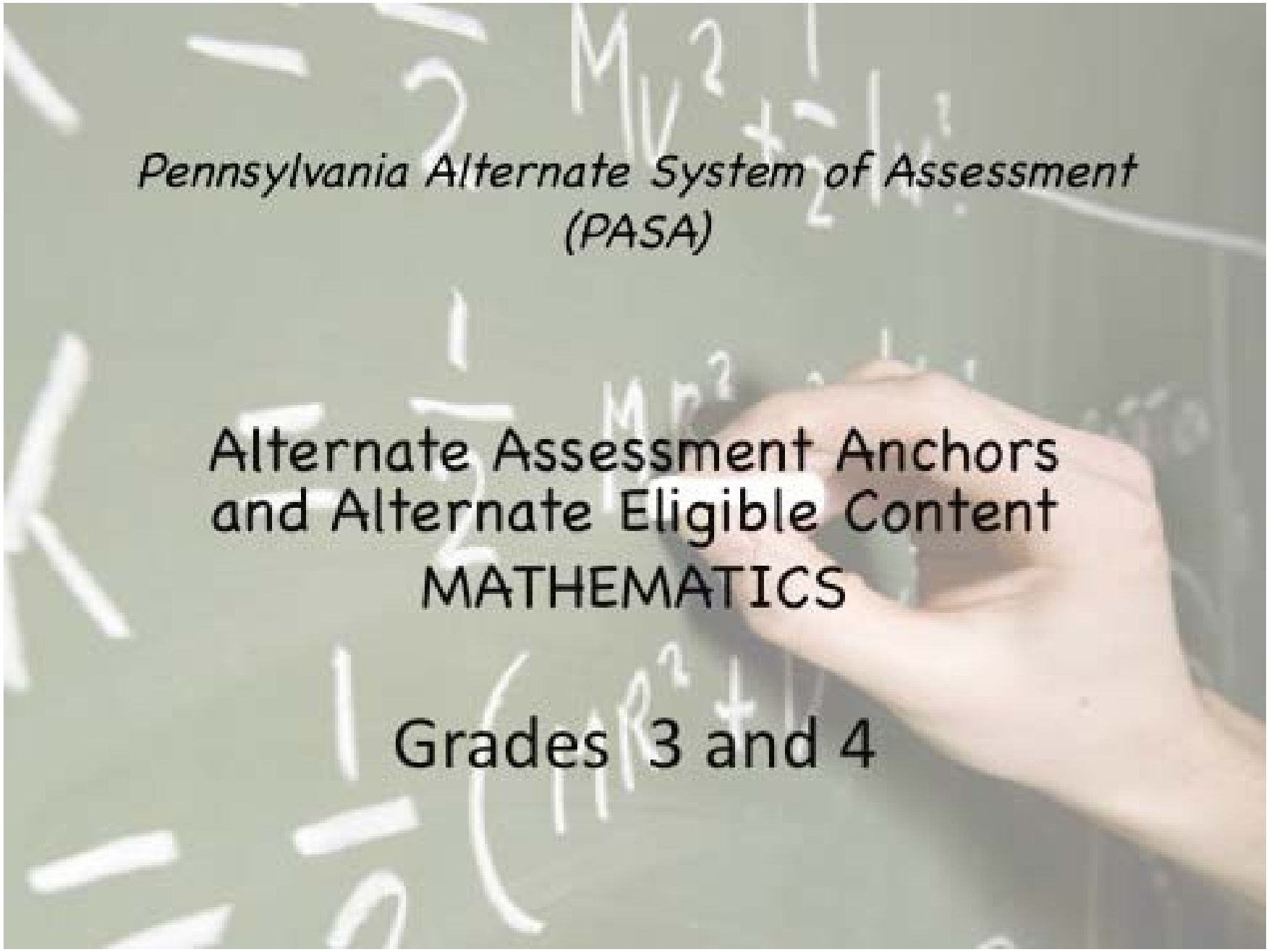

Pennsylvania Alternate System of Assessment (PASA)

Alternate Assessment Anchors and Alternate Eligible Content MATHEMATICS

Grades 3 and 4

The Layout of the PSSA Assessment Anchors and PASA Assessment Anchors Alignment Document

