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MATH CONNECTS

2009

Grade 3

Correlated with

**Pennsylvania
Math Grade 3
Assessment Anchors and Eligible Content**

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M3.a Numbers and Operations	Reporting Category
ASSESSMENT ANCHOR	
M3.A.1 Demonstrate an understanding of numbers, ways of representing number, relationships among numbers and number systems.	
M3.A.1.1 Apply place-value concepts and numeration to counting, ordering, grouping and equivalency. Reference: 2.1.3.C, 2.1.3.I, 2.11.3.A	
ELIGIBLE CONTENT	
M3.A.1.1.1 Match the word name with the appropriate whole number (up through 9,999).	pp. 25-27, 28B, 28-30, 31, 37, 58
M3.A.1.1.2 Differentiate between and/or give examples of even and odd number (limit to 3 digits).	pp. 82B, 386A
M3.A.1.1.3 Compare two whole numbers using greater than (>), less than (<) or equal to (=) (up through 9,999).	pp. 5, 34-41, 44-45, 48, 56, 60-62, 64
M3.A.1.1.4 Order a set of whole numbers from least to greatest or greatest to least (up through 9,999; limit sets to no more than four numbers).	pp. 5, 38-41, 53, 60
M3.A.1.1.5 Match a symbolic representation of numbers to appropriate whole numbers (e.g., base ten blocks, 7 hundreds, 4 tens and 8 ones, etc).	pp. 4, 14H, 14, 16, 22-23, 24B, 24-27, 28B, 28-30, 42-43, 58
M3.A.1.2 Use fractions to represent quantities as part of a whole or part of a set. Reference: 2.1.3.D	
ELIGIBLE CONTENT	
M3.A.1.2.1 Write the fraction that corresponds to a drawing or part of a set (numerators 1-9, denominators 2-10. No equivalent or improper fractions or mixed numbers).	pp. 561-563, 564A, 564B, 564-567, 568-583, 590, 591, 593
M3.A.1.2.2 Create a drawing or set that represents a given fraction (numerators 1-9, denominators 2-10. No equivalent or improper fractions or mixed numbers).	pp. 558, 559-560, 561B, 563, 564B, 567, 581
M3.A.1.3 Count, compare and make change using a collection of coins and one-dollar bills. Reference: 2.1.3.E	
ELIGIBLE CONTENT	
M3.A.1.3.1 Count a collection of bills and coins less than \$5.00 (penny, nickel, dime, quarter, dollar). Money may be represented as 15 cents, 15¢ or \$0.15.	pp. 52B, 52-55, 62, 63, 386A, 618A, 618-620, 627

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M3.A.1.3.2 Compare total values of combinations of coins less than \$5.00 (penny, nickel, dime, quarter, dollar).	pp. 52B, 54, 55
M3.A.1.3.3 Make change for an amount up to \$5.00 with no more than \$2.00 change given (penny, nickel, dime, quarter, dollar).	pp. 118B, 120, 121, 123, 146
M3.A.2.1 Understand various meanings of operations and the relationship between them. <i>Reference: 2.1.3.K, 2.2.3.C, 2.5.3.C</i>	
ELIGIBLE CONTENT	
M3.A.2.1.1 Represent multiplication as repeated addition.	pp. 154, 157, 158, 162, 163, 164, 165, 167, 168, 172, 174, 179, 191-192, 204, 239, 354
M3.A.2.1.2 Demonstrate the inverse relationship between addition and subtraction using fact families and/or factors.	pp. 111-113, 119-120, 129-130, 132, 135-136, 139-140, 147, 149-150, 286
M3.A.2.1.3 Identify the correct operation(s) to solve a word problem (no more than 2 operations using +, - and/or X).	pp. 132-133, 262-263, 286
M3.A.3.1 Solve problems using addition, subtraction and multiplication (straight computation and word problems). <i>Reference: 2.1.3.L, 2.2.3.B</i>	
ELIGIBLE CONTENT	
M3.A.3.1.1 Solve single- and double- digit addition and subtraction problems with and without regrouping in vertical or horizontal form.	pp. 66-71, 78, 90-93, 96, 100, 102-104, 108, 110, 111, 112-113, 119-120, 126-150
M3.A.3.1.2 Solve problems involving multiplication through the 9's tables through 9x5.	pp. 162-164, 168-170, 174-176, 177, 186-188, 189, 191, 192, 193, 194, 203-205, 206-208, 214-216, 218, 222-224, 239, 241, 242
M3.A.3.1.3 Solve triple digit addition and subtraction problems without regrouping in vertical or horizontal form.	pp. 90-91, 92B, 92-94, 95, 100, 104, 126-127, 128B, 128-131, 147
M3.A.3.2 Use estimation skills to arrive at conclusions. <i>Reference: 2.2.3.E</i>	
ELIGIBLE CONTENT	
M3.A.3.2.1 Estimate sums and differences of quantities; round 2-digit numbers to the nearest 10, and 3 digit numbers to the nearest 100, before computing (limit to two numbers).	pp. 68, 72-77, 92, 97, 100, 102, 107, 111A, 114A-114B, 114-117, 118A, 119, 121, 122-123, 124, 125, 133, 145-146, 151, 152, 153, R4-R5, R6-R7, R8-R9

