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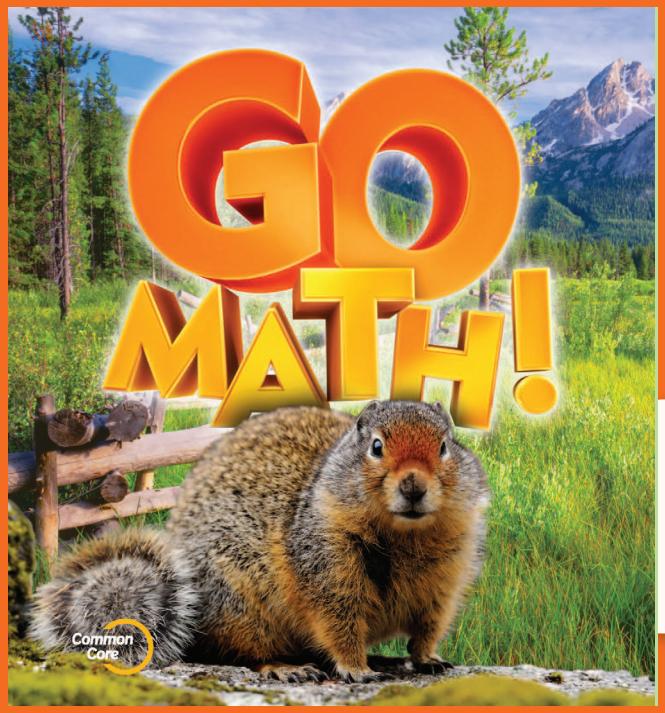

Correlation to the Common Core State Standards for Mathematics Grade 4

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Common Core Edition

correlated to the

Common Core State Standards for Mathematics
Grade 4

Standards	Descriptor	Citations
Standards for Mathematical Practice		
SMP.1	Make sense of problems and persevere in solving them.	SE: 14, 45, 70, 83, 116, 125, 131, 133, 174, 183, 185, 186, 197, 199, 209, 238, 250, 259, 294, 299, 403, 409, 423–424, 426, 429, 432, 444, 464, 469, 472, 481, 504, 521, 528, 570, 603, 614, 622, 628, 644, 648, 660, 676, 682, 719, 726, 729, 738, 743, 746 TE: 14, 45, 49, 70, 83, 113, 116, 125, 131, 133, 174, 183, 185, 186, 197, 199, 209, 238, 250, 259, 294, 299, 403, 409, 423–424, 426, 429, 432, 444, 464, 469, 472, 481, 504, 521, 528, 570, 603, 614, 622, 628, 644, 648, 660, 676, 682, 719, 726, 729, 738, 743A, 743, 746
SMP.2	Reason abstractly and quantitatively.	SE: 17, 23, 34, 39, 51, 72, 101, 107, 114, 122, 125, 127, 145, 147, 154, 165, 183, 221, 223, 235, 241, 247, 279, 291, 305, 312, 314, 335, 339, 352, 361, 367, 373, 385, 387, 418, 420, 430, 469, 496, 514, 519, 535, 578, 601, 627, 641, 648, 654, 666, 692, 698, 719, 725 TE: 5A, 17, 23, 34, 39, 45, 51, 65, 72, 77, 101, 107, 114, 122, 125, 127, 145, 147, 154, 165, 183, 221, 223, 235, 241, 247, 259A, 279, 291, 305, 312, 314, 335, 339, 352, 361, 367, 373, 385, 387, 391A, 418, 420, 430, 461A, 469, 496, 514, 519, 535, 578, 601, 627, 641, 648, 654, 666, 692, 698, 703A, 719, 725

