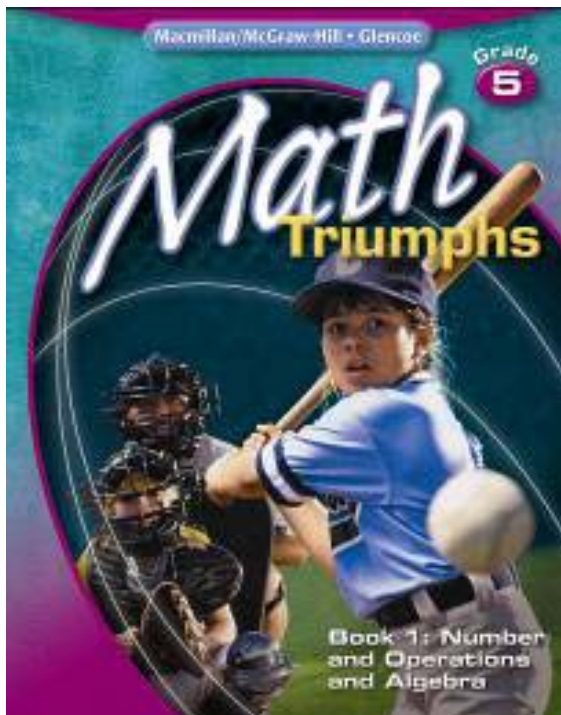


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Fifth Grade Mathematics
Grade Level Content
Expectations



Math
Triumphs

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| STANDARDS | PAGE REFERENCES |
|---|--|
| NUMBER AND OPERATIONS | |
| Understand division of whole numbers | |
| <p>N.MR.05.01 Understand the meaning of division of whole numbers with and without remainders; relate division to fractions and to repeated subtraction.</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 90, 91, 92-98, 99-105, 106, 107-112, 113-119, 120, 121-126, 127-133, 134, 135-137, 139</p> <p>Teacher Edition: AE 93-94, 100, 107-108, 113-114, 121-122; ATGI 102; CEA 116; KV 90; UM 115; WIC 114</p> |
| <p>N.MR.05.02 Relate division of whole numbers with remainders to the form $a = bq + r$, e.g., $34 \div 5 = 6 \text{ r } 4$, so $5 \cdot 6 + 4 = 34$; note remainder (4) is less than divisor (5).</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 113-119, 120, 121-126, 127-133, 134, 136-137, 138-139</p> <p>Teacher Edition: AE 114; ATGI 115; LA 112; TOD 119; UM 115; WIC 114</p> |

Codes used for Teacher Edition pages are the initial caps of headings on that page.

Correlation codes beginning with “G5” refer to the Focal Point. Full descriptions of the Focal Points are located in the front matter of all *Math Triumphs* © 2009 Teacher Editions.

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| STANDARDS | PAGE REFERENCES |
|--|---|
| <p>N.MR.05.03 Write mathematical statements involving division for given situations.</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 92-98, 99-105, 106, 107-112, 113-119, 120, 121-126, 127-133, 134, 138-139</p> <p>Teacher Edition: AE 93-94, 100, 107-108, 113-114, 121-122, 127-128; ATGI 96; IS 103, 108, 125; MC 97; TOD 112, 119, 126</p> |
| Multiply and divide whole numbers | |
| <p>N.FL.05.04 Multiply a multi-digit number by a two-digit number; recognize and be able to explain common computational errors such as not accounting for place value.</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 68-74, 80, 81, 85, 87</p> <p>Teacher Edition: AE 68-69; ATGI 71; CEA 69, 70, 71; ELS 69, 71, 72; HP A42; IS 73; KC 68; MC 73; PSP A41; SP A40; UM 70; WIC 70</p> |
| <p>N.FL.05.05 Solve applied problems involving multiplication and division of whole numbers.*</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 92, 95-98, 102-105, 106 #15-#17, 107, 110-112, 113, 116-119, 120 #17-#19, 124-126, 130-133, 134 #17, 139</p> <p>Teacher Edition: CEA 104; HP A53, A57, A61, A65, A69, A73; PSP A52, A56, A60, A64, A68, A72</p> |
| <p>N.FL.05.06 Divide fluently up to a four-digit number by a two-digit number.</p> <p>G5-FP1/G5-FP7C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| Find prime factorizations of whole numbers | |
| <p>N.MR.05.07 Find the prime factorization of numbers from 2 through 50, express in exponential notation, e.g., $24 = 2^3 \times 3^1$, and understand that every whole number greater than 1 is either prime or can be expressed as a product of primes.*</p> <p>G5-FP2/G5-FP4C</p> | <p>Student Edition: 205-212, 213, 234</p> <p>Teacher Edition: AE 206-207; CEA 209; IS 207, 211; KC 205; LA 212; MCN 209; NT 206; SDSW 212; TOD 212; UM 208; WIC 208</p> |