ASSESSMENT ANCHOR	
M3.B.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. Reference: 2.3.3.C, 2.3.3.D	
ELIGIBLE CONTENT	
M3.B.1.1.1 Tell/show time (analog) to the minute.	pp. 19, 454B, 454-455, 460, 463
M3.B.1.1.2 Find elapsed time to increments of 5 minutes (limited to 2 adjacent hours).	pp. 19, 383, 420G, 454B, 454-455, 460, 463
M3.B.1.1.3 Identify times of the day and night as AM and PM.	p. 455 Additional Opportunities to address: pp. 420G, 454B
M3.B.1.2 Use the attributes of length, area, volume and weight of objects. Reference: 2.3.3.A, 2.3.3.E	
ELIGIBLE CONTENT	
M3.B.1.2.1 Select an appropriate unit for the attribute being measured.	pp. 382A, 389, 413, 417, 405, 425-427, 433-434, 435, 444A, 450A, 459, 461, 463
M3.B.1.2.2 Compare and/or order objects according to length, area, or weight.	pp. 34-36, 38-41, 42-43, 398B, 404-405, 420G, 420H, 442-443, 459, 461
ASSESSMENT ANCHOR	
M3.B.2 Apply appropriate techniques, tools and formulas to determine measurements.	
M3.B.2.1 Determine the measurement of objects with non-standard and standard units. Reference: 2.3.3.B, 2.3.3.F	
ELIGIBLE CONTENT	
M3.B.2.1.1 Use a ruler (provided) to measure to the nearest ½ inch.	pp. 373-374, 375B, 375-377, 378A, 381, 391
M3.B.2.2 Estimate measurements of familiar objects. Reference: 2.3.3.G	
ELIGIBLE CONTENT	
M3.B.2.2.1 Match the object with its approximate measurement (all measurements given must be of the same system, e.g., about how tall is a soda pop can? 5 inches, 5 feet, 5 yards, etc.).	pp. 374, 378B, 378-381, 382A, 385, 386B, 388, 391, 401, 413, 417, 461

ASSESSMENT ANCHOR	
M3.C.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. Reference: 2.9.3.A	
ELIGIBLE CONTENT	
M3.C.1.1.1 Name/identify/describe geometric shapes in two dimensions (circle, square, rectangle, triangle, pentagon, hexagon, octagon).	pp. 11, 229, 363, 344, 464, 472-475, 478-481, 484-485, 488-491, 500-501, 503, 505
M3.C.1.1.2 Name/identify geometric shapes in three dimensions (sphere, cube, cylinder, cone, pyramid, rectangular prism).	pp. 10, 464-471, 476, 482, 486, 500-501
ASSESSMENT ANCHOR	
M3.C.2 Identify and/or apply concepts of transformations or symmetry.	
M3.C.2.1 Apply the concepts of transformations and symmetry. Reference: 2.9.3.E, 2.9.3.F, 2.9.3.H	
ELIGIBLE CONTENT	
M3.C.2.1.1 Identify/draw one line of symmetry in a two-dimensional figure.	pp. 464H, 488B, 488-490, 491, 500, 505, 507
M3.C.2.1.2 Identify symmetrical two-dimensional shapes.	pp. 488B, 488-490, 491, 500, 505, 507
ASSESSMENT ANCHOR	
M3.C.3 Locate points or describe relationships using the coordinate plane.	
Not assessed at Grade 3.	
ASSESSMENT ANCHOR	
M3.D.1 Demonstrate an understanding of patterns, relations and functions.	
M3.D.1.1 Recognize, describe, or extend a variety of patterns. Reference: 2.8.3.A, 2.11.3.D	
ELIGIBLE CONTENT	
M3.D.1.1.1 Extend or find a missing element in a pattern of numbers or shapes (pattern must show 3 repetitions – if multiples are used, limit to 2, 3 or 5).	pp. 7, 16-19, 21, 27, 31, 33, 56-57, 156, 200, 204, 212-213, 229, 245, 277, 305, 330, 383, 428, 471, 478-481
M3.D.1.1.2 Identify/describe the rule for a pattern shown (pattern must show 3 repetitions – if multiples are used, limit to 2, 3 or 5).	pp. 344-347, 358-359, 362, 365-366

