



## Northern York County School District

### Curriculum Overview

<b>Course:</b> Math 7-8	
<b>Grade Level:</b> 7 <sup>th</sup>	
<b>Approval Date:</b> Spring 2024	<b>Length of Time:</b> 180 days
<b>Course Description:</b> The Math 7-8 curriculum is designed to develop resourceful and prepared math learners capable of authentic problem solving. Instruction and assessments align with the Pennsylvania Core Standards for Mathematics, and focus on numbers and operations, algebraic concepts, geometry, and 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 PSSA (Pennsylvania System of School Assessment).	
<b>Course Objectives:</b> <ul style="list-style-type: none"> <li>• Perform arithmetic operations with rational numbers</li> <li>• Understand, write, and simplify expressions</li> <li>• Understand, write, and solve equations and inequalities</li> <li>• Demonstrate an understanding of proportional relationships within ratios and percentages</li> <li>• Investigate chance processes and evaluate probability</li> <li>• Demonstrate an understanding of geometric figures and solve problems involving angle measure, Pythagorean Theorem, circumference, area, surface area, and volume</li> </ul>	
<b>Related Standards:</b> <ul style="list-style-type: none"> <li>• CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.</li> <li>• CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems</li> <li>• CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions</li> <li>• CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations</li> <li>• CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them.</li> <li>• CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.</li> <li>• CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.</li> <li>• CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts</li> <li>• CC.2.4.7.B.2 Draw informal comparative inferences about two populations.</li> <li>• CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.</li> <li>• CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems.</li> <li>• CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.</li> </ul>	
<b>Units:</b> <ul style="list-style-type: none"> <li>• Integers and Rational Numbers</li> <li>• Expressions, Equations, and Inequalities</li> </ul>	

<ul style="list-style-type: none"> <li>• Ratios, Proportions, and Percentages</li> <li>• Probability, Data Analysis, and Statistics</li> <li>• Angle Relationships</li> <li>• Area, Surface Area and Volume</li> <li>• Pythagorean Theorem</li> <li>• Slope</li> </ul>	
<b>Concepts:</b> <ul style="list-style-type: none"> <li>• Operations with rational numbers</li> <li>• Simplifying expressions</li> <li>• Solving equations and inequalities</li> <li>• Proportional relationships</li> <li>• Probability</li> <li>• Geometric classifications and computations</li> </ul>	<b>Competencies:</b> <ul style="list-style-type: none"> <li>• Compare, order, and compute rational numbers</li> <li>• Understand, write, and simplify expressions</li> <li>• Understand, write, and solve equations and inequalities</li> <li>• Solve problems using rates, ratios, and percentages</li> <li>• Evaluate probabilities and make predictions</li> <li>• Classify angles and geometric figures by their properties</li> <li>• Solve geometric problems involving angle measure, Pythagorean Theorem, circumference, area, surface area, and volume</li> </ul>
<b>Learning Activities:</b> <ul style="list-style-type: none"> <li>• Demonstration and modeling</li> <li>• Classroom discussions</li> <li>• Inquiry based learning</li> <li>• Error analysis</li> <li>• Guided and independent Practice</li> <li>• Game-based learning opportunities</li> <li>• Collaborative problem solving</li> <li>• Student self-reflection</li> </ul>	<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Formative assessments such as student discussion, questioning, peer collaborative activities, reflections, and online interactive learning activities and assignments.</li> <li>• Summative assessments such as quizzes, end of unit tests, and projects.</li> </ul>
<b>Other Assessment Measures:</b> 7 <sup>th</sup> Grade Math PSSA end-of-course state assessment, benchmark assessments, diagnostic tools, teacher and/or student-generated rubrics	
<b>Textbook/Primary Resource:</b> ISBN 978-0-547-58777-6 Larson Pre-Algebra by Ron Larson, Laurie Boswell, Timothy Kanold, and Lee Stiff	
<b>Supplemental Resource Materials:</b> Digital resources such as PDESAS, PSSA released items, IXL	