PA Core Mathematics Standards – Cluster Heading Matrix   **Trifold – Grades 1, 2, 3**

Domain	Grade 1	Grade 2	Grade 3
Counting and Cardinality			
Operations and Algebraic Thinking	• Represent and solve problems involving addition and subtraction. • Understand and apply properties of operations and the relationship between addition and subtraction. • Add and subtract within 20. • Work with addition and subtraction equations.	• Represent and solve problems involving addition and subtraction. • Add and subtract within 20. • Work with equal groups of objects to gain foundations for multiplication.	• 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.
Number and Operations in Base Ten	• Extend the counting sequence. • Understand place value. • Use place value understanding and properties of operations to add and subtract.	• Understand place value. • Use place value understanding and properties of operations to add and subtract.	• Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations— Fractions			• Develop understanding of fractions as numbers.
Measurement and Data	• Measure lengths indirectly and by iterating length units. • Tell and write time. • Represent and interpret data.	• Measure and estimate lengths in standard units. • Relate addition and subtraction to length. • Work with time and money. • Represent and interpret data.	• 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.
Ratios and Proportional Relationships			
The Number System			
Expressions and Equations			
Functions			
Geometry	• Reason with shapes and their attributes.	• Reason with shapes and their attributes.	• Reason with shapes and their attributes.
Statistics and Probability			