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| STANDARDS | PAGE REFERENCES |
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| Understand meaning of decimal fractions and percentages | |
| <p>N.ME.05.08 Understand the relative magnitude of ones, tenths, and hundredths and the relationship of each place value to the place to its right, e.g., one is 10 tenths, one tenth is 10 hundredths.</p> <p>G5-FP7C</p> | <p>Student Edition: 280-286, 287-293, 294, 303-309, 311-316, 317-323, 407-411, 427, 446, 447</p> <p>Teacher Edition: AE 281-282, 287-288, 304, 319, 407; ATGI 283, 290, 314; HP A207; IS 315, 407; SP A205; UM 282, 305</p> |
| <p>N.ME.05.09 Understand percentages as parts out of 100, use % notation, and express a part of a whole as a percentage.</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| Understand fractions as division statements; find equivalent fractions | |
| <p>N.ME.05.10 Understand a fraction as a statement of division, e.g., $2 \div 3 = 2/3$, using simple fractions and pictures to represent.</p> <p>G5-FP7C</p> | <p>Student Edition: 94-95, 98, 182-188, 197-204, 213, 233, 236</p> <p>Teacher Edition: AE 94, 183, 198-200; CEA 202; HP A107; IS 199; MCN 184, 201; PSP A106; SDSW 204; SP A105; TOD 204; UM 200; VELD A104; WIC 95</p> |
| <p>N.ME.05.11 Given two fractions, e.g., $\frac{1}{2}$ and $\frac{1}{4}$, express them as fractions with a common denominator, but not necessarily a <u>least</u> common denominator, e.g., $\frac{1}{2} = \frac{4}{8}$ and $\frac{3}{4} = \frac{6}{8}$; use denominators less than 12 or factors of 100.*</p> <p>G5-FP2/G5-FP4C</p> | <p>Student Edition: 205-212, 213, 216-222, 231, 234-235, 236, 257-262, 263-268, 269</p> <p>Teacher Edition: AE 206-207, 216-217, 257-258, 264; ATGI 219, 260, 266; CEA 266; KC 257, 263; LA 262; MCN 260, 267; SDSW 262; UM 259, 265</p> |
| Multiply and divide fractions | |
| <p>N.ME.05.12 Find the product of two unit fractions with small denominators using an area model.*</p> <p>G5-FP2/G5-FP4C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>N.MR.05.13 Divide a fraction by a whole number and a whole number by a fraction, using simple unit fractions.*</p> <p>G5-FP2/G5-FP4C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |

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| STANDARDS | PAGE REFERENCES |
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| Add and subtract fractions using common denominators | |
| <p>N.FL.05.14 Add and subtract fractions with unlike denominators through 12 and/or 100, using the common denominator that is the product of the denominators of the 2 fractions, e.g., $3/8 + 7/10$: use 80 as the common denominator.*</p> <p>G5-FP2/G5-FP4C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| Multiply and divide by powers of ten | |
| <p>N.MR.05.15 Multiply a whole number by powers of 10: 0.01, 0.1, 1, 10, 100, 1,000; and identify patterns.</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 41-46, 53 #47, 54, 55, 62-66, 67, 68-74, 81, 83, 85</p> <p>Teacher Edition: AE 41-42, 62, 68-69; ATGI 41, 64; CEA 69, 70; HP A26, A38; KC 40, 65; MC 55; MCN 44; SDSW 46, 66; SP A24, A36; UM 43; WIC 42, 63</p> |
| <p>N.FL.05.16 Divide numbers by 10's, 100's, 1,000's using mental strategies.</p> <p>G5-FP1/G5-FP7C</p> | <p>Student Edition: 100-104, 106 #5-#6</p> <p>Teacher Edition: AE 100; CEA 106; IS 100, 101, 103; HP A57; MC 104; PSP A56; SP A55; UM 101; WIC 101</p> |
| <p>N.MR.05.17 Multiply one-digit and two-digit whole numbers by decimals up to two decimal places.</p> <p>G5-FP2/G5-FP4C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| Solve applied problems with fractions | |
| <p>N.FL.05.18 Use mathematical statements to represent an applied situation involving addition and subtraction of fractions.*</p> <p>G5-FP2/G5-FP4C</p> | <p>Student Edition: 246-248, 252-255, 256, 260-262, 266-268, 269 #15-#16, 274-275</p> <p>Teacher Edition: CEA 246, 247, 252, 256; HP A126 #13, A130 #11, A134 #10-#11, A138 #9-#10; IS 254; MCN 275; PSP A125, A129, A133, A137</p> |

