

**Curriculum Framework Statement**

**Houghton Mifflin *MATHEMATICS***

<b>State Goal 6:</b> <i>Demonstrate and apply a knowledge and sense of numbers, including basic arithmetic operations, number patterns, ratios and proportions.</i>	
<b>CAS A.</b> Describe, express, and represent whole numbers, proper and improper fractions, and decimals and the relationships among them, using concrete materials, drawings, words, and mathematical symbols.	
1. Read, write, and interpret whole numbers expressed in standard form, word form, and exponential form through the hundred millions place and round to the given place.	TE: 2–3, 4–7, 8–10, 14–16, 18–19, 33, 38, 42, 43, 44, 46, 47, 53, 55, 59, 153, 156, 207, 215, 223, 225, 259, 261, 267, 299, 301, 311, 323, 331, 335, 373, 409, 420–421, 434, 441, 444, 446 PE: 2–3, 4–7, 8–10, 14–16, 18–19, 33, 38, 42, 43, 44, 46, 47, 53, 55, 59, 153, 156, 207, 215, 223, 225, 259, 261, 267, 299, 301, 311, 323, 331, 335, 373, 409, 420–421, 434, 441, 444, 446
2. Read, write, and interpret whole numbers written as powers of 10.	TE: 2–3, 4–7, 14–16, 38, 42, 44, 46, 47, 59, 153 PE: 2–3, 4–7, 14–16, 38, 42, 44, 46, 47, 59, 153
3. Read, write, and identify decimals expressed through ten thousandths.	TE: These pages involve decimals through thousandths; see Level 6 for ten thousandths. 24–33, 40, 43–46, 51, 58–61, 62–63, 196, 199, 223, 321–323, 345, 370, 379, 411, 430, 516–519, 538–539, 552, 559 PE: These pages involve decimals through thousandths; see Level 6 for ten thousandths. 24–33, 40, 43–46, 51, 58–61, 62–63, 196, 199, 223, 321–323, 345, 370, 379, 411, 430, 516–519, 538–539, 552, 559
4. Identify, model, and represent equivalent fractions and mixed numbers and their equivalent improper fractions.	TE: 318–323, 324–325, 332–333, 334–335, 353, 356–358, 372–373, 374–375, 378–379, 380–381, 386–388 PE: 318–323, 324–325, 332–333, 334–335, 353, 356–358, 372–373, 374–375, 378–379, 380–381, 386–388
5. Formulate and solve problems involving ratios.	TE: 103, 461, 519, 521, 527, 541, 552, 555, 561, 565 PE: 103, 461, 519, 521, 527, 541, 552, 555, 561, 565
6. Recognize and model relationships among fractions and decimals.	TE: 77, 322–323, 493, 449, 493, 516–517, 530–539, 546–548, 550–552, 553, 559–560, 563–564 PE: 77, 322–323, 493, 449, 493, 516–517, 530–539, 546–548, 550–552, 553, 559–560, 563–564
7. Write terminating decimals as fractions.	TE: 538–539 PE: 538–539
<b>CAS B.</b> Compare, order, and graph integers, fractions, and decimals, using concrete materials, drawings, and mathematical symbols.	