Math

PSSA Numbering system

Example: M3.A.1.1

M = Math
3 = Grade
A = Reporting category (e.g., Numbers & Operations, Measurement, Geometry, Algebraic Concepts, Data Analysis & Probability)
1 = Assessment anchor
1 = Sub assessment anchor

PASA Numbering system

Example: M3&4.AA.1.1a (LC)

M = Math
3&4 = Grade
1st A = Reporting category
2nd A =Alternate assessment
1 = Assessment anchor
1 = Sub assessment anchor
a = Eligible content
LC = Level

PSSA Assessment Anchor

PASA Assessment Anchor

M3.A Numbers and Operations
M4.A

M3.A.1 M4.A.1	**Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.**
M3&4.AA.1	**Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.**

PSSA ASSESSMENT ANCHOR		PASA ASSESSMENT ANCHOR	PASA ELIGIBLE CONTENT
GRADE 3			
M3.A.1.1 Apply place-value concepts and numeration to counting, ordering, grouping, and equivalency. **M3.A.1.2** Use fractions to represent quantities as part of a whole or part of a set.	**M4.A.1.1** Use models and/or words to represent quantities as decimals, fractions, or mixed numbers.	**M3&4.AA.1.1** Apply numeracy concepts and use models and fractions to represent quantities as part of a whole or part of a set.	**M3&4.AA.1.1 (LA)** Matches 2 sets of items with 1 item each – difference between target and closest choice is 12 units – sets are cut to size **M3&4.AA.1.1 (LB)** Matches numeral to quantity ≤ 5 – the target and 1 set are within +/- 5 **M3&4.AA.1.1a (LC)** Matches numeral to quantity ≤ 9 – the target and 2 sets are within +/- 5 **M3&4.AA.1.1b (LC)** Selects item divided evenly…

PSSA Sub Assessment Anchor

PASA Sub Assessment Anchor

PASA Eligible Content

The layout of this document reflects the organization of the PSSA assessment anchor content standards - see *2007 PSSA Technical Report for Reading and Mathematics: Grades 3-8 and 11 (page A-2)* (attached on the next page).

PASA ASSESSMENT ANCHORS AND ELIGIBLE CONTENT
MATH
GRADES 3 & 4

M3.A M4.A	**Numbers and Operations**		
M3.A.1 M4.A.1	**Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.**	**M3&4.AA.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.**	
PSSA ASSESSMENT ANCHOR		**PASA ASSESSMENT ANCHOR**	**PASA ELIGIBLE CONTENT**
GRADE 3	**GRADE 4**		
M3.A.1.1 Apply place-value concepts and numeration to counting, ordering, grouping, and equivalency. **M3.A.1.2** Use fractions to represent quantities as part of a whole or part of a set.	**M4.A.1.1** Use models and/or words to represent quantities as decimals, fractions, or mixed numbers.	**M3&4.AA.1.1** Apply numeracy concepts and use models and fractions to represent quantities as part of a whole or part of a set.	**M3&4.AA.1.1 (LA)** Matches 2 sets of items with 1 item each
			M3&4.AA.1.1 (LB) Matches numeral to quantity
			M3&4.AA.1.1a (LC) Matches numeral to quantity **M3&4.AA.1.1b (LC)** Selects item divided evenly and in the number of pieces specified
	M4.A.1.2 Compare quantities and magnitudes or numbers.	**M3&4.AA.1.2** Compare quantities and numbers, including • orient, • compare quantities, • count, and • read numerals.	**M3&4.AA.1.2a (LA)** Orients toward materials **M3&4.AA.1.2b (LA)** Selects set with most/least –
			M3&4.AA.1.2a (LB) Counts aloud ≤ 5 items in unordered array **M3&4.AA.1.2b (LB)** Reads number ≤ 19
			M3&4.AA.1.2a (LC) Counts aloud ≤ 9 items in ordered array **M3&4.AA.1.2b (LC)** Orders 4 sets of evenly spaced items **M3&4.AA.1.2c (LC)** Orders 4 consecutive numbers **M3&4.AA.1.2d (LC)** Counts out ≤ 9 items from a larger unordered set

