

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.1a Identify whole numbers and compare them using the symbols <, >, or = and the words "less than", "greater than", or "equal to", applying counting, grouping and place value concepts.	TE: 21–22, 39–40, 69–70, 81–82, 85–86, 331–332, 363–364, 505–506, 513–514, 525–526, 527–528 PE: 21–22, 39–40, 69–70, 81–82, 85–86, 331–332, 363–364, 505–506, 513–514, 525–526, 527–528
	6.A.1b Identify and model fractions using concrete materials and pictorial representations.	TE: 325–326, 327–328, 329–330, 333–334, 335–336 PE: 325–326, 327–328, 329–330, 333–334, 335–336
B. Investigate, represent and solve problems by using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms, and relationships.	6.B.1 Solve one- and two-step problems with whole numbers using addition, subtraction, multiplication and division.	TE: 9–10, 11–12, 13–14, 15–16, 17–18, 21–22, 25–26, 29–30, 31–32, 39–40, 201–202, 203–204, 259–260, 261–262, 279–280, 359–360, 361–362, 363–364, 365–366, 369–370, 375–376, 377–378 PE: 9–10, 11–12, 13–14, 15–16, 17–18, 21–22, 25–26, 29–30, 31–32, 39–40, 201–202, 203–204, 259–260, 261–262, 279–280, 359–360, 361–362, 363–364, 365–366, 369–370, 375–376, 377–378
C. Compute and estimate, using mental mathematics, paper-and-pencil methods, calculators and computers.	6.C.1a Select and perform computational procedures to solve problems with whole numbers.	TE: 45–47, 393–395, 567–570 PE: 45–47, 393–395, 567–570
	6.C.1b Show evidence that whole number	TE: 215–216, 275–276, 577–578

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	computational results are correct and/or that estimates are reasonable.	PE: 215–216, 275–276, 577–578
D. Solve problems, using comparison of quantities, ratios, proportions and percents.	6.D.1 Compare the numbers of objects in groups.	TE: 39–40, 81–82, 85–86, 157–158, 331–332, 525–526, 527–528 PE: 39–40, 81–82, 85–86, 157–158, 331–332, 525–526, 527–528

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.1a Measure length, volume and weight/mass using rulers, scales and other appropriate measuring instruments in the customary and metric systems.	TE: 417–418, 419–420, 430–432, 433–434, 435–436, 441–442 PE: 417–418, 419–420, 430–432, 433–434, 435–436, 441–442
	7.A.1b Measure units of time using appropriate instruments (e.g., calendars, clocks, watches—both analog and digital).	TE: 465–466, 467–468, 469–470, 471–472 PE: 465–466, 467–468, 469–470, 471–472
	7.A.1c Identify and describe the relative values and relationships among coins and solve addition and subtraction problems using currency.	TE: 149–150, 151–152, 153–154, 155–156, 167–168, 173–174, 227–228, 283–284, 531–532, 579–580 PE: 149–150, 151–152, 153–154, 155–156, 167–168, 173–174, 227–228, 283–284, 531–532, 579–580
	7.A.1d Read temperatures to the nearest degree from Celsius and Fahrenheit thermometers.	TE: 439–440 PE: 439–440

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B. Estimate measurements and determine acceptable levels of accuracy.	7.B.1a Given a problem, describe possible methods for estimating a given measure.	TE: 413–414, 415–416 PE: 413–414, 415–416
	7.B.1b Compare estimated measures to actual measures taken with appropriate measuring instruments.	TE: 413–414, 415–416 PE: 413–414, 415–416
C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	7.C.1 Determine perimeter and area using concrete materials (e.g., geoboards, square tiles, grids, measurement instruments).	TE: 421–422 PE: 421–422

