

Houghton Mifflin Math Expressions
Grade 5
 correlated to
Illinois Learning Standards for Mathematics

Illinois Learning Standards for Mathematics Late Elementary	<i>Houghton Mifflin Math Expressions</i>
STATE GOAL 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.	
A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	
6.A.2 Compare and order whole numbers, fractions and decimals using concrete materials, drawings and mathematical symbols.	SAB: 187, 188 TG: 172, 173, 196, 356–357, 359, 360, 361, 362, 401, 409, 457 H/R: 47, 99
B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	
6.B.2 Solve one- and two-step problems involving whole numbers, fractions and decimals using addition, subtraction, multiplication and division.	SAB: 113, 115, 116, 117, 118, 119, 120, 141, 142, 143, 144, 150, 151, 190–192, 196, 197, 200, 201, 252, 255, 257, 258, 259, 266, 274, 278, 279, 281, 308, 309 TG: 199–200, 201, 204–205, 206, 207, 210–211, 212–213, 214, 215, 218, 219, 221, 264–266, 267, 268, 283, 288, 366, 367, 372, 373, 392, 393, 396–397, 398, 399, 406, 410–411, 412, 413, 536, 546, 547, 552–554, 566, 585, 594, 596, 600, 649, 650, 714 H/R: 55, 57, 59, 61, 75, 81, 97–98, 101, 103, 109, 111, 113, 115, 119, 141, 143, 145, 149, 151, 153, 159, 161, 163, 167, 171, 173, 175, 177, 191, 195
C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.	
6.C.2a Select and perform computational procedures to solve problems with whole numbers, fractions and decimals.	TG: 102, 104 H/R: 29
6.C.2b Show evidence that computational results using whole numbers, fractions and decimals are correct and/or that estimates are reasonable.	SAB: 129, 256, 287, 288, 289, 290 TG: 240–241, 243, 244, 459, 467, 548, 614–615, 616, 620–621, 622, 623 H/R: 67
D. Solve problems using comparison of quantities, ratios, proportions and percents.	
6.D.2 Describe the relationship between two sets of data using ratios and appropriate notations (e.g., a/b , a to b , $a:b$).	SAB: 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413 TG: 862–866, 867–868, 869, 872–873, 874, 875, 876, 878–879, 880–881, 882, 883, 884, 886, 888, 887 H/R: 231, 233, 235, 237, 239

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STATE GOAL 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.	
A. Measure and compare quantities using appropriate units, instruments and methods.	
7.A.2a Calculate, compare and convert length, perimeter, area, weight/mass and volume within the customary and metric systems.	SAB: 71, 72, 87, 88, 90, 91, 101, 224, 231, 232, 233, 234 TG: 124, 125, 144, 145, 148, 152–153, 178–179, 482, 483, 494–495, 496, 497, 500, 501, 502, 503, 574 H/R: 35, 41, 43, 135, 137
7.A.2b Solve addition, subtraction, multiplication and division problems using currency.	SAB: 281, 295, 301 TG: 201, 215, 291, 600, 603, 632–633, 640–641 H/R: 55, 59, 81, 163
B. Estimate measurements and determine acceptable levels of accuracy.	
7.B.2a Determine and communicate possible methods for estimating a given measure, selecting proper units in both customary and metric systems.	SAB: 73, 230, 271 TG: 126, 149, 155–156, 483, 490, 580
7.B.2b Estimate conversions between measures within the customary and metric systems.	TG: 157 H/R: 137
C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	
7.C.2a Describe relationships in a simple scale drawing.	SAB: 435, 436, 437 TG: 932–933, 934, 935, 938 H/R: 249
7.C.2b Construct or draw figures with given perimeters and areas.	SAB: 438 TG: 127, 157, 939–940, 941 H/R: 251
STATE GOAL 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.	
A. Describe numerical relationships using variables and patterns.	
8.A.2a Identify, describe, extend and create geometric and numeric patterns.	SAB: 11, 23, 24, 25, 105, 242, 253, 254 TG: 7, 16–17, 44–47, 49, 184–185, 439, 516, 517, 537, 540–541, 542, 694, 695, 696, 697, 698
8.A.2b Construct and solve number sentences using a variable to represent an unknown quantity.	SAB: 9, 14, 28, 49, 50, 141, 142, 143, 145, 146, 147 TG: 12, 27, 29, 41, 53–54, 76–77, 78, 79, 103, 264–267, 269, 272–274, 275, 277 H/R: 23, 77