M3.A.1.3 Count, compare and make change using a collection of coins and one-dollar bills.	**M4.A.1.3** Develop and/or apply number theory to represent numbers in various ways.	**M3&4.AA.1.3** Count, compare, and make change using a collection of coins and one-dollar bills, including • identify coins and bills, • count coins and bills, and • read price.	**M3&4.AA.1.3 (LA)** Selects coin
			M3&4.AA.1.3a (LB) Counts aloud one-dollar bills or pennies **M3&4.AA.1.3b (LB)** Reads whole number price
			M3&4.AA.1.3a (LC) Selects one-, five-, ten-, or twenty-dollar bill **M3&4.AA.1.3b (LC)** Names penny, nickel, dime, or quarter **M3&4.AA.1.3c (LC)** Counts aloud one-dollar bills or pennies **M3&4.AA.1.3d (LC)** Counts out one-dollar bills from a larger set
M3.A.2 M4.A.2	**Understand the meanings of operations, use operations and understand how they relate to each other.**	**M3&4.AA.2 Understand the meanings of operations, use operations and understand how they relate to each other.**	
M3.A.2.1 *Understand various meanings of operations and the relationship between them.*			
	M4.A.2.1 *Use operations to solve problems (may include word problems).*		

M3.A.3 **M4.A.3**	**Compute accurately and fluently and make reasonable estimates.**	**M3&4.AA.3 Compute accurately and fluently and make reasonable estimates**	
M3.A.3.1 Solve problems using addition, subtraction and multiplication (straight computation and word problems).		**M3&4.AA.3.1** Solve problems using addition and subtraction.	**M3&4.AA.3.1a (LC)** Adds 2 sets of items with sums **M3&4.AA.3.1b (LC)** Adds 2 sets of similar items by counting **M3&4.AA.3.1c (LC)** Adds 3 sets of items by counting **M3&4.AA.3.1d (LC)** Adds 2 prices by counting one-dollar bills **M3&4.AA.3.1e (LC)** Subtracts 2 numbers by counting items **M3&4.AA.3.1f (LC)** Subtracts to identify part from whole **M3&4.AA.3.1g (LC)** Subtracts 2 prices
	M4.A.3.1 *Apply rounding and/or estimation strategies to solve problems.*		
M3.A.3.2 *Use estimation skills to arrive at conclusions.*			
	M4.A.3.2 *Compute using fractions or decimals (written vertically or horizontally – straight computation only).*		

M3.B M4.B	**Measurement**		
M3.B.1 M4.B.1	**Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.**	**M3&4.BA.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.**	
M3.B.1.1 Determine or calculate time and elapsed time.	**M4.B.1.1** Determine time and/or calculate elapsed time.	**M3&4.BA.1.1** Determine time.	**M3&4.BA.1.1 (LA)** Selects clock
			M3&4.BA.1.1 (LB) Matches digital time at 30-minute intervals
			M3&4.BA.1.1a (LC) Reads digital time at 15-minute intervals **M3&4.BA.1.1b (LC)** Reads analog time at half-hour intervals
M3.B.1.2 Use the attributes of length, area, volume and weight of objects.		**M3&4.BA.1.2** Use the attributes of objects, including • match and compare length, • match and compare area, • match and compare volume, and • match and compare capacity.	**M3&4.BA.1.2a (LA)** Matches objects, pictures of items, photographs of items of same length – **M3&4.BA.1.2b (LA)** Matches identical shapes, objects, pictures, photographs of same size **M3&4.BA.1.2c (LA)** Selects biggest/smallest shape, object, picture, photograph **M3&4.BA.1.2d (LA)** Matches items with same volume **M3&4.BA.1.2e (LA)** Selects biggest/smallest object by volume **M3&4.BA.1.2f (LA)** Matches items with same capacity **M3&4.BA.1.2g (LA)** Selects item that holds the most/least
			M3&4.BA.1.2 (LB) Selects longest/shortest item

M3.B.2 M4.B.2	**Apply appropriate techniques, tools and formulas to determine measurements.**	**M3&4.BA.1 Apply appropriate techniques, tools and formulas to determine measurements.**	
M3.B.2.1 Determine the measurement of objects with non-standard and standard units.	**M4.B.2.1** Select and/or use appropriate tools and/or attributes for measuring quantities.	**M3&4.BA.2.1** Determine the measurement of objects with non-standard and standard units, including • measure length, • measure area, and • measure volume.	**M3&4.BA.2.1a (LB)** Measures length of item by counting **M3&4.BA.2.1b (LB)** Measures item area by counting **M3&4.BA.2.1c (LB)** Measures volume by counting
			M3&4.BA.2.1a (LC) Measures length of item **M3&4.BA.2.1b (LC)** Measures volume by counting
M3.B.2.2 *Estimate measurements of familiar objects.*	***M4.B.2.2*** *Estimate measurements of figures.*		

