

Houghton Mifflin Math 2007
Grade 4
correlated to
Illinois Learning Standards for Mathematics

Illinois Learning Standards for Mathematics Late Elementary	<i>Houghton Mifflin Math 2007</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.	PE: 24–25, 26–28, 30–32, 46–47, 498–500, 558–559, 560–562 TE: 24A–24B, 24–25, 26A–26B, 26–28, 30A–30B, 30–32, 46, 498A–498B, 498–500, 558A–558B, 558–559, 560A–560B, 560–562
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.	Representative pages: PE: 76–78, 84–87, 92–93, 94–97, 98–99, 102–103, 516–519, 520–521, 528–529, 530–532, 572–573, 574–575 TE: 76A–76B, 76–78, 84A–84B, 84–87, 92A–92B, 92–93, 94A–94B, 94–97, 98A–98B, 98–99, 102A–102B, 102–103, 516A–516B, 516–519, 520A–520B, 520–521, 528A–528B, 528–529, 530A–530B, 530–532, 572A–572B, 572–573, 574A–574B, 575–575
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.	PE: 12, 42, 78, 124, 158, 166, 188, 212, 222, 242, 246, 266, 342, 350, 362, 420, 438, 446, 472, 506, 526, 536, 556, 576–579, 606, 630 TE: 526A–526B, 526, 576A–576B, 576–579
6.C.2b Show evidence that computational results using whole numbers, fractions and decimals are correct and/or that estimates are reasonable.	Representative pages: PE: 64–67, 68–69, 146–147, 148–149, 210–213, 220–223, 274–275, 286–287, 524–525, 570–571, 576–579 TE: 38A–38B, 64A–64B, 64–67, 68A–68B, 68–69, 146A–146B, 146–147, 148A–148B, 148–149, 210A–210B, 210–213, 220A–220B, 220–223, 274A–274B, 274–275, 286A–286B, 286–287, 524A–524B, 524–525, 570A–570B, 570–571, 576A–576B, 576–579

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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).	
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.	PE: 306–307, 308–309, 312–315, 318–319, 320–321, 325, 326–329, 452–453, 454–455, 456–459, 460–463, 468–469 TE: 306A–306B, 306–307, 308A–308B, 308–309, 312A–312B, 312–315, 318A–318B, 318–319, 320A–320B, 320–321, 325, 326A–326B, 326–329, 452A–452B, 452–453, 454A–454B, 454–455, 456A–456B, 456–459, 460A–460B, 460–463, 468A–468B, 468–469
7.A.2b Solve addition, subtraction, multiplication and division problems using currency.	PE: 70–71, 72–73, 74–75, 77–78, 160–161, 164–165, 234–236 TE: 70A–70B, 70–71, 72–75, 76, 78, 110B, 160–161, 234A–234B, 522B
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.	PE: 306–307, 312–314, 318–319 TE: 306A–306B, 306–307, 312A–312B, 312–314, 318A–318B, 318–319
7.B.2b Estimate conversions between measures within the customary and metric systems.	PE: 329 TE: 329
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.	PE: 584 TE: 584
7.C.2b Construct or draw figures with given perimeters and areas.	PE: 453 TE: 453

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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.	PE: 90–91, 146–147, 172–173, 218–219, 247, 418–420, 447, 476–477, 554–556 TE: 90A–90B, 90–91, 146A–146B, 146–147, 172A–172B, 172–173, 218A–218B, 218–219, 247, 418A–418B, 418–420, 447, 476, 554A–554B, 554–556
8.A.2b Construct and solve number sentences using a variable to represent an unknown quantity.	PE: 118–120, 122–123, 126–127, 496, 519 TE: 118A–118B, 118–120, 122A–122B, 122–123, 126A–126B, 126–127, 496, 519
B. Interpret and describe numerical relationships using tables, graphs and symbols.	
8.B.2 Analyze a geometric pattern and express the results numerically.	PE: 258–260 TE: 258A–258B, 258–260
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.	PE: 60–61, 84–86, 100–101, 110–111, 176–177, 178–180 TE: 60A–60B, 60–61, 84A–84B, 84–86, 100A–100B, 100–101, 108C, 110A–110B, 110–111, 176A–176B, 176–177, 178A–178B, 178–180
D. Use algebraic concepts and procedures to represent and solve problems.	
8.D.2 Solve linear equations involving whole numbers.	PE: 122–123 TE: 122A–122B, 122–123
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.	PE: 438, 464–467 PE: 464A–464B, 464–467
9.A.2b Identify and describe how geometric figures are used in practical settings (e.g., construction, art, advertising).	PE: 414, 425, 447, 463, 476–477 TE: 414, 425, 447, 463, 476
9.A.2c Describe and draw representations of geometric relationships, patterns, symmetries, and designs in two- and three-dimensions with and without technology.	PE: 430–433, 434, 440–443, 476–477 TE: 430B, 430–433, 434, 440A–440B, 440–443, 476

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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.	PE: 404–407, 412–414, 430–433, 440–443 TE: 404A–404B, 404–407, 412A–412B, 412–414, 430A–430B, 430–433, 440A–440B, 440–443
C. Construct convincing arguments and proofs to solve problems.	
9.C.2 Formulate logical arguments about geometric figures and patterns and communicate reasoning.	PE: 414, 425, 447, 463, 476–477 TE: 414, 425, 447, 463, 476
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.	PE: 356–358, 360–362, 366–368, 370–371, 376–377, 382–383 TE: 356A–356B, 356–358, 360A–360B, 360–362, 366A–366B, 366–368, 370A–370B, 370–371, 376A–376B, 376–377, 382A–382B, 382–383
10.A.2b Using a data set, determine mean, median, mode and range, with and without the use of technology.	PE: 364–365 TE: 364A–364B, 364–365
10.A.2c Make predictions and decisions based on data and communicate their reasoning.	PE: 384–385 TE: 384A–384B, 384–385
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.	PE: 356–358 TE: 356A–356B, 356–358
10.B.2b Collect, organize and display data using tables, charts, bar graphs, line graphs, circle graphs, line plots and stem-and-leaf graphs.	PE: 356–358, 360–362, 366–368, 370–371, 376–377, 382–383 TE: 356A–356B, 356–358, 360A–360B, 360–362, 366A–366B, 366–368, 370A–370B, 370–371, 376A–376B, 376–377, 382A–382B, 382–383
10.B.2c Analyze the data using mean, median, mode and range, as appropriate, with or without the use of technology.	PE: 364–365 TE: 364A–364B, 364–365

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10.B.2d Interpret results or make relevant decisions based on the data gathered.	PE: 376–377, 380–381, 382–383, 384–385 TE: 376A–376B, 376–377, 380A–380B, 380–381, 382B, 382–383, 384A–384B, 384–385
C. Determine, describe and apply the probabilities of events.	
10.C.2a Calculate the probability of a simple event.	PE: 598–600 TE: 598A–598B, 598–600
10.C.2b Compare the likelihood of events in terms of certain, more likely, less likely or impossible.	PE: 596–597 TE: 596A–596B, 596–597
10.C.2c Determine the probability of an event involving “and”, “or” or “not”.	PE: 608–610 TE: 608A–608B, 608–610