Mathematics

Grade 3

PA Alternate Eligible Content

PA Reporting Category: M03.A-T Numbers and Operations in Base Ten

PA Core Standards:

CC.2.1.3.B.1 Apply place-value understanding and properties of operations to perform multi-digit arithmetic.

ASSESSMENT ANCHOR

M03.A-T.1 Use place-value understanding and properties of operations to perform multi-digit arithmetic.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.A-T.1.1 **Apply place-value strategies to solve problems.**	**M03.A-T.1.1.1** **Round two- and three-digit whole numbers to the nearest ten or hundred, respectively.**	**M03AT1.1.1a**	**Round a two-digit number to the nearest ten**
	M03.A-T.1.1.2 **Add two- and three- digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers.**	**M03AT1.1.2a**	**Demonstrate understanding of addition with small sets**
		M03AT1.1.2b	**Demonstrate understanding subtraction with small sets**
	M03.A-T.1.1.3 **Multiply one-digit whole numbers by two-digit multiples of 10 (from 10 through 90).**		
	M03.A-T.1.1.4 **Order a set of whole numbers from least to greatest or greatest to least (up through 9,999, and limit sets to no more than four numbers).**	**M03AT1.1.4a**	**Order 3 numbers under 10**

PA Reporting Category: M03.A-F Numbers and Operations - Fractions

PA Core Standards:

CC.2.1.3.C.1 Explore and develop an understanding of fractions as numbers.

ASSESSMENT ANCHOR

M03.A-F.1 Develop an understanding of fractions as numbers.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.A-F.1.1 **Develop and apply number theory concepts to compare quantities and magnitudes of fractions and whole numbers.**	**M03.A-F.1.1.1** **Demonstrate that when a whole or set is partitioned into y equal parts, the fraction 1/y represents 1 part of the whole and/or the fraction x/y represents x equal parts of the whole (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary).**	**M03AF1.1.1a**	**Identify the unit fraction or other proper fraction (denominators = 2, 3, 4, 6) that matches the representation**
	M03.A-F.1.1.2 **Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary).**		
	M03.A-F.1.1.3 **Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator).** **Example 1: 1/2 = 2/4** **Example 2: 4/6 = 2/3**	**M03AF1.1.3b**	**Identify equivalent fractions using representations**
	M03.A-F.1.1.4 **Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers (limit denominators to 1, 2, 3, 4, 6, and 8).** **Example 1: Express 3 in the form 3 = 3/1.** **Example 2: Recognize that 6/1 = 6.**		
	M03.A-F.1.1.5 **Compare two fractions with the same denominator (limit denominators to 1, 2, 3, 4, 6, and 8), using the symbols >, =, or <, and/or justify the conclusions.**		

PA Reporting Category: M03.B-O Operations and Algebraic Thinking

PA Core Standards:

CC.2.2.3.A.1 Represent and solve problems involving multiplication and division.

ASSESSMENT ANCHOR

M03.B-O.1 Represent and solve problems involving multiplication and division.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.B-O.1.1 **Understand various meanings of multiplication and division.**	**M03.B-O.1.1.1** **Interpret and/or describe products of whole numbers (up to and including 10 × 10).** **Example 1: Interpret 35 as the total number of objects in 5 groups, each containing 7 objects.** **Example 2: Describe a context in which a total number of objects can be expressed as 5 × 7.**	**M03BO1.1.1a**	**Use a model in a multiplication situation**
	M03.B-O.1.1.2 **Interpret and/or describe whole-number quotients of whole numbers (limit dividends through 50 and limit divisors and quotients through 10).** **Example 1: Interpret 48 ÷ 8 as the number of objects in each share when 48 objects are partitioned equally into 8 shares, or as a number of shares when 48 objects are partitioned into equal shares of 8 objects each.** **Example 2: Describe a context in which a number of shares or a number of groups can be expressed as 48 ÷ 8.**		
M03.B-O.1.2 **Solve mathematical and real-world problems using multiplication and division, including determining the missing number in a multiplication and/or division equation.**	**M03.B-O.1.2.1** **Use multiplication (up to and including 10 × 10) and/or division (limit dividends through 50 and limit divisors and quotients through 10) to solve word problems in situations involving equal groups, arrays, and/or measurement quantities**.		
	M03.B-O.1.2.2 **Determine the unknown whole number in a multiplication (up to and including 10 × 10) or division (limit dividends through 50 and limit divisors and quotients through 10) equation relating three whole numbers.** **Example: Determine the unknown number that makes an equation true.**		