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| STANDARDS | PAGE REFERENCES |
|---|--|
| <p>N.MR.05.19 Solve contextual problems that involve finding sums and differences of fractions with unlike denominators using knowledge of equivalent fractions.*</p> <p>G5-FP2/G5-FP4C</p> | <p>Student Edition: 260-262, 266-268, 269 #15-#16, 275</p> <p>Teacher Edition: CEA 266; HP A134 #10-#11, A138 #9-#10; PSP A133, A137; VELD A131, A135</p> |
| <p>N.FL.05.20 Solve applied problems involving fractions and decimals; include rounding of answers and checking reasonableness.*</p> <p>G5-FP2/G5-FP4C</p> | <p>Student Edition: 246-248, 252-255, 256, 260-262, 266-268, 269 #15-#16, 274-275, 305-309, 310 #12, 314-316, 320-323</p> <p>Teacher Edition: AE 304; HP A126 #13, A130 #11, A134 #10-#11, A138 #9-#10; IS 254, 318; MCN 275; PSP A125, A129, A133, A137</p> |
| <p>N.MR.05.21 Solve for the unknown in equations such as $\frac{1}{4} + x = \frac{7}{12}$.*</p> <p>G5-FP4C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>Express, interpret, and use ratios; find equivalences</p> | |
| <p>N.MR.05.22 Express fractions and decimals as percentages and vice versa.</p> <p>G5-FP7C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>N.ME.05.23 Express ratios in several ways given applied situations, e.g., 3 cups to 5 people, 3 : 5, 3/5; recognize and find equivalent ratios.</p> | <p>Student Edition: 189-195, 196</p> <p>Teacher Edition: AE 190; ATGI 192; CEA 192, 193; HP A103; IS 189, 193, 194; KC 189; MC 195; MCN 192; PSP A102; SDSW 195; SP A101; TOD 195; UM 191; VELD A100; WIC 191</p> |

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| STANDARDS | PAGE REFERENCES |
|---|---|
| MEASUREMENT | |
| Know, and convert among, measurement units within a given system | |
| <p>M.UN.05.01 Recognize the equivalence of 1 liter, 1,000 ml and 1,000 cm³ and include conversions among liters, milliliters, and cubic centimeters.</p> <p>G5-FP5C</p> | <p>Student Edition: 406-411, 412-417, 418, 427, 441-442, 446</p> <p>Teacher Edition: AE 407, 413-414; ATGI 409, 415; ELS 413; HP A207, A211; IS 415; KC 406, 412; LA 411; PSP A206, A210; SDSW 411; SP A205, A209; UM 408; VELD A204; WIC 408, 414</p> |
| <p>M.UN.05.02 Know the units of measure of volume: cubic centimeter, cubic meter, cubic inches, cubic feet, cubic yards, and use their abbreviations (cm³, m³, in³, ft³, yd³).</p> <p>G5-FP3/G5-FP5C</p> | <p>Student Edition: 431-433, 437-439, 440</p> <p>Teacher Edition: ATGI 437; LA 433</p> |
| <p>M.UN.05.03 Compare the relative sizes of one cubic inch to one cubic foot, and one cubic centimeter to one cubic meter.</p> <p>G5-FP3/G5-FP5C</p> | <p>Student Edition: 436</p> <p>Teacher Edition: MCN 436</p> |
| <p>M.UN.05.04 Convert measurements of length, weight, area, volume, and time within a given system using easily manipulated numbers.</p> <p>G5-FP5C</p> | <p>Student Edition: 406-411, 412-417, 418, 427, 441-442, 446</p> <p>Teacher Edition: AE 407, 413-414; ATGI 409, 415; ELS 413; HP A207, A211; IS 415; KC 406, 412; LA 411; PSP A206, A210; SDSW 411, 417; SP A205, A209; UM 408; VELD A204; WIC 408, 414</p> |
| Find areas of geometric shapes using formulas | |
| <p>M.PS.05.05 Represent relationships between areas of rectangles, triangles, and parallelograms using models.</p> <p>G5-FP3/G5-FP5C</p> | <p>Student Edition: 367, 380-381, 384, 386, 387, 389</p> <p>Teacher Edition: ELS 384; IS 384; KC 380; LA 386; MCN 381, 389; V 387</p> |