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1. Compare (using $<$ , $>$ , $=$ ) and order quantities expressed as whole numbers, fractions, and decimals.	TE: 8–11, 14–17, 24–25, 26–31, 32–33, 38, 40, 43–46, 61, 107, 196, 199, 321–325, 339, 345, 353, 359, 370, 379, 411, 430, 538–539, 550–552, 559–560 PE: 8–11, 14–17, 24–25, 26–31, 32–33, 38, 40, 43–46, 61, 107, 196, 199, 321–325, 339, 345, 353, 359, 370, 379, 411, 430, 538–539, 550–552, 559–560
2. Describe data using ratios.	TE: 516–517, 520–527, 532–534, 537, 546–547, 558, 562–565 PE: 516–517, 520–527, 532–534, 537, 546–547, 558, 562–565
3. Identify a whole number, fraction or decimal which lies between two given numbers.	TE: 8–11, 14–17, 24–31, 196, 321–325, 339 PE: 8–11, 14–17, 24–31, 196, 321–325, 339
4. Identify and represent whole numbers, decimals, and fractions on a number line.	TE: 26–31, 218–219, 222–223, 232, 236, 238, 316–318, 322–324, 388, 402, 538 PE: 26–31, 218–219, 222–223, 232, 236, 238, 316–318, 322–324, 388, 402, 538
<b>CAS C. Add, subtract, multiply, and divide single- and multi-digit whole numbers, fractions, decimals, and percents and understand the relationships between these operations.</b>	
1. Describe and demonstrate understanding of the inverse relationship between addition/subtraction and multiplication/division.	TE: 54–55, 61, 74, 134, 136, 147–148, 154, 317, 341, 422–423, 433 PE: 54–55, 61, 74, 134, 136, 147–148, 154, 317, 341, 422–423, 433
2. Multiply whole numbers and decimals by one- or two-digit numbers.	TE: 98–99, 101–103, 114–116, 120, 121, 122–123, 124–125, 126–127, 128–129, 147, 149, 164, 167, 172, 200–201, 261, 275, 277, 306, 338, 388, 408–409, 410–411, 412–413, 414–415, 416–417, 418, 420–421, 440–442, 444, 446, 448, 455, 487, 489, 491–493, 496, 499, 506, 510 PE: 98–99, 101–103, 114–116, 120, 121, 122–123, 124–125, 126–127, 128–129, 147, 149, 164, 167, 172, 200–201, 261, 275, 277, 306, 338, 388, 408–409, 410–411, 412–413, 414–415, 416–417, 418, 420–421, 440–442, 444, 446, 448, 455, 487, 489, 491–493, 496, 499, 506, 510
3. Divide two- and three-digit numbers that are multiples of 10 and up to a three-digit dividend by a one- or two-digit division without a calculator.	TE: 146–147, 164, 179, 183–184, 275, 317, 338, 420–421, 491 PE: 146–147, 164, 179, 183–184, 275, 317, 338, 420–421, 491
4. Add, subtract, multiply, and divide with money amounts.	TE: 58–59, 61, 68, 78–79, 82, 83, 85–86, 88, 91, 98–99, 101–103, 114–117, 120, 123–128, 134–135, 137, 139, 141, 143, 149, 151, 167, 186, 200–201, 263, 277, 415, 523 PE: 58–59, 61, 68, 78–79, 82, 83, 85–86, 88, 91, 98–99, 101–103, 114–117, 120, 123–128, 134–135, 137, 139, 141, 143, 149, 151, 167, 186, 200–201, 263, 277, 415, 523

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5. Rename ratios in higher and lower terms.	TE: 516–517, 520–527, 532–534, 537, 546–547, 558, 562–565 PE: 516–517, 520–527, 532–534, 537, 546–547, 558, 562–565
6. Add, subtract, and multiply fractions, with like and unlike denominators, and mixed fractions.	TE: 196, 330–338, 340–347, 354, 357–360, 365–366, 367–370, 371, 372, 373–377, 378–381, 382–383, 384–389, 390–394, 395–396, 397–402, 412, 427, 465, 490–493, 497, 506, 510, 576, 579 PE: 196, 330–338, 340–347, 354, 357–360, 365–366, 367–370, 371, 372, 373–377, 378–381, 382–383, 384–389, 390–394, 395–396, 397–402, 412, 427, 465, 490–493, 497, 506, 510, 576, 579
7. Estimate, then find exact answers to computational problems and compare estimates to exact answers.	TE: 13, 20–21, 35, 41, 57, 63, 79, 102–103, 113, 117, 123, 143, 175, 201, 211, 271, 281, 313, 327, 349, 383, 425, 437, 483, 501, 541, 581, 591 PE: 13, 20–21, 35, 41, 57, 63, 79, 102–103, 113, 117, 123, 143, 175, 201, 211, 271, 281, 313, 327, 349, 383, 425, 437, 483, 501, 541, 581, 591
<b>CAS D.</b> Identify, select and use appropriate strategies (such as using smaller numbers, modeling, guess and check, working backward, (trial and error) to solve problems involving percentages, ratios, and proportions relevant to their experiences.	
1. Explain (orally and in writing) solutions to problems involving whole numbers and fractions and support the solutions with evidence.	TE: 218–219, 223, 225, 226–227, 233, 319, 321, 331, 333, 335, 342, 345, 347, 348–349, 355, 370, 373, 379, 385, 388, 397, 539, 555, 585, 587, 591 PE: 218–219, 223, 225, 226–227, 233, 319, 321, 331, 333, 335, 342, 345, 347, 348–349, 355, 370, 373, 379, 385, 388, 397, 539, 555, 585, 587, 591
2. Use estimation and calculators to solve problems and check answers.	TE: 12–13, 41, 46, 52–53, 54–55, 58–59, 61, 68, 72, 89, 98–103, 114–115, 117, 120–123, 125–126, 127, 135, 138–139, 149, 150–157, 173, 178, 185, 263, 291, 303, 326–327, 355, 359, 403, 410–411, 430, 435, 440, 442, 444, 446, 447, 448, 463, 491, 511, 519, 523, 545, 549, 565, 573, 601 PE: 12–13, 41, 46, 52–53, 54–55, 58–59, 61, 68, 72, 89, 98–103, 114–115, 117, 120–123, 125–126, 127, 135, 138–139, 149, 150–157, 173, 178, 185, 263, 291, 303, 326–327, 355, 359, 403, 410–411, 430, 435, 440, 442, 444, 446, 447, 448, 463, 491, 511, 519, 523, 545, 549, 565, 573, 601
<b>CAS E.</b> Identify, apply, and explain properties of numbers (such as prime, composite, factor, divisor, relationships between), of operations (inverse relationship, distributive property), and of mathematical logic.	