PA Reporting Category: M03.B-O Operations and Algebraic Thinking

PA Core Standards:

CC.2.2.3.A.2 Understand properties of multiplication and the relationship between multiplication and division.

ASSESSMENT ANCHOR

M03.B-O.2 Understand properties of multiplication and the relationship between multiplication and division.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.B-O.2.1 **Use properties to simplify and solve multiplication problems.**	**M03.B-O.2.1.1** **Apply the commutative property of multiplication (not identification or definition of the property).**		
	M03.B-O.2.1.2 **Apply the associative property of multiplication (not identification or definition of the property).**		
M03.B-O.2.2 **Relate division to a missing-number multiplication equation.**	**M03.B-O.2.2.1** **Interpret and/or model division as a multiplication equation with an unknown factor.** **Example: Find 32 ÷ 8 by solving 8 × ? = 32.**		

PA Reporting Category: M03.B-O Operations and Algebraic Thinking

PA Core Standards:

CC.2.2.3.A.4 Solve problems involving the four operations, and identify and explain patterns in arithmetic.

ASSESSMENT ANCHOR

M03.B-O.3 Solve problems involving the four operations, and identify and explain patterns in arithmetic.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.B-O.3.1 **Use operations, patterns, and estimation strategies to solve problems (may include word problems).**	**M03.B-O.3.1.1** **Solve two-step word problems using the four operations (expressions are not explicitly stated). Limit to problems with whole numbers and having whole-number answers.**	**M03BO3.1.1a**	**Solve a 1-step real-world problem involving numbers under 10 using addition or subtraction**
	M03.B-O.3.1.2 **Represent two-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers.**		
	M03.B-O.3.1.3 **Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers.**		
	M03.B-O.3.1.4 **Solve two-step equations using order of operations (equation is explicitly stated with no grouping symbols).**		
	M03.B-O.3.1.5 **Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations.** **Example 1: Observe that 4 times a number is always even.** **Example 2: Explain why 6 times a number can be decomposed into three equal addends.**	**M03BO3.1.5a**	**Identify a mathematical pattern in a real-world problem**
		M03BO3.1.5b	**Identify the 3 next terms in a mathematical pattern (increasing by 2, 5 or 10)**
	M03.B-O.3.1.6 **Create or match a story to a given combination of symbols (+, –, ×, ÷, <, >, and =) and numbers.**		
	M03.B-O.3.1.7 **Identify the missing symbol (+, –, ×, ÷, <, >, and =) that makes a number sentence true.**		

PA Reporting Category: M03.C-G Geometry

PA Core Standards:

CC.2.3.3.A.1 Identify, compare, and classify shapes and their attributes.

CC.2.3.3.A.2 Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.

ASSESSMENT ANCHOR

M03.C-G.1 Reason with shapes and their attributes.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.C-G.1.1 **Analyze characteristics of polygons.**	**M03.C-G.1.1.1** **Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category.** **Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides.** **Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures.**	**M03CG1.1.1a**	**Identify similarities between two polygons**
	M03.C-G.1.1.2 **Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories.**		
	M03.C-G.1.1.3 **Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.** **Example 1: Partition a shape into 4 parts with equal areas.** **Example 2: Describe the area of each of 8 equal parts as 1/8 of the area of the shape.**	**M03CG1.1.3a**	**Partition a rectangle into parts with equal areas**

PA Reporting Category: M03.D-M Measurement and Data

PA Core Standards:

CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.
CC.2.4.3.A.2 Tell and write time to the nearest minute and solve problems by calculating time intervals.
CC.2.4.3.A.3 Solve problems and make change involving money using a combination of coins and bills.