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| STANDARDS | PAGE REFERENCES |
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| <p>M.TE.05.06 Understand and know how to use the area formula of a triangle: $A = \frac{1}{2}bh$ (where b is length of the base and h is the height), and represent using models and manipulatives.</p> <p>G5-FP5C</p> | <p>Student Edition: 387-394, 395, 399, 401, 402-403</p> <p>Teacher Edition: AE 388; ATGI 390; CEA 391; HP A201; IS 388, 391, 393; KC 387; PSP A200; SDSW 394; SP A199; TOD 394; V 387; VELD A198</p> |
| <p>M.TE.05.07 Understand and know how to use the area formula for a parallelogram: $A = bh$, and represent using models and manipulatives.</p> <p>G5-FP5C</p> | <p>Student Edition: 380-386, 395, 399, 401</p> <p>Teacher Edition: AE 380-381; ATGI 383; CEA 382; ELS 384; HP A197; IS 382, 384; KC 380; MCN 381, 383; NT 383; PSP A196; SDSW 386; SP A195; UM 382; VELD A194; WIC 381</p> |
| <p>Understand the concept of volume</p> | |
| <p>M.TE.05.08 Build solids with unit cubes and state their volumes.</p> <p>G5-FP3/G5-FP5C</p> | <p>Student Edition: 427, 428-433, 440, 444-445, 447</p> <p>Teacher Edition: AE 428-429, 434-435; ATGI 431, 437; HP A219, A223; IS 430, 436; KC 428; MCN 437; PSP A218; SDSW 433; SP A217, A221; UM 436; VELD A216; WIC 429</p> |
| <p>M.TE.05.09 Use filling (unit cubes or liquid), and counting or measuring to find the volume of a cube and rectangular prism.</p> <p>G5-FP3/G5-FP5C</p> | <p>Student Edition: 427, 428-433, 440, 444-445, 447</p> <p>Teacher Edition: AE 428-429, 434-435; ATGI 431, 437; HP A219, A223; IS 430, 436; KC 428; MCN 437; PSP A218; SDSW 433; SP A217, A221; UM 436; VELD A216; WIC 429</p> |
| <p>M.PS.05.10 Solve applied problems about the volumes of rectangular prisms using multiplication and division and using the appropriate units.</p> <p>G5-FP3/G5-FP5C</p> | <p>Student Edition: 431-433, 437-439, 440, 447</p> <p>Teacher Edition: HP A219 #7, A223 #7-#8; PSP A218, A222</p> |

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| STANDARDS | PAGE REFERENCES |
|--|---|
| GEOMETRY | |
| Know the meaning of angles, and solve problems | |
| <p>G.TR.05.01 Associate an angle with a certain amount of turning; know that angles are measured in degrees; understand that 90°, 180°, 270°, and 360° are associated respectively, with $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$, and full turns.</p> <p>G5-FP3</p> | <p>Student Edition: 334-336, 341-347</p> <p>Teacher Edition: AE 342; HP A174; KC 341; MCN 343; SP A172; UM 343; VELD A167</p> |
| <p>G.GS.05.02 Measure angles with a protractor and classify them as acute, right, obtuse, or straight.</p> <p>G5-FP3</p> | <p>Student Edition: 334-340, 341-347</p> <p>Teacher Edition: AE 335, 342; ATGI 344; KC 341; MCN 345</p> |
| <p>G.GS.05.03 Identify and name angles on a straight line and vertical angles.</p> <p>G5-FP5C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>G.GS.05.04 Find unknown angles in problems involving angles on a straight line, angles surrounding a point, and vertical angles.</p> <p>G5-FP5C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>G.GS.05.05 Know that angles on a straight line add up to 180° and angles surrounding a point add up to 360°; justify informally by “surrounding” a point with angles.</p> <p>G5-FP5C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>G.GS.05.06 Understand why the sum of the interior angles of a triangle is 180° and the sum of the interior angles of a quadrilateral is 360°, and use these properties to solve problems.</p> <p>G5-FP2</p> | <p>Student Edition: 344</p> <p>Teacher Edition: ATGI 344; HP A174; SP A172</p> |

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| STANDARDS | PAGE REFERENCES |
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| Solve problems about geometric shapes | |
| <p>G.GS.05.07 Find unknown angles and sides using the properties of: triangles, including right, isosceles, and equilateral triangles; parallelograms, including rectangles and rhombuses; and trapezoids.</p> <p>G5-FP2</p> | <p>Student Edition: 334-340, 341-347</p> <p>Teacher Edition: AE 335, 342; CEA 337; IS 334, 338, 339; KC 341; LA 340; MC 339; MCN 335</p> |
| DATA AND PROBABILITY | |
| Construct and interpret line graphs | |
| <p>D.RE.05.01 Read and interpret line graphs, and solve problems based on line graphs, e.g., distance-time graphs, and problems with two or three line graphs on same axes, comparing different data.</p> <p>G5-FP4C/G5-FP6C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>D.RE.05.02 Construct line graphs from tables of data; include axis labels and scale.</p> <p>G5-FP4C/G5-FP6C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| Find and interpret mean and mode for a given set of data | |
| <p>D.AN.05.03 Given a set of data, find and interpret the mean (using the concept of fair share) and mode.</p> <p>G5-FP4C/G5-FP6C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |
| <p>D.AN.05.04 Solve multi-step problems involving means.</p> <p>G5-FP4C/G5-FP6C</p> | <p>This standard falls outside the scope of <i>Math Triumphs Grade 5</i> © 2009.</p> |

* revised expectations in italics