Standards	Descriptor	Citations
SMP.3	Construct viable arguments and critique the reasoning of others.	SE: 46, 89, 96, 119, 120, 128, 132, 146, 151–152, 172, 178, 204, 212, 243, 254, 260, 288, 292, 330, 366, 372, 393, 412, 442, 470, 508, 584, 650, 662, 681, 699, 706, 744 TE: 46, 89, 96, 119, 120, 125, 128, 132, 146, 151, 152, 172, 178, 204, 212, 243, 254, 260, 288, 292, 330, 366, 372, 393, 412, 442, 470, 508, 584, 650, 662, 681, 699, 706, 744
SMP.4	Model with mathematics.	SE: 13, 17, 20, 23, 49, 52, 63, 75, 81, 87–88, 95, 102, 110, 113, 119, 121, 148, 157–158, 166, 184, 227, 247, 265, 267, 279, 285, 291, 302, 305, 328, 345, 351, 371, 385, 391, 394, 397, 400, 403, 417, 441, 456, 478, 495, 533, 550, 556, 564, 602, 623, 630, 648–649, 655, 661, 665, 667, 680, 687, 691, 717, 720 TE: 13, 17, 20, 23, 49, 52, 63A, 63, 75, 81, 87, 88, 95, 102, 110, 113, 119, 121, 148, 157, 158, 166, 184, 227, 247, 265, 267, 279, 285, 291, 291A, 302, 305, 328, 345, 351A, 351, 371, 385, 391, 394, 397, 400, 403, 417, 441A, 441, 456, 478, 495, 533, 550, 556, 564, 602, 623, 630, 648–649, 655, 661, 665, 667, 680, 687, 691, 717, 720
SMP.5	Use appropriate tools strategically.	SE: 5, 31, 77, 101, 217, 237, 262, 268, 313, 329, 336, 359, 398, 498, 555, 576, 582, 590, 613, 688, 694, 725 TE: 5, 31, 77, 101, 217, 237, 262, 268, 313, 329, 336, 359, 398, 498, 555, 576, 582, 590, 613A, 613, 688, 694, 725, 737A

Standards	Descriptor	Citations
SMP.6	Attend to precision.	SE: 5, 8, 39–40, 43, 64–65, 69, 87, 99, 115, 159, 163, 177, 179, 203, 205, 210, 227, 230, 235, 253, 256, 265, 281, 285, 301, 308, 327, 340, 347, 348, 354, 360, 365, 374, 391, 411, 435, 455, 457, 461, 481, 497, 501, 513, 520, 549, 561, 567, 575, 587, 609, 616, 621, 653, 656, 659, 686, 700, 718, 724, 730–731 TE: 6, 8, 11, 39, 40, 43, 64, 65, 69, 70, 81, 87, 89, 93, 99, 115, 151, 159, 163, 177, 179, 203, 205, 210, 227, 230, 235, 253, 256, 265, 281, 285, 301, 308, 327, 340, 347, 348, 354, 360, 365, 374, 391, 411, 435, 455, 457, 461, 481, 497, 501, 513, 520, 549A, 549, 561, 567, 575, 587A, 587, 609, 616, 621, 653, 656, 659, 686, 700, 718, 724, 730–731
SMP.7	Look for and make use of structure.	SE: 11, 19, 37, 81, 93, 120–121, 171, 173, 179, 199, 206, 215, 221, 259, 299, 302, 311, 333, 342, 346, 353, 393, 409, 417, 438, 455, 462, 471, 476–477, 502, 507, 527, 534, 563, 569, 588, 607, 642, 673, 697, 703, 723, 740 TE: 11, 19, 31, 37, 81, 93, 95, 109, 120, 121, 171, 173, 179, 199, 206, 215, 221, 259, 299, 302, 311A, 311, 333, 342, 346, 353, 393, 409, 417, 438, 455, 462, 471, 476–477, 501A, 502, 507, 527, 534, 563, 569, 588, 607, 642, 673, 697, 703, 723, 740
SMP.8	Look for and express regularity in repeated reasoning.	SE: 37, 43, 76–77, 108, 164, 198, 241, 248, 285, 301, 307, 334, 419, 435, 463, 475, 568, 576, 581, 674, 679 TE: 37, 43, 76, 108, 164, 171A, 198, 241, 248, 285, 301, 307, 334, 419, 435, 463, 475, 568, 576, 581, 674, 679