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1. Write numbers as the products of primes.	TE: 300–301, 304–306, 309–313, 323, 352, 356, 358–359, 368, 381, 548 PE: 300–301, 304–306, 309–313, 323, 352, 356, 358–359, 368, 381, 548
2. Apply the rules of divisibility for 2, 3, 5, and 10.	TE: 68, 302–303, 352, 356, 358, 361 PE: 68, 302–303, 352, 356, 358, 361
3. Apply the order of operations and commutative property to solve problems.	TE: 66–69, 141, 162, 165, 167, 182, 269, 335, 342, 415, 455, 461 PE: 66–69, 141, 162, 165, 167, 182, 269, 335, 342, 415, 455, 461
<b>State Goal 7:</b> Estimate, make, and use measurements of objects, quantities, and relationships, and determine acceptable levels of accuracy.	
<b>CAS A.</b> Use standard (metric and customary), tools, scales, and formulas to measure distance, area, capacity, temperature, and weight/mass of objects with whole numbers, fractions, and decimals.	
1. Select and use appropriate measurement units within the customary system and the metric system for length, temperature, and weight/mass of objects.	TE: 21, 28–29, 32–33, 41, 46, 57–61, 62–63, 68, 72, 101, 103, 108, 110–111, 113–115, 126, 135, 143, 146–147, 149–151, 153, 154, 156, 159, 167, 181, 183–184, 190–191, 192–197, 198–199, 202–205, 206–207, 210–211, 230, 231, 234–236, 255, 261, 264, 267, 269, 287, 290, 292, 313, 323, 325, 327, 331, 338, 342, 346–347, 374, 375, 379, 388, 397, 408–411, 412, 413, 414–415, 417, 420–423, 425, 426–428, 430, 432, 434, 436–437, 460–461, 463, 487–499, 522–523, 524–527, 537, 557, 561, 563–564, 566–567, 586–587, 589, 590–591 PE: 21, 28–29, 32–33, 41, 46, 57–61, 62–63, 68, 72, 101, 103, 108, 110–111, 113–115, 126, 135, 143, 146–147, 149–151, 153, 154, 156, 159, 167, 181, 183–184, 190–191, 192–197, 198–199, 202–205, 206–207, 210–211, 230, 231, 234–236, 255, 261, 264, 267, 269, 287, 290, 292, 313, 323, 325, 327, 331, 338, 342, 346–347, 374, 375, 379, 388, 397, 408–411, 412, 413, 414–415, 417, 420–423, 425, 426–428, 430, 432, 434, 436–437, 460–461, 463, 487–499, 522–523, 524–527, 537, 557, 561, 563–564, 566–567, 586–587, 589, 590–591
2. Determine the perimeter of a polygon, the area of a square and rectangle through a variety of means (e.g., measuring, counting squares, stacking cubes), and develop general statements which lead to formulas.	TE: 96–97, 173, 194–195, 196–197, 230, 234, 236–237, 436–437, 445–446, 452, 453, 486–487, 506, 508–510, 512, 513, 523, 545, 589 PE: 96–97, 173, 194–195, 196–197, 230, 234, 236–237, 436–437, 445–446, 452, 453, 486–487, 506, 508–510, 512, 513, 523, 545, 589