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B. Interpret and describe numerical relationships using tables, graphs and symbols.	
8.B.2 Analyze a geometric pattern and express the results numerically.	TG: 125, 694, 696
C. Solve problems using systems of numbers and their properties.	
8.C.2 Explain operations and number properties including commutative, associative, distributive, transitive, zero, equality and order of operations.	SAB: 11, 61, 62, 63, 123, 124, 196, 350 TG: 19–20, 83, 87, 102, 106–108, 109, 111, 224–225, 226, 227, 392, 744
D. Use algebraic concepts and procedures to represent and solve problems.	
8.D.2 Solve linear equations involving whole numbers.	SAB: 14, 49, 50, 59, 60, 141, 142, 143, 145, 146, 147 TG: 27, 29, 41, 76–77, 78, 79, 98–101, 146, 264–267, 269, 272–274, 275–276 H/R: 7, 23, 77
STATE GOAL 9: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	
A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	
9.A.2a Build physical models of two- and three-dimensional shapes.	SAB: 379 TG: 813, 816, 818, 819, 821
9.A.2b Identify and describe how geometric figures are used in practical settings (e.g., construction, art, advertising).	TG: 310, 382, 524
9.A.2c Describe and draw representations of geometric relationships, patterns, symmetries, and designs in two- and three-dimensions with and without technology.	SAB: 155, 161, 162, 164, 165, 167, 169, 170, 171, 172, 173, 174 TG: 298–299, 306–307, 308, 309, 312, 313–314, 315, 318–319, 320, 321, 324, 325–326 H/R: 85, 87, 89, 91
B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	
9.B.2 Compare geometric figures and determine their properties including parallel, perpendicular, similar, congruent and line symmetry.	SAB: 155, 165, 173, 174, 175, 427, 428, 429 TG: 298–299, 312, 324, 325–326, 327, 328, 924, 925–926, 927, 929 H/R: 91, 247
C. Construct convincing arguments and proofs to solve problems.	
9.C.2 Formulate logical arguments about geometric figures and patterns and communicate reasoning.	TG: 132–133, 135, 138, 141, 149, 157, 483, 491, 813, 818, 821, 827

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D. Use trigonometric ratios and circular functions to solve problems.	
No benchmark expectations at this grade level.	
STATE GOAL 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.	
A. Organize, describe and make predictions from existing data.	
10.A.2a Organize and display data using pictures, tallies, tables, charts, bar graphs, line graphs, line plots and stem-and-leaf graphs.	SAB: 132, 135, 138, 214 TG: 35, 36, 74, 235, 248, 249, 254, 255, 256, 259, 261, 262, 286, 381, 448 H/R: 69, 71, 73
10.A.2b Using a data set, determine mean, median, mode and range, with and without the use of technology.	SAB: 152, 279, 286 TG: 290, 596, 610, 611
10.A.2c Make predictions and decisions based on data and communicate their reasoning.	SAB: 19, 125, 131, 133, 134, 137, 138, 140 TG: 35, 233, 246–247, 252–253, 258, 259, 260, 261, 334 H/R: 69, 71, 73, 93
B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	
10.B.2a Formulate questions of interest and select methods to systematically collect data.	TG: 249, 333, 448
10.B.2b Collect, organize and display data using tables, charts, bar graphs, line graphs, circle graphs, line plots and stem-and-leaf graphs.	SAB: 132, 135, 138, 214 TG: 35, 36, 74, 235, 248, 249, 254, 255, 256, 259, 261, 262, 286, 333, 381, 448 H/R: 69, 71, 73
10.B.2c Analyze the data using mean, median, mode and range, as appropriate, with or without the use of technology.	SAB: 152, 279, 286 TG: 290, 596, 610, 611
10.B.2d Interpret results or make relevant decisions based on the data gathered.	SAB: 19, 125, 131, 133, 134, 137, 138, 140 TG: 34, 233, 246–247, 252–253, 258, 259, 260, 261, 334 H/R: 69, 71, 73, 93
C. Determine, describe and apply the probabilities of events.	
10.C.2a Calculate the probability of a simple event.	SAB: 211, 212, 213, 423–424 TG: 442–444, 445–447, 449, 915, 916, 917 H/R: 123, 245

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10.C.2b Compare the likelihood of events in terms of certain, more likely, less likely or impossible.	SAB: 211, 212 TG: 442–444, 445-447, 449
10.C.2c Determine the probability of an event involving “and”, “or” or “not”.	SAB: 213 TG: 447, 917