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.1a Identify, describe and extend simple geometric and numeric patterns.	TE: 65–66, 83–84, 91–93, 319–321 PE: 65–66, 83–84, 91–93, 319–321
	8.A.1b Solve simple number sentences (e.g., $2 + 0 = 5$).	TE: 9, 10, 18, 41–42, 272 PE: 9, 10, 18, 41–42, 272
B. Interpret and describe numerical relationships, using tables, graphs and symbols.	8.B.1 Solve problems involving pattern identification and completion of patterns.	TE: 65–66, 83–84, 91–93, 319–321, 553–554, 561–562 PE: 65–66, 83–84, 91–93, 319–321, 553–554, 561–562
C. Solve problems by using systems of numbers and their properties.	8.C.1 Describe the basic arithmetic operations (addition, subtraction, multiplication, division) orally, in writing and using concrete materials	TE: 9–10, 11–12, 13–14, 15–16, 17–18, 21–22, 25–26, 29–30, 31–32, 39–40, 201–202, 203–204, 205, 223–224, 225–226, 259–260, 261–262, 279–280,

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	and drawings.	281–282, 373–374, 553–554, 573–574 PE: 9–10, 11–12, 13–14, 15–16, 17–18, 21–22, 25–26, 29–30, 31–32, 39–40, 201–202, 203–204, 205, 223–224, 225–226, 259–260, 261–262, 279–280, 281–282, 373–374, 553–554, 573–574
D. Use algebraic concepts and procedures to represent and solve problems.	8.D.1 Find the unknown numbers in whole-number addition, subtraction, multiplication and division situations.	TE: 10, 13, 15, 18, 20, 22–23, 41–43, 272 PE: 10, 13, 15, 18, 20, 22–23, 41–43, 272

State Goal 9: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

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

Illinois Learning Standard	Illinois Benchmark	Houghton Mifflin <i>MATHEMATICS</i>
A. Demonstrate and apply geometric concepts involving points, lines, planes, and space.	9.A.1a Identify related two- and three-dimensional shapes including circle-sphere, square-cube, triangle-pyramid, rectangle-rectangular prism and their basic properties.	TE: 311–312 PE: 311–312
	9.A.1b Draw two-dimensional shapes.	TE: 307–308, 315–316, 329 PE: 307–308, 315–316, 329
B. Identify, describe, classify and compare relationships by using points, lines, planes and solids.	9.B.1a Identify and describe characteristics, similarities and differences of geometric shapes.	TE: 307, 311 PE: 307, 311
	9.B.1b Sort, classify and compare familiar shapes.	TE: 307, 311 PE: 307, 311

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	9.B.1c Identify lines of symmetry in simple figures and construct symmetrical figures using various concrete materials.	TE: 303–304, 317–318, 329 PE: 303–304, 317–318, 329
C. Construct convincing arguments and proofs to solve problems.	9.C.1 Draw logical conclusions and communicate reasoning about simple geometric figures and patterns using concrete materials, diagrams and contemporary technology.	TE: See Levels K, 1, 3, 4, and 5. PE: See Levels K, 1, 3, 4, and 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:

Illinois Learning Standard	Illinois Benchmark	Houghton Mifflin <i>MATHEMATICS</i>
A. Organize, describe and make predictions from existing data.	10.A.1a Organize and display data using pictures, tallies, tables, charts or bar graphs.	TE: 111–112, 113, 115–116, 123–124, 125–126 PE: 111–112, 113, 115–116, 123–124, 125–126
	10.A.1b Answer questions and make predictions based on given data.	TE: 113–114, 115–116, 123–124, 231–23, 339–341 PE: 113–114, 115–116, 123–124, 231–23, 339–341
B. Formulate questions, design data collection methods, gather and analyze data, and communicate findings.	10.B.1a Formulate questions of interest and design surveys or experiments to gather data.	TE: 111–112 PE: 111–112
	10.B.1b Collect, organize and describe data using pictures, tallies, tables, charts or bar graphs.	TE: 111–112, 113, 115–116, 123–124, 125–126, 231–23, 339–341 PE: 111–112, 113, 115–116, 123–124,

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		125–126, 231–23, 339–341
	10.B.1c Analyze data, draw conclusions and communicate the results.	
C. Determine, describe, and apply the probabilities of events.	10.C.1a Describe the concept of probability in relationship to likelihood and chance.	TE: 337–338 PE: 337–338
	10.C.1b Systematically list all possible outcomes of a simple one-stage experiment (e.g., the flip of one coin, the toss of one die, the spin of a spinner).	TE: 337–338 PE: 337–338