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3. Differentiate among perimeter, area, and volume.	TE: 96–97, 173, 194–197, 230, 234, 236–237, 436–437, 445–446, 452–453, 486–487, 490–491, 498–501, 506, 508, 509–513, 523, 545, 589 PE: 96–97, 173, 194–197, 230, 234, 236–237, 436–437, 445–446, 452–453, 486–487, 490–491, 498–501, 506, 508, 509–513, 523, 545, 589
4. Discover $\pi$ , using concrete materials and models.	TE: 492–493 PE: 492–493
5. Measure and draw angles to the nearest $5^\circ$ , using a protractor.	TE: 456–461, 504 PE: 456–461, 504
6. Create drawings or models which reflect given measurement specifications.	TE: 456–461, 470–471, 476–477, 504, 505, 509–510, 513, 524–527, 537, 561, 563–564, 566–567 PE: 456–461, 470–471, 476–477, 504, 505, 509–510, 513, 524–527, 537, 561, 563–564, 566–567
7. Read and interpret scale in maps or scale drawings, using the ideas of constant ratio (e.g., one inch to one mile) and use it to answer questions about actual measurements.	TE: 524–527, 537, 561, 563–564, 566–567 PE: 524–527, 537, 561, 563–564, 566–567
<b>CAS B.</b> Estimate measurements, convert units within and between customary and metric systems (e.g., a liter is about a quart), and determine relationships between measurements expressed in different systems (e.g., weight and volume) with reasonable accuracy.	
1. Determine circumstances under which overestimating or underestimating is more useful (e.g., How much fence will you need to fence in a yard $30'$ by $60'$ ?)	TE: 12–13, 41, 46, 102–103, 123 PE: 12–13, 41, 46, 102–103, 123
2. Order, compare, and convert units of distance, time, temperature, weight mass, and capacity within the customary system.	TE: 195, 197, 198–199, 202, 203–204, 206–207, 212, 230–231, 234–237 PE: 195, 197, 198–199, 202, 203–204, 206–207, 212, 230–231, 234–237
3. Convert between and compare units of distance, weight/mass, and time within the customary system and within the metric system.	TE: 195, 197, 199, 203–204, 207, 212, 236 PE: 195, 197, 199, 203–204, 207, 212, 236
4. Approximate the area of irregular figures by counting square units.	TE: 452–453, 486–487, 506, 509–510, 512 PE: 452–453, 486–487, 506, 509–510, 512
5. Estimate angle measurements using $45^\circ$ , $90^\circ$ , and $180^\circ$ as referents.	TE: 456–459, 460–461, 464–465, 475, 489, 504, 508, 510–589 PE: 456–459, 460–461, 464–465, 475, 489, 504, 508, 510–589
6. Estimate total area when several objects are combined or grouped (e.g., 3 rugs are placed next to each other.).	TE: 445, 452–453, 486–487, 506, 509–510, 512, 513, 589 PE: 445, 452–453, 486–487, 506, 509–510, 512, 513, 589
<b>State Goal 8:</b> Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.	