Standards	Descriptor	Citations
Standards for Mathematical Content		
4.OA	**Operations and Algebraic Thinking**	
Use the four operations with whole numbers to solve problems.		
4.OA.1	Interpret a multiplication equation as a comparison, e.g., interpret 35= 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	SE: 63–65, 66, 67–68, 69, 70–74 TE: 63A–63B, 63–68, 69A–69B, 69, 70–74
4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	SE: 64–68, 69–74, 265–267, 268, 269–270 TE: 64–68, 69–74, 265–267, 268, 269–270
4.OA.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	SE: 113–115, 116, 117–118, 131–133, 134, 135–136, 183–185, 186, 187–188, 209–211, 212, 213–214 TE: 113–115, 116, 117–118, 131–133, 134, 135–136, 183–185, 186, 187–188, 209–211, 212, 213–214
Gain familiarity with factors and multiples.		
4.OA.4	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	SE: 279–281, 282, 283–284, 285–287, 288, 289–290, 291–293, 294, 295–296, 299–301, 302, 303–304, 305–307, 308–309–310 TE: 279A–279B, 279–281, 282, 283–284, 285A–285B, 285–287, 288, 289–290, 291A–291B, 291–293, 294, 295–296, 299A–299B, 299–301, 302, 303–304, 305A–305B, 305–307, 308–309–310

Standards	Descriptor	Citations
Generate and analyze patterns.		
4.OA.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	SE: 311–313, 314, 315–316, 587–589, 590, 591–592 TE: 311A–311B, 311–313, 314, 315–316, 587A–587B, 587–589, 590, 591–592
4.NBT	**Number and Operations in Base Ten**	
Generalize place value understanding for multi-digit whole numbers.		
4.NBT.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.	SE: 5–7, 8, 9–10, 31–33, 34, 35–36 TE: 5A–5B, 5–7, 8, 9–10, 31A–31B, 31–33, 34, 35–36
4.NBT.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	SE: 11–13, 14, 15–16, 17–19, 20, 21–22 TE: 11A–11B, 11–13, 14, 15–16, 17A–17B, 17–19, 20, 21–22
4.NBT.3	Use place value understanding to round multi-digit whole numbers to any place.	SE: 23–26, 27–28 TE: 23A–23B, 23–26, 27–28

Standards	Descriptor	Citations
Use place value understanding and properties of operations to perform multi-digit arithmetic.		
4.NBT.4	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	SE: 37–39, 40, 41–42, 43–45, 46, 47–48, 49–51, 52, 53–54 TE: 37A–37B, 37–39, 40, 41–42, 43A–43B, 43–45, 46, 47–48, 49A–49B, 49–51, 52, 53–54
4.NBT.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	SE: 75–77, 79–80, 81–83, 84, 85–86, 87–89, 90, 91–92, 93–95, 96, 97–98, 99–101, 102, 103–104, 107–109, 110, 111–112, 119–121, 122, 123–124, 125–127, 128, 129–130, 145–147, 148, 149–150, 151–153, 154, 155–156, 157–159, 160, 161–162, 163–165, 166, 167–168, 171–173, 174, 175–176, 177–179, 180, 181–182 TE: 75A–75B, 75–77, 79–80, 81A–81B, 81–83, 84, 85–86, 87A–87B, 87–89, 90, 91–92, 93A–93B, 93–95, 96, 97–98, 99A–99B, 99–101, 102, 103–104, 107A–107B, 107–109, 110, 111–112, 119A–119B, 119–121, 122, 123–124, 125A–125B, 125–127, 128, 129–130, 145A–145B, 145–147, 148, 149–150, 151A–151B, 151–153, 154, 155A–155B, 155–156, 157–159, 160, 161–162, 163A–163B, 163–165, 166, 167–168, 171A–171B, 171–173, 174, 175–176, 177A–177B, 177–179, 180, 181–182
4.NBT.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	SE: 197–199, 200, 201–202, 203–205, 206, 207–208, 215–217, 218, 219–220, 221–223, 224, 225–226, 227–229, 230, 231–232, 235–237, 238, 239–240, 241–243, 244, 245–246, 247–249, 250, 251–252, 253–255, 256, 257–258, 259–261, 262, 263–264 TE: 197A–197B, 197–199, 200, 201–202, 203A–203B, 203–205, 206, 207–208, 215A–215B, 215–217, 218, 219–220, 221A–221B, 221–223, 224, 225–226, 227A–227B, 227–229, 230, 231–232, 235A–235B, 235–237, 238, 239–240, 241A–241B, 241–243, 244, 245–246, 247A–247B, 247–249, 250, 251–252, 253A–253B, 253–255, 256, 257–258, 259A–259B, 259–261, 262, 263–264

