

Houghton Mifflin *MATHEMATICS* © 2002
 Level 4
 correlated to the
 Illinois Learning Standards for Mathematics
 Late Elementary

State Goal 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.

As a result of their schooling students will be able to:

Illinois Learning Standard	Illinois Benchmark	Houghton Mifflin <i>MATHEMATICS</i>
A. Demonstrate knowledge and use of numbers and their representation 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.	TE: 6–8, 20–22, 32, 55, 69, 80, 108, 123, 167, 184, 237, 239, 240, 257, 284, 338–341, 380–381, 382–383, 420, 423, 490, 525, 530, 544 PE: 6–8, 20–22, 32, 55, 69, 80, 108, 123, 167, 184, 237, 239, 240, 257, 284, 338–341, 380–381, 382–383, 420, 423, 490, 525, 530, 544
B. Investigate, represent and solve problems by 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.	TE: 56–59, 60–63, 64–67, 68–69, 82–87, 118–119, 124–125, 126–127, 166–167, 168–173, 174–175, 180–184, 186–187, 192–193, 194–197, 198–199, 218–219, 220–221, 222–224, 230–231, 232–233, 236–237, 238–240, 241, 256–257, 342, 350–353, 367, 388–391, 394–396, 568–569, 570–591 PE: 56–59, 60–63, 64–67, 68–69, 82–87, 118–119, 124–125, 126–127, 166–167, 168–173, 174–175, 180–184, 186–187, 192–193, 194–197, 198–199, 218–219, 220–221, 222–224, 230–231, 232–233, 236–237, 238–240, 241, 256–257, 342, 350–353, 367, 388–391, 394–396, 568–569, 570–591
C. Compute and estimate, using mental	6.C.2a Select and perform computational	TE: 22, 80, 127, 184, 188–189, 255, 267,

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mathematics, paper-and-pencil methods, calculators and computers.	procedures to solve problems with whole numbers, fractions and decimals.	296, 345, 395, 398–399, 405, 446, 541, 572 PE: 22, 80, 127, 184, 188–189, 255, 267, 296, 345, 395, 398–399, 405, 446, 541, 572
	6.C.2b Show evidence that computational results using whole numbers, fractions and decimals are correct and/or that estimates are reasonable.	TE: 5, 11, 12–13, 19, 22, 25, 64–67, 80, 83, 95, 127, 174–175, 184, 187, 196, 199, 237, 240, 254–255, 258, 285, 345, 394–396, 424, 490, 541, 572, 574–575, 582, 584–585 PE: 5, 11, 12–13, 19, 22, 25, 64–67, 80, 83, 95, 127, 174–175, 184, 187, 196, 199, 237, 240, 254–255, 258, 285, 345, 394–396, 424, 490, 541, 572, 574–575, 582, 584–585
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).	TE: See Levels 5 and 6. PE: See Levels 5 and 6.

State Goal 7: Estimate, make and use measurements of objects, quantities and relationships to determine acceptable levels of accuracy.

As a result of their schooling students will be able to:

Illinois Learning Standard	Illinois Benchmark	Houghton Mifflin <i>MATHEMATICS</i>
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.	TE: 8, 80, 184, 276–281, 282–285, 290–293, 294–296, 340, 345, 383, 395, 469, 471, 476, 486–493, 503, 504–507, 572, 575, 589 PE: 8, 80, 184, 276–281, 282–285,

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		290–293, 294–296, 340, 345, 383, 395, 469, 471, 476, 486–493, 503, 504–507, 572, 575, 589
7.A.2b Solve addition, subtraction, multiplication and division problems using currency.	7.A.2b Solve addition, subtraction, multiplication and division problems using currency.	TE: 121, 125, 180–181, 183, 193, 236–237, 325, 345, 353, 377, 383, 395, 490 PE: 121, 125, 180–181, 183, 193, 236–237, 325, 345, 353, 377, 383, 395, 490
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.	TE: 295, 296, 315 PE: 295, 296, 315
	7.B.2b Estimate conversions between measures within the customary and metric systems.	TE: 276, 280–281, 282–285 PE: 121, 125, 180–181, 183, 193, 236–237, 325, 345, 353, 377, 383, 395, 490
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.	TE: See Levels 5 and 6. PE: See Levels 5 and 6.
	7.C.2b Construct or draw figures with given perimeters and areas.	TE: 486–487 PE: 486–487

State Goal 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

As a result of their schooling students will be able to:

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A. Describe numerical relationships, using variables and patterns.	8.A.2a Identify, describe, extend and create geometric and numeric patterns.	TE: 112–114, 140–141, 166–167, 176–177, 192–193, 230–231, 384–385, 405, 494–495 PE: 112–114, 140–141, 166–167, 176–177, 192–193, 230–231, 384–385, 405, 494–495
	8.A.2b Construct and solve number sentences using a variable to represent an unknown quantity.	TE: 52, 75–77, 82–87, 123, 136–138, 142–143, 144–146 PE: 52, 75–77, 82–87, 123, 136–138, 142–143, 144–146
B. Interpret and describe numerical relationships, using tables, graphs and symbols.	8.B.2 Analyze a geometric pattern and express the results numerically.	The following pages will prepare students to analyze a geometric pattern and express the results numerically: TE: 494–495 PE: 494–495
C. Solve problems by 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.	TE: 96–97, 100, 120, 127, 129, 162, 165, 182 PE: 96–97, 100, 120, 127, 129, 162, 165, 182
D. Use algebraic concepts and procedures to represent and solve problems.	8.D.2 Solve linear equations involving whole numbers.	TE: 52, 75–77, 82–87, 123, 136–138, 142–143, 144–146 PE: 52, 75–77, 82–87, 123, 136–138, 142–143, 144–146