ASSESSMENT ANCHOR

M03.D-M.1 Solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.D-M.1.1 **Determine or calculate time and elapsed time.**	**M03.D-M.1.1.1** **Tell, show, and/or write time (analog) to the nearest minute.**	**M03DM1.1.1a**	**Tell time to the hour or half hour on a clock**
	M03.D-M.1.1.2 **Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less).**		
M03.D-M.1.2 **Use the attributes of liquid volume, mass, and length of objects.**	**M03.D-M.1.2.1** **Measure and estimate liquid volumes and masses of objects using standard units (cups [c], pints [pt], quarts [qt], gallons [gal], ounces [oz.], and pounds [lb]) and metric units (liters [l], grams [g],and kilograms [kg]).**	**M03DM1.2.1a**	**Identify and use the appropriate measurement tool based on the situation**
	M03.D-M.1.2.2 **Add, subtract, multiply, and divide to solve one step word problems involving masses or liquid volumes that are given in the same units.**		
	M03.D-M.1.2.3 **Use a ruler to measure lengths to the nearest quarter inch or centimeter.**	**M03DM1.2.3a**	**Use a ruler and measure to the nearest inch (exact measurement)**
M03.D-M.1.3 **Count, compare, and make change using a collection of coins and one-dollar bills.**	**M03.D-M.1.3.1** **Compare total values of combinations of coins (penny, nickel, dime, and quarter) and/or dollar bills less than $5.00.**	**M03DM1.3.1a**	**Count money using coins or one-dollar bills**
	M03.D-M.1.3.2 **Make change for an amount up to $5.00 with no more than $2.00 change given (penny, nickel, dime, quarter, and dollar).**		
	M03.D-M.1.3.3 **Round amounts of money to the nearest dollar.**		

PA Reporting Category: M03.D-M Measurement and Data

PA Core Standards:

CC.2.4.3.A.4 Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.

ASSESSMENT ANCHOR

M03.D-M.2 Represent and interpret data.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.D-M.2.1 **Organize, display, and answer questions based on data.**	**M03.D-M.2.1.1** **Complete a scaled pictograph and a scaled bar graph to represent a data set with several categories (scales limited to 1, 2, 5, and 10).**	**M03DM2.1.1a**	**Add information to a pictograph, line plot, or bar graph**
	M03.D-M.2.1.2 **Solve one- and two-step problems using information to interpret data presented in scaled pictographs and scaled bar graphs (scales limited to 1, 2, 5, and 10).** **Example 1: (One-step) "Which category is the largest?"** **Example 2: (Two-step) "How many more are in category A than in category B?"**		
	M03.D-M.2.1.3 **Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters.**		
	M03.D-M.2.1.4 **Translate information from one type of display to another. Limit to pictographs, tally charts, bar graphs, and tables.** **Example: Convert a tally chart to a bar graph.**		

PA Reporting Category: M03.D-M Measurement and Data

PA Core Standards:

CC.2.4.3.A.5 Determine the area of a rectangle and apply the concept to multiplication and to addition.

ASSESSMENT ANCHOR

M03.D-M.3 Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.D-M.3.1 **Find the areas of plane figures.**	**M03.D-M.3.1.1** **Measure areas by counting unit squares (square cm, square m, square in., square ft., and non-standard square units).**		
	M03.D-M.3.1.2 **Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.**	**M03DM3.1.2a**	**Measure the area of a rectangle by counting squares, tiling, or addition**

PA Reporting Category: M03.D-M Measurement and Data

PA Core Standards:

CC.2.4.3.A.6 Solve problems involving perimeters of polygons and distinguish between linear and area measures.

ASSESSMENT ANCHOR

M03.D-M.4 Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

DESCRIPTOR	ELIGIBLE CONTENT	Alternate Eligible Content Code	ALTERNATE ELIGIBLE CONTENT
M03.D-M.4.1 **Find and use the perimeters of plane figures.**	**M03.D-M.4.1.1** **Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problem.**	**M03DM4.1.1a**	**Find the perimeter of a rectangle**