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Common Core State Standards for Mathematics, Grade 4

Standards	Descriptor	Citations
4.NF	**Number and Operations – Fractions**	
Extend understanding of fraction equivalence and ordering.		
4.NF.1	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	SE: 327–329, 330, 331–332, 333–335, 336, 337–338, 339–341, 342, 343–344, 345–347, 348, 349–350, 351–353, 354, 355–356 TE: 327A–327B, 327–329, 330, 331–332, 333A–333B, 333–335, 336, 337–338, 339A–339B, 339–341, 342, 343–344, 345A–345B, 345–347, 348, 349–350, 351A–351B, 351–353, 354, 355–356
4.NF.2	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	SE: 359–361, 362, 363–364, 365–367, 368, 369–370, 371–373, 374, 375–376 TE: 359A–359B, 359–361, 362, 363–364, 365A–365B, 365–367, 368, 369–370, 371A–371B, 371–373, 374, 375–376
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.		
4.NF.3	Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.	
4.NF.3a	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	SE: 385–387, 388, 389–390 TE: 385A–385B, 385–387, 388, 389–390
4.NF.3b	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model.	SE: 391–393, 394, 395–396, 417–419, 420, 421–422 TE: 391A–391B, 391–393, 394, 395–396, 417A–417B, 417–419, 420, 421–422
4.NF.3c	Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	SE: 423–425, 426, 427–428, 429–431, 432, 433–434, 435–437, 428, 439–440 TE: 423A–423B, 423–425, 426, 427–428, 429A–429B, 429–431, 432, 433–434, 435A–435B, 435–437, 428, 439–440

Standards	Descriptor	Citations
4.NF.3d	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	SE: 397–399, 400, 401–402, 403–405, 406, 407–408, 409–411, 412, 413–414, 441–443, 444, 445–446 TE: 397A–397B, 397–399, 400, 401–402, 403A–403B, 403–405, 406, 407–408, 409A–409B, 409–411, 412, 413–414, 441A–441B, 441–443, 444, 445–446
4.NF.4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	
4.NF.4a	Understand a fraction *a*/*b* as a multiple of 1/*b*.	SE: 455–457, 458, 459–460, 461–463, 464, 465–466, 469–471, 472, 472–474 TE: 455A–455B, 455–457, 458, 459–460, 461–463, 464, 465–466, 469–471, 472, 472–474
4.NF.4b	Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number.	SE: 455–457, 458, 459–460, 461–463, 464, 465–466, 469–471, 472, 473–474, 475–477, 478, 479–480, 481–483, 484, 485–486 TE: 455–457, 458, 459–460, 461A–461B, 461–463, 464, 465–466, 469A–469B, 469–471, 472, 473–474, 475–477, 478, 479–480, 481–483, 484, 485–486
4.NF.4c	Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.	SE: 475–477, 478, 479–480, 481–483, 484, 485–486 TE: 475A–475B, 475–477, 478, 479–480, 481A–481B, 481–483, 484, 485–486
Understand decimal notation for fractions, and compare decimal fractions.		
4.NF.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.	SE: 507–509, 510, 511–512, 527–529, 530, 531–532 TE: 507A–507B, 507–509, 510, 511–512, 527A–527B, 527–529, 530, 531–532
4.NF.6	Use decimal notation for fractions with denominators 10 or 100.	SE: 495–497, 498, 499–500, 501–503, 504, 505–506, 513–515, 516, 517–518 TE: 495A–495B, 495–497, 498, 499–500, 501A–501B, 501–503, 504, 505–506, 513A–513B, 513–515, 516, 517–518