ASSESSMENT ANCHOR	
M3.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. <i>Reference: 2.8.3.D</i>	
ELIGIBLE CONTENT	
M3.D.2.1.1 Create or match a story to a given combination of symbols (+, -, x, <, >, =) and numbers.	pp. 334, 338B, 341, 363
M3.D.2.1.2 Choose the number sentence that matches a given story (one operation, + or - only).	pp. 106, 367
M3.D.2.2 Determine the missing number or symbol in a number sentence. <i>Reference: 2.8.3.B, 2.8.3.F</i>	
ELIGIBLE CONTENT	
M3.D.2.2.1 Find a missing number that makes a number sentence true (1-digit or 2-digit numbers up to 18 using +, - or x through 9 x 5).	pp. 6, 71, 94, 187, 195, 207-208, 215-217, 220, 224, 236, 245, 269, 302, 309, 318, 323, 325-326
M3.D.2.2.2 Identify the missing symbol (+, -, =, <, >) that makes a number sentence true.	pp. 34-37, 38A, 60, 63, 141, 332, 339, 340, 341, 342A, 347, 353, 363, 367
ASSESSMENT ANCHOR	
M3.D.3 Analyze change in various contexts.	
Not assessed at Grade 3.	
ASSESSMENT ANCHOR	
M3.D.4 Describe or use models to represent quantitative relationships.	
Not assessed at Grade 3.	
ASSESSMENT ANCHOR	
M3.E.1 Formulate or answer questions that can be addressed with data and/or organized display, interpret or analyze data.	
M3.E.1.1 Answer questions based on data shown on tables, charts, and bar graphs. <i>Reference: 2.6.3.B, 2.7.3.D, 2.11.3.B</i>	
ELIGIBLE CONTENT	
M3.E.1.1.1 Analyze data shown on tables, charts, or bar graphs using the concepts of largest, smallest, most often, least often and middle.	pp. 517, 518B, 518-521, 525, 532B, 532-535
M3.E.1.1.2 Describe, interpret and/or answer questions based on data shown in tables, charts or bar graphs.	pp. 517, 518B, 518-521, 525, 532B, 532-535

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M3.E.1.2 Organize or display data using tables, charts, bar graphs. <i>Reference: 2.6.3.A, 2.7.3.C</i>	
ELIGIBLE CONTENT	
M3.E.1.2.1 Graph data or complete a graph given the data (grid is provided).	pp. 12, 13, 104, 130, 140, 173, 180, 185, 321, 340, 510, 512, 513-521, 525, 526-535, 539, 541, 547-549, 550-551, 554
M3.E.1.2.2 Translate information from one type of display to another (e.g., convert tally chart to bar graph). Limit to tally charts, bar graphs and tables.	pp. 13, 514, 515B, 515, 516, 518A, 525, 526-527, 528B, 528, 529, 530, 532A, 534, 535, 539, 549, 550, 553
ASSESSMENT ANCHOR	
M3.E.2 Select and/or use appropriate statistical methods to analyze data.	
Not assessed at Grade 3.	
ASSESSMENT ANCHOR	
M3.E.3 Understand and/or apply basic concepts of probability or outcome.	
Not assessed at Grade 3.	
ASSESSMENT ANCHOR	
M3.E.4 Develop and/or evaluate inferences and predictions or draw conclusions based on data or data displays.	
Not assessed at Grade 3.	