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<b>CAS A.</b> Extend, create, describe, and analyze geometric and number patterns.	
1. Show how one quantity determines another quantity in a functional relationship based on a linear pattern (e.g. figure out the total number of horses if there are 100 hooves in the stable, and the total number of ears for that many hooves.).	TE: 76–77, 84, 87, 106–111, 124–125, 129, 151, 170–172, 277, 319, 348–349, 373, 537, 539, 547, 570, 584–591, 595–597, 599–603 PE: 76–77, 84, 87, 106–111, 124–125, 129, 151, 170–172, 277, 319, 348–349, 373, 537, 539, 547, 570, 584–591, 595–597, 599–603
2. Extend simple, non-linear patterns (e.g., 2, 4, 8, 16...)	TE: 53, 76–77, 106–111, 124–125, 170–172, 417–418, 537, 539 PE: 53, 76–77, 106–111, 124–125, 170–172, 417–418, 537, 539
<b>CAS B.</b> Describe trends, patterns, verbal rules, functions, and other mathematical relationships using tables, graphs, charts, and open sentences created from given or student-generated data.	
1. Describe rules for given number patterns in whole numbers and fractions.	TE: 53, 76–77, 106–111, 124–125, 170–172, 348–349, 417–418, 434, 537, 539, 547 PE: 53, 76–77, 106–111, 124–125, 170–172, 348–349, 417–418, 434, 537, 539, 547
2. Use simple two-dimensional coordinate systems to find locations on a map.	TE: 264–265, 574–603 PE: 264–265, 574–603
3. Create a problem situation based on a given open sentence (e.g., $\$62.10 - \$6.21 = b$ ).	TE: 115, 199, 310, 421, 489, 491, 519, 548 PE: 115, 199, 310, 421, 489, 491, 519, 548
<b>CAS C.</b> Use variables and equations to solve problems.	
1. Show and describe what occurs when a change is made to one part of an equality relationship.	TE: 74–75, 139, 153, 155, 166–175, 180, 219, 223, 259, 263, 269, 303, 325, 347, 427, 436–437 PE: 74–75, 139, 153, 155, 166–175, 180, 219, 223, 259, 263, 269, 303, 325, 347, 427, 436–437
2. Create and solve problems to find the missing number.	TE: 74–75, 139, 153, 155, 166–175, 180, 219, 223, 259, 263, 269, 303, 325, 347, 427, 436–437 PE: 74–75, 139, 153, 155, 166–175, 180, 219, 223, 259, 263, 269, 303, 325, 347, 427, 436–437
<b>CAS D.</b> Model relationships between quantities, using tables, charts, mathematical expressions and equations, and graphs to solve problems relevant to student experiences as well as those which arise from mathematical patterns.	
1. Solve open number sentences created to show relationships between quantities.	TE: 66–73, 83, 87–88, 107, 111, 115, 162–164, 180, 183, 185, 199, 219, 310, 325, 335, 338, 342, 385, 387, 411, 421, 427, 486–492, 496, 498–499, 519, 548 PE: 66–73, 83, 87–88, 107, 111, 115, 162–164, 180, 183, 185, 199, 219, 310, 325, 335, 338, 342, 385, 387, 411, 421, 427, 486–492, 496, 498–499, 519, 548
2. Describe and answer questions about simple mathematical patterns.	TE: 76–77, 106–111, 129, 170–172, 281, 348–349, 417–418, 430, 434, 466, 501, 537, 539, 541, 547, 576, 584–591, 595–597, 599–600, 603 PE: 76–77, 106–111, 129, 170–172, 281, 348–349, 417–418, 430, 434, 466, 501, 537, 539, 541, 547, 576, 584–591, 595–597, 599–600, 603

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3. Solve problems with whole numbers and decimals, both written in exponential notation.	TE: 409, 411, 413, 415, 421, 423, 427, 430, 434, 437, 493, 497, 537, 555 PE: 409, 411, 413, 415, 421, 423, 427, 430, 434, 437, 493, 497, 537, 555
4. Determine whether there is sufficient information given to solve a problem and/or whether extraneous/irrelevant information is given.	TE: 10, 31, 33, 53, 56–57, 85, 141, 172, 209, 215, 267, 310, 491 PE: 10, 31, 33, 53, 56–57, 85, 141, 172, 209, 215, 267, 310, 491
5. Interpret and give solutions to problems as exact or approximate.	TE: 102–103, 123 PE: 102–103, 123
6. Collect data, analyze information, and display data and conclusions on charts, tables, and graphs.	TE: 240–248, 249–252, 254–255, 260–271, 274–275, 286, 291–292 PE: 240–248, 249–252, 254–255, 260–271, 274–275, 286, 291–292
<b>State Goal 9:</b> Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.	
<b>CAS A.</b> Draw line segments, rays, lines (one dimension) and plane figures (two dimensions), and construct solids (three dimensions).	
1. Describe and extend geometric patterns, using concrete and pictorial models.	TE: 63, 76–77, 281, 417, 466–467, 501, 541 PE: 63, 76–77, 281, 417, 466–467, 501, 541
2. Identify and construct three-dimensional shapes.	TE: 494–495, 511 PE: 494–495, 511
3. Develop methods for and draw parallel lines, perpendicular lines, the perpendicular bisector of a line segment, and an angle bisector, using appropriate tools.	TE: 472–474, 476–477 PE: 472–474, 476–477
4. Identify and name parts of a circle (center, chord, radius, semicircle).	TE: 470–471, 506, 509–511, 552 PE: 470–471, 506, 509–511, 552
5. Create and use the same patterns to cover an area.	TE: 486–487, 488–489, 490–491, 494–497, 500–501 PE: 486–487, 488–489, 490–491, 494–497, 500–501
<b>CAS B.</b> Identify, describe, and categorize geometric objects by their properties (parallel, perpendicular, similar, congruent, symmetric about a line).	
1. Determine the congruence of geometric figures by comparing the measures of all sides and angles.	TE: 452–453, 462–463, 475–477, 570, 572–573, 580–581 PE: 452–453, 462–463, 475–477, 570, 572–573, 580–581
<b>CAS C.</b> Describe the properties of and the relationships among 1-, 2-, and 3-dimensional figures (rectangles, triangles, squares, circles, cubes, prisms, pyramids, cones, cylinders, line segments, rays, and angles).	
1. Describe the relationship among points, lines, line segments, rays, and angles by constructing all from one.	TE: 454–455, 456–459, 472–474, 476–477 PE: 454–455, 456–459, 472–474, 476–477

