

PA Core Mathematics Standards – Cluster Heading Matrix

Trifold – Grades 3-4-5

Domain	Grade 3 Cluster Heading	Grade 4 Cluster Heading	Grade 5 Cluster Heading
Counting and Cardinality			
Operations and Algebraic Thinking	<ul style="list-style-type: none"> • Represent and solve problems involving multiplication and division. • Understand properties of multiplication and the relationship between multiplication and division. • Multiply and divide within 100. • Solve problems involving the four operations, and identify and explain patterns in arithmetic. 	<ul style="list-style-type: none"> • Use the four operations with whole numbers to solve problems. • Gain familiarity with factors and multiples. • Generate and analyze patterns. 	<ul style="list-style-type: none"> • Write and interpret numerical expressions. • Analyze patterns and relationships.
Number and Operations in Base Ten	<ul style="list-style-type: none"> • Use place value understanding and properties of operations to perform multi-digit arithmetic. 	<ul style="list-style-type: none"> • Generalize place value understanding for multi-digit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic. 	<ul style="list-style-type: none"> • Understand the place value system. • Perform operations with multi-digit whole numbers and with decimals to hundredths.
Number and Operations—Fractions	<ul style="list-style-type: none"> • Develop understanding of fractions as numbers. 	<ul style="list-style-type: none"> • Extend understanding of fraction equivalence and ordering. • Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. • Understand decimal notation for fractions, and compare decimal fractions. 	<ul style="list-style-type: none"> • Use equivalent fractions as a strategy to add and subtract fractions. • Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Measurement and Data	<ul style="list-style-type: none"> • Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. • Represent and interpret data. • Geometric measurement: understand concepts of area and relate area to multiplication and to addition. • Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. 	<ul style="list-style-type: none"> • Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. • Represent and interpret data. • Geometric measurement: understand concepts of angle and measure angles. 	<ul style="list-style-type: none"> • Convert like measurement units within a given measurement system. • Represent and interpret data. • Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
Ratios and Proportional Relationships			
The Number System			
Expressions and Equations			
Functions			

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Geometry	<ul style="list-style-type: none"> Reason with shapes and their attributes. 	<ul style="list-style-type: none"> Draw and identify lines and angles, and classify shapes by properties of their lines and angles. 	<ul style="list-style-type: none"> Graph points on the coordinate plane to solve real world and mathematical problems. Classify two-dimensional figures into categories based on their properties.
Statistics and Probability			