Standards	Descriptor	Citations
4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	SE: 533–535, 536, 537–538 TE: 533A–533B, 533–535, 536, 537–538
4.MD	**Measurement and Data**	
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.		
4.MD.1	Know relative sizes of measurement units within one system of units including km, m, cm**;** kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	SE: 641–643, 644, 645–646, 647–649, 650, 651–652, 653–655, 656, 657–658, 659–661, 662, 663–664, 673–675, 676, 677–678, 679–681, 682, 683–684, 685–687, 688, 689–690, 703–705, 706, 707–708 TE: 641A–641B, 641–643, 644, 645–646, 647A–647B, 647–649, 650, 651–652, 653A–653B, 653–655, 656, 657–658, 659A–659B, 659–661, 662, 663–664, 673A–673B, 673–675, 676, 677–678, 679A–679B, 679–681, 682, 683–684, 685A–685B, 685–687, 688, 689–690, 703A–703B, 703–705, 706, 707–708
4.MD.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	SE: 519–521, 522, 523–524, 691–693, 694, 695–696, 697–699, 700, 701–702 TE: 519A–519B, 519–521, 522, 523–524, 691A–691B, 691–693, 694, 695–696, 697A–697B, 697–699, 700, 701–702
4.MD.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	SE: 717–719, 720, 721–722, 723–725, 726, 727–728, 729–731, 732, 733–734, 737–739, 740, 741–742, 743–745, 746, 747–748 TE: 717A–717B, 717–719, 720, 721–722, 723A–723B, 723–725, 726, 727–728, 729A–729B, 729–731, 732, 733–734, 737A–737B, 737–739, 740, 741–742, 743A–743B, 743–745, 746, 747–748

Standards	Descriptor	Citations
Represent and interpret data.		
4.MD.4	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.	SE: 665–667, 668, 669–670 TE: 665A–665B, 665–667, 668, 669–670
Geometric measurement: understand concepts of angle and measure angles.		
4.MD.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:	
4.MD.5a	An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.	SE: 601–603, 604, 605–606, 607–609, 610, 611–612 TE: 601A–601B, 601–603, 604, 605–606, 607A–607B, 607–609, 610, 611–612
4.MD.5b	An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	SE: 607–609, 610, 611–612 TE: 607–609, 610, 611–612
4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	SE: 613–615, 616, 617–618 TE: 613A–613B, 613–615, 616, 617–618
4.MD.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	SE: 621–623, 624, 625–626, 627–629, 630, 631–632 TE: 621A–621B, 621–623, 624, 625–626, 627A–627B, 627–629, 630, 631–632

Standards	Descriptor	Citations
4.G	**Geometry**	
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.		
4.G.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	SE: 549–551, 552, 553–554, 561–563, 564, 565–566 TE: 549A–549B, 549–551, 552, 553–554, 561A–561B, 561–563, 564, 565–566
4.G.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	SE: 555–557, 558, 559–560, 567–569, 570, 571–572 TE: 555A–555B, 555–557, 558, 559–560, 567A–567B, 567–569, 570, 571–572
4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	SE: 575–577, 578, 579–580, 581–583, 584, 585–586 TE: 575A–575B, 575–577, 578, 579–580, 581A–581B, 581–583, 584, 585–586