volume 2 (Print & Digital) • Student Edition Course 3: Volume 1 (Print & Digital) • Student Edition Course 3: Volume 2 (Print & Digital)	McGraw Hill, ALEKS (2025) IXL Math (2025)	