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2. Identify and describe parts of geometric figures (vertex, radius, diameter, angle, side, edge, face, chord, midpoint).	TE: 456–461, 462–463, 464–465, 470–471, 475–477, 488–489, 492–493, 494–497, 504, 505, 506, 508–509, 510–511, 513, 552, 572–573, 580–581, 589 PE: 456–461, 462–463, 464–465, 470–471, 475–477, 488–489, 492–493, 494–497, 504, 505, 506, 508–509, 510–511, 513, 552, 572–573, 580–581, 589
3. Draw and two- and three-dimensional figures and compare them to similar objects or models.	TE: 456–459, 470–471, 472–474, 476–477, 478–480, 496, 500–501 PE: 456–459, 470–471, 472–474, 476–477, 478–480, 496, 500–501
4. Identify, describe, and categorize triangles by their angles (right, obtuse, acute) and by their sides (equilateral, isosceles, and scalene).	TE: 460–461, 475, 491, 513 PE: 460–461, 475, 491, 513
5. Draw polygons, using various characteristics, including types of lines and sides, and number of sides.	TE: 470–471, 476–477 PE: 470–471, 476–477
6. Identify, describe, and categorize angles as supplementary.	TE: See level 6. PE: See level 6.
7. Draw and describe regular and irregular quadrilaterals and triangles.	TE: 476–477 PE: 476–477
<b>CAS D.</b> Present informational logical arguments (e.g., the area of a right triangle with legs of 3" and 4" is 6 square inches because it is half the area of a 3" x 4" rectangle) using concrete objects, diagrams, and technology.	
1. Explain and give examples that demonstrate the difference between the perimeter and the area of a figure.	TE: 96–97, 173, 194–197, 230, 234, 236–237, 436–437, 445–446, 452–453, 486–487, 488–489, 490–491, 506, 508–510, 512, 513, 523, 545, 589 PE: 96–97, 173, 194–197, 230, 234, 236–237, 436–437, 445–446, 452–453, 486–487, 488–489, 490–491, 506, 508–510, 512, 513, 523, 545, 589
2. Draw and explain a simple geometric pattern.	TE: 63, 76–77, 281, 417, 466–467, 501, 541 PE: 63, 76–77, 281, 417, 466–467, 501, 541
3. Make generalizations about geometric models and space figures.	TE: 494–497 PE: 494–497
<b>State Goal 10:</b> <i>Collect, organize, and analyze data, using statistical methods to predict results and interpret uncertainty and chance in practical applications.</i>	
<b>CAS A.</b> Interpret data comparing sets of data and using tallies, tables, charts, bar graphs, line graphs, and line plots.	
1. Determine the middle (mean, median, mode), spread (range) and grouping of a set of data and use them to make descriptive statements about the data.	TE: 140–141, 154, 172, 178, 182, 258–261, 279, 285, 288–292, 306, 325, 338, 345, 347, 427, 465, 487, 573, 579, 585 PE: 140–141, 154, 172, 178, 182, 258–261, 279, 285, 288–292, 306, 325, 338, 345, 347, 427, 465, 487, 573, 579, 585

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2. Display in line graph format data given on a bar graph.	TE: 268–269, 284, 288–291, 293 PE: 268–269, 284, 288–291, 293
<b>CAS B.</b> Draw conclusions and evaluate arguments based on data analysis and data displays (tables, charts, graphs), verifying reasoning.	
1. Make statements and draw simple conclusions based on data from tables, charