# *Grade 3 Teacher Resource Document*

| 3rd Grade PA Core Mathematics Standards Checklist |||||
|---|---|---|---|---|
| **M04.A-T Numbers and Operations in Base Ten Reporting Category** |||||
| **ASSESSMENT ANCHOR** |||||
| M03.A-T.1 Use place-value understanding and properties of operations to perform multi-digit arithmetic. |||||
| **DESCRIPTOR** |||||
| M03.A-T.1.1 Apply place-value strategies to solve problems. |||||
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| M03.A-T.1.1.1 Round two- and three-digit whole numbers to the nearest ten or hundred, respectively. | September Chapter 1 Lesson 4 | i-Ready 107 | Coach book Lesson 10 | |
| 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. | September Chapter 2 October Chapter 3 | i-Ready 108 | Coach book Lesson 11 | |
| M03.A-T.1.1.3 Multiply one-digit whole numbers by two-digit multiples of 10 (from 10 through 90). | October/November Chapter 4 | i-Ready 109 | Coach book Lesson 1,2 | |
| 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). | Chapter 1 Lesson 3 | i-Ready 95 | Coach book Lesson 14 | |

## 3rd Grade PA Core Mathematics Standards Checklist

**M03.A-F Numbers and Operations—Fractions Reporting Category**

**ASSESSMENT ANCHOR**

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

**DESCRIPTOR**

**M03.A-F.1.1 Develop and apply number theory concepts to compare quantities and magnitudes of fractions and whole numbers.**

| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
|---|---|---|---|---|
| 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). | Chapter 10 Lesson 1, 2, 3 | i-Ready 117 | Coach book Lesson 15,16,18 | |
| 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). | Chapter 10 Lesson 5 | i-Ready 118 | Coach book Lesson 16 | |
| 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 | Chapter 10 Lesson 6 | i-Ready 119 | Coach book Lesson 17 | |
| 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. | Chapter 10 Lesson 7 | i-Ready 121 | Coach book Lesson 18 | |
| 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 | Chapter 10 Lesson 8 | i-Ready 120 | Coach book Lesson 19 | |

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| 3rd Grade PA Core Mathematics Standards Checklist | | | | |
|---|---|---|---|---|
| **M03.B-O Operations and Algebraic Thinking Reporting Category** | | | | |
| **ASSESSMENT ANCHOR** | | | | |
| M03.B-O.1 Represent and solve problems involving multiplication and division. | | | | |
| **DESCRIPTOR** | | | | |
| M03.B-O.1.1 Understand various meanings of multiplication and division. | | | | |
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| 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. | Chapter 6 Lesson 2, 4, 7 | i-Ready 70, 74 | Coach book Lesson 1 | |
| 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. | Chapter 5 Lessons 1, 2, 3, 4, 5 | i-Ready 88 | Coach book Lesson 3,4 | |

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

DESCRIPTOR

M03.B-O.1.2 Solve mathematical and real-world problems using multiplication and division, including determining the missing number in a

| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
|---|---|---|---|---|
| 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. | Chapter 4<br>Chapter 5<br>Chapter 6<br>Chapter 7<br>Chapter 8 | i-Ready<br>71, 72, 73 | coach book<br>lesson 4 | |
| 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. | Chapter 6<br>Chapter 7<br>Chapter 8 | i-Ready<br>80, 82, 84, 85, 86, 87 | coach book<br>lesson 5 | |

**M04.B-O Operations and Algebraic Thinking Reporting Category (Part II)**

ASSESSMENT ANCHOR

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

DESCRIPTOR

M03.B-O.2.1 Use properties to simplify and solve multiplication problems.

| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
|---|---|---|---|---|
| M03.B-O.2.1.1 Apply the commutative property of multiplication (not identification or definition of the property). | Chapter 4<br>Lesson 3, 4<br>Chapter 8<br>Lesson 2 | i-Ready<br>74 , 78, 79 ,80 | coach book<br>lesson 6 | |
| M03.B-O.2.1.2 Apply the associative property of multiplication (not identification or definition of the property). | Chapter 6<br>Lesson 8<br>Chapter 9<br>Lesson 1 | | Coach book<br>Lesson 6 | |

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| M03.B-O Operations and Algebraic Thinking Reporting Category (Part II) | | | | |
|---|---|---|---|---|
| ASSESSMENT ANCHOR | | | | |
| M03.B-O.2 Understand properties of multiplication and the relationship between multiplication and division. | | | | |
| DESCRIPTOR | | | | |
| M03.B-O.2.2 Relate division to a missing- number multiplication equation. | | | | |
| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
| 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. | Chapter 5 Lessons 4, 5, 6 | i-Ready 98 , 99 ,100 | Coach book Lesson 5 | |