M3.C M4.C	**Geometry**		
M3.C.1 M4.C.1	**Analyze characteristics and properties of two- and three-dimensional geometric shapes and demonstrate understanding of geometric relationships.**	**M3&4.CA.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.**	
M3.C.1.1 Identify and/or describe two- and three-dimensional objects.	**M4.C.1.1** Identify/describe the basic properties of geometric figures in two or three dimensions.	**M3&4.CA.1.1** Identify and/or describe the basic properties of two- and three-dimensional geometric figures (sort).	**M3&4.CA.1.1 (LA)** Sorts 1 object into 1 of 3 existing groups
			M3&4.CA.1.1 (LB) Sorts 4 items into 4 groups
			M3&4.CA.1.1 (LC) Sorts 8 items into 4 groups
	M4C.1.2 *Represent and/or use properties or relationships of points, lines, line segments, rays, and angles.*		

M3.C.2 M4.C.2	**Identify and/or apply concepts of transformations or symmetry.**		
M3.C.2.1 *Apply the concepts of transformations and symmetry.*			
	M4.C.2.1 *Apply the concepts of reflection and symmetry.*		
M3.C.3 M4.C.3	**Locate points or describe relationships using the coordinate plane.**		
M4C.3.1 *Locate points on a simple grid.*			

M3.D M4.D	**Algebraic Concepts**		
M3.D.1 M4.D.1	**Demonstrate an understanding of patterns, relations and functions.**	**M3&4.DA.1 Demonstrate an understanding of patterns, relations and functions.**	
M3.D.1.1 *Recognize, describe, or extend a variety of patterns.*	***M4.D.1.1*** *Recognize, describe, extend, create, and/or replace a variety of patterns.*		
	M4.D.1.2 *Apply simple function rules.*		

M3.D.2 M4.D.2	**Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.**		
M3.D.2.1 *Create/model expressions, equations and inequalities to match a problem situation.*			
	M4.D.2.1 *Use numbers and symbols to model the concepts of expression and/or equations.*		
M3.D.2.2 *Determine the missing number or symbol in a number sentence.*	***M4.D.2.2*** *Determine the missing number or symbol in a number sentence.*		
M3.D.3 M4.D.3	**Analyze change in various contexts.**		
Not assessed.			
M3.D.4 M4.D.4	**Describe or use models to represent quantitative relationships.**		
Not assessed.			

M3.E M4.E	**Data Analysis and Probability**		
M3.E.1 M4.E.1	**Formulate or answer questions that can be addressed with data and/or organize, display, interpret, or analyze data.**	**M3&4.EA.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret, or analyze data.**	
M3.E.1.1 Answer questions based on data shown on tables, charts, and bar graphs.	**M4.E.1.1** Interpret data shown on tables, charts, line graphs, bar graphs, or pictographs.	**M3&4.EA.1.1** Interpret and answer questions based on data, including • interpret graphs, and • interpret tables. .	**M3&4.EA.1.1a (LB)** Selects largest/smallest value from graph **M3&4.EA.1.1b (LB)** Locates number described in a one-variable display with 4 entries
			M3&4.EA.1.1a (LC) Selects largest/smallest value from graph **M3&4.EA.1.1b (LC)** Locates number described in 5-6 item display
M3E.1.2 *Organize or display data using tables, charts, bar graphs.*	***M4.E.1.2*** *Organize or display data using tables, bar graphs, line graphs, or pictographs.*		
M3.E.2 M4.E.2	**Select and/or use appropriate statistical methods to analyze data.**		
Not assessed.			
M3.E.3 M4.E.3	**Understand and/or apply basic concepts of probability or outcomes.**	**M3&4.EA.3 Understand and/or apply basic concepts of probability or outcomes.**	
M4.E.3.1 Predict and/or measure the likelihood of events.		**M3&4.EA.3.1** Predict and/or measure the likelihood of events.	**M3&4.EA.3.1 (LC)** Selects most/least likely outcome, given the characteristics of a population
M3.E.4 M4.E.4	**Develop and/or evaluate inferences and predictions or draw**		

conclusions based on data or data displays.		
Not assessed.		