Northern York County School District

Curriculum Overview

Course: Math 7	
Grade Level: 7th	
Approval Date: Spring 2024	**Length of Time:** 180 days

Course Description:

The 7th grade math curriculum is designed to develop resourceful and prepared math learners capable of authentic problem solving. Instruction and assessments align with the Pennsylvania State Standards for Mathematics, and focus on numbers and operations, algebraic concepts, geometry, data analysis and probability. Students are provided opportunities to apply skills related to real-life situations. The course is aligned to the Pennsylvania State Standards for Mathematics and the seventh grade Math PSSA (Pennsylvania System of School Assessment).

Course Objectives:
- Perform arithmetic operations with rational numbers
- Understand, write, and simplify expressions
- Understand, write, and solve equations and inequalities
- Demonstrate an understanding of proportional relationships within ratios and percents
- Investigate chance processes and evaluate probability
- Demonstrate an understanding of geometric figures and solve problems involving angle measure, circumference, area, surface area, and volume

Related Standards:
- CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.
- CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems
- CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions
- CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations
- CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them.
- CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.
- CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts
- CC.2.4.7.B.2 Draw informal comparative inferences about two populations.
- CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.

Units:
- Integers and Rational Numbers
- Expressions, Equations, and Inequalities
- Ratios, Proportions, and Percentages
- Probability, Data Analysis, and Statistics
- Angle Relationships
- Area, Surface Area and Volume

Concepts:	Competencies:

<table><tr><td>   - Operations with rational numbers   - Simplifying expressions   - Solving equations and inequalities   - Proportional relationships   - Probability   - Geometric classifications and computations   </td><td>   - Compare, order, and compute rational numbers   - Understand, write, and simplify expressions   - Understand, write, and solve equations and inequalities   - Solve problems using rates, ratios, and percents   - Evaluate probabilities and make predictions   - Classify angles and geometric figures by their properties   - Solve geometric problems involving angle measure, circumference, area, surface area, and volume   </td></tr></table>

Learning Activities:	**Performance Tasks:**
- Demonstration and modeling - Classroom discussions - Inquiry based learning - Error analysis - Guided and independent Practice - Game-based learning opportunities - Collaborative problem solving - Student self-reflection	- Formative assessments such as student discussion, questioning, peer collaborative activities, reflections, and online interactive learning activities and assignments. - Summative assessments such as quizzes, end of unit tests, and projects.

Other Assessment Measures:

7th Grade Math PSSA end-of-course state assessment, benchmark assessments, diagnostic tools, teacher and/or student-generated rubrics

Textbook/Primary Resource:

ISBN-10 1608405052 *Big Ideas Math* by Laurie Boswell and Ron Larson

Supplemental Resource Materials:

Digital resources such as PDESAS, PSSA released items, IXL