

**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	<ul style="list-style-type: none"> <li>Represent and solve problems involving addition and subtraction.</li> <li>Understand and apply properties of operations and the relationship between addition and subtraction.</li> <li>Add and subtract within 20.</li> <li>Work with addition and subtraction equations.</li> </ul>	<ul style="list-style-type: none"> <li>Represent and solve problems involving addition and subtraction.</li> <li>Add and subtract within 20.</li> <li>Work with equal groups of objects to gain foundations for multiplication.</li> </ul>	<ul style="list-style-type: none"> <li>Represent and solve problems involving multiplication and division.</li> <li>Understand properties of multiplication and the relationship between multiplication and division.</li> <li>Multiply and divide within 100.</li> <li>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</li> </ul>
Number and Operations in Base Ten	<ul style="list-style-type: none"> <li>Extend the counting sequence.</li> <li>Understand place value.</li> <li>Use place value understanding and properties of operations to add and subtract.</li> </ul>	<ul style="list-style-type: none"> <li>Understand place value.</li> <li>Use place value understanding and properties of operations to add and subtract.</li> </ul>	<ul style="list-style-type: none"> <li>Use place value understanding and properties of operations to perform multi-digit arithmetic.</li> </ul>
Number and Operations—Fractions			<ul style="list-style-type: none"> <li>Develop understanding of fractions as numbers.</li> </ul>
Measurement and Data	<ul style="list-style-type: none"> <li>Measure lengths indirectly and by iterating length units.</li> <li>Tell and write time.</li> <li>Represent and interpret data.</li> </ul>	<ul style="list-style-type: none"> <li>Measure and estimate lengths in standard units.</li> <li>Relate addition and subtraction to length.</li> <li>Work with time and money.</li> <li>Represent and interpret data.</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</li> <li>Represent and interpret data.</li> <li>Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</li> <li>Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</li> </ul>
Ratios and Proportional Relationships			
The Number System			
Expressions and Equations			
Functions			
Geometry	<ul style="list-style-type: none"> <li>Reason with shapes and their attributes.</li> </ul>	<ul style="list-style-type: none"> <li>Reason with shapes and their attributes.</li> </ul>	<ul style="list-style-type: none"> <li>Reason with shapes and their attributes.</li> </ul>
Statistics and Probability			