State Goal 9: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.
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A. Demonstrate and apply geometric concepts involving points, lines, planes, and space.	9.A.2a Build physical models of two- and three-dimensional shapes.	The following pages will prepare students to build physical models of two- and three-dimensional shapes: TE: 458, 466–467, 498–501 PE: 458, 466–467, 498–501
	9.A.2b Identify and describe how geometric figures are used in practical settings (e.g., construction, art, advertising).	TE: 452–453, 454–455, 456–461, 462–463, 464–465, 470–471, 472–474, 475–477, 478–480, 489, 494–497, 504–505, 508, 509–510, 513, 552, 572–573, 578–581, 589, 594–595, 597–603 PE: 452–453, 454–455, 456–461, 462–463, 464–465, 470–471, 472–474, 475–477, 478–480, 489, 494–497, 504–505, 508, 509–510, 513, 552, 572–573, 578–581, 589, 594–595, 597–603
	9.A.2c Describe and draw representations of geometric relationships, patterns, symmetries, and designs in two- and three-dimensions with and without technology.	The following pages will prepare students to describe and draw representations of geometric relationships, patterns, symmetries, and designs in two- and three-dimensions with and without technology: TE: 452–453, 454–455, 456–461, 462–463, 464–465, 470–471, 472–474, 475–477, 478–480, 489, 494–497, 504–505, 508, 509–510, 513, 552, 572–573, 578–581, 589, 594–595, 597–603 PE: 452–453, 454–455, 456–461, 462–463, 464–465, 470–471, 472–474, 475–477,

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		478–480, 489, 494–497, 504–505, 508, 509–510, 513, 552, 572–573, 578–581, 589, 594–595, 597–603
B. Identify, describe, classify and compare relationships by using points, lines, planes and solids.	9.B.2 Compare geometric figures and determine their properties including parallel, perpendicular, similar, congruent and line symmetry.	TE: 458, 460–463, 474–476, 477, 478–481 PE: 458, 460–463, 474–476, 477, 478–481
C. Construct convincing arguments and proofs to solve problems.	9.C.2 Formulate logical arguments about geometric figures and patterns and communicate reasoning.	TE: See Level 5. PE: See Level 5.

State Goal 10: Collect, organize and analyze data by using statistical methods; predict results and interpret uncertainty by using concepts of probability.

As a result of their schooling students will be able to:

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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.	TE: 83, 114, 121, 196, 200–201, 224, 258, 354–355, 356, 363, 365, 414–415, 416–417, 418–420, 422–425, 426–429, 439, 446, 449, 450, 451, 452, 481, 497, 572, 582 PE: 83, 114, 121, 196, 200–201, 224, 258, 354–355, 356, 363, 365, 414–415, 416–417, 418–420, 422–425, 426–429, 439, 446, 449, 450, 451, 452, 481, 497, 572, 582
	10.A.2b Using a data set, determine mean, median, mode, and range, with and without the use of technology.	TE: 250–253, 256–257, 414, 418–421, 425 PE: 250–253, 256–257, 414, 418–421, 425
	10.A.2c Make predictions and decisions	TE: 5, 8, 55, 58, 62, 65, 83, 114, 121, 167,

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	based on data and communicate their reasoning.	187, 196, 199, 224, 233, 237, 239, 253, 258, 303, 340, 353, 376, 393, 481, 493, 530, 575, 582, 585 PE: 5, 8, 55, 58, 62, 65, 83, 114, 121, 167, 187, 196, 199, 224, 233, 237, 239, 253, 258, 303, 340, 353, 376, 393, 481, 493, 530, 575, 582, 585
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.	TE: 416–417 PE: 416–417
	10.B.2b Collect, organize and display data using tables, charts, bar graphs, line graphs, circle graphs, line plots and stem-and-leaf graphs.	TE: 83, 114, 121, 196, 200–201, 224, 258, 354–355, 356, 363, 365, 414–415, 416–417, 418–420, 422–425, 426–429, 439, 446, 449, 450, 451, 452, 481, 497, 572, 582 PE: 83, 114, 121, 196, 200–201, 224, 258, 354–355, 356, 363, 365, 414–415, 416–417, 418–420, 422–425, 426–429, 439, 446, 449, 450, 451, 452, 481, 497, 572, 582
	10.B.2c Analyze the data using mean, median, mode and range, as appropriate, with or without the use of technology.	TE: 250–253, 256–257, 414, 418–421, 425 PE: 250–253, 256–257, 414, 418–421, 425
	10.B.2d Interpret results or make relevant decisions based on the data gathered.	TE: 5, 8, 55, 58, 62, 65, 83, 114, 121, 167, 187, 196, 199, 224, 233, 237, 239, 253, 258, 303, 340, 353, 376, 393, 481, 493, 530, 575, 582, 585 PE: 5, 8, 55, 58, 62, 65, 83, 114, 121, 167,

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		187, 196, 199, 224, 233, 237, 239, 253, 258, 303, 340, 353, 376, 393, 481, 493, 530, 575, 582, 585
C. Determine, describe, and apply the probabilities of events.	10.C.2a Calculate the probability of a simple event.	TE: 414, 434–435, 436–437, 438–439, 440–441, 442–443 PE: 414, 434–435, 436–437, 438–439, 440–441, 442–443
	10.C.2b Compare the likelihood of events in terms of certain, more likely, less likely or impossible.	TE: 434–435 PE: 434–435
	10.C.2c Determine the probability of an event involving "and", "or" or "not".	TE: 435, 436–437, 444, 445 PE: 435, 436–437, 444, 445