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| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
|---|---|---|---|---|
| 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. | Chapter 9 Lesson 8 and Problem solving strategy lesson throughout the book | i-Ready 89, 90, 101, 102 | Coach book Lesson 8 | |
| 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. | Chapter 9 Lesson 8 | i-Ready 68, 103 | Coach book Lesson 8 | |
| M03.B-O.3.1.3 Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers. | Chapter 2 Lesson 9 and Pages 115,116,117,118 | | Coach book Lesson 8 | |
| M03.B-O.3.1.4 Solve two-step equations using order of operations (equation is explicitly stated with no grouping symbols). | Chapter 9 Lesson 8 | i-Ready 49 | Coach book Lesson 8 | |
| 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. | Chapter 6 Lesson 1,6 Chapter 9 Lessons 1,2 | i-Ready 69 | Coach book Lesson 9 | |
| M03.B-O.3.1.6 Create or match a story to a given combination of symbols (+, −, ×, ÷, <, >, and =) and numbers. | Chapter 1 Lesson 3 Chapters 2,3,4.5 | | Coach book Lesson 7 | |

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| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
|---|---|---|---|---|
| M03.B-O.3.1.7 Identify the missing symbol (+, −, ×, ÷, <, >, and =) that makes a number sentence true. | Problem solving pages throughout the book | | Coach book Lesson 7 | |

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|---|---|---|---|---|
| **M03.C-G Geometry Reporting Category** | | | | |
| **ASSESSMENT ANCHOR** | | | | |
| M03.C-G.1 Reason with shapes and their attributes. | | | | |
| **DESCRIPTOR** | | | | |
| M03.C-G.1.1 Analyze characteristics of polygons. | | | | |
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| 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. | Chapter 14 Lessons 2,4,5 | i-Ready 26 | Coach book Lesson 31 | |
| 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. | Chapter 14 Lessons 2,4,5 | | Coach book Lesson 31 | |
| 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. | Chapter 10 Lessons 2,3,5,6,7 | i-Ready 25, 27 | Coach book Lesson 32 | |

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| 3rd Grade PA Core Mathematics Standards Checklist | | | | |
|---|---|---|---|---|
| **M03.D-M Measurement and Data Reporting Category** | | | | |
| **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** | | | | |
| M03.D-M.1.1 Determine or calculate time and elapsed time. | | | | |
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| M03.D-M.1.1.1 Tell, show, and/or write time (analog) to the nearest minute. | Chapter 11 Lesson 5 | i-Ready 49, 56, 57 | Coach book Lesson 21 | |
| 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). | Chapter 11 Lesson 6 | i-Ready 58, 72, 73 | Coach book Lesson 21 | |
| **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** | | | | |
| M03.D-M.1.2 Use the attributes of liquid volume, mass, and length of objects. | | | | |
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| 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]). | Chapter 11 Lessons 1,2,3,4 | i-Ready 50, 51 | Coach book Lesson 24 | |
| 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. | Chapter 11 Lessons 1,2,3,4 | i-Ready 59, 60 | Coach book Lesson 23,24 | |
| M03.D-M.1.2.3 Use a ruler to measure lengths to the nearest quarter inch or centimeter. | Chapter 12 Lesson 6 | i-Ready 64 | Coach book Lesson 22 | |

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**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**

M03.D-M.1.3 Count, compare, and make change using a collection of coins and one-dollar bills.

| ELIGIBLE CONTENT | Textbook Resources | Online Resources | Additional Resources | Assessment |
|---|---|---|---|---|
| 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. | Teacher resources | i-Ready 43, 44 | Coach book Lesson 20 | |
| 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). | Teacher resources | i-Ready 102 | Coach book Lesson 20 | |
| M03.D-M.1.3.3 Round amounts of money to the nearest dollar. | Teacher resources | | Coach book Lesson 20 | |

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| M03.D-M Measurement and Data Reporting Category (Part II) | | | | |
|---|---|---|---|---|
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| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| 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). | Chapter 12 Lessons 2, 3 | i-Ready 61, 62 | Coach book Lesson 25 | |
| 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?" | Chapter 12 Lessons 2, 3 | | Coach book Lesson 25 | |
| 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. | Chapter 12 Lessons 6, 7 | | Coach book Lesson 27 | |
| 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. | Chapter 12 Lesson 1 | | Coach book Lesson 26 | |

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| ASSESSMENT ANCHOR | | | | |
|---|---|---|---|---|
| M03.D-M.3 Geometric measurement: understand concepts of area and relate area to multiplication and to addition. | | | | |
| **DESCRIPTOR** | | | | |
| M03.D-M.3.1 Find the areas of plane figures. | | | | |
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| 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). | Chapter 13 Lessons 4, 5, 6 | i-Ready 53 | Coach book Lesson 29 | |
| 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. | Chapter 13 Lessons 4, 5, 6 | i-Ready 54, 110, 111, 112, 113 | Coach book Lesson 29 | |
| **ASSESSMENT ANCHOR** | | | | |
| M03.D-M.4 Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. | | | | |
| **DESCRIPTOR** | | | | |
| M03.D-M.4.1 Find and use the perimeters of plane figures. | | | | |
| **ELIGIBLE CONTENT** | **Textbook Resources** | **Online Resources** | **Additional Resources** | **Assessment** |
| 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. | Chapter 13 Lessons 1,2,9 | i-Ready 55, 67 | Coach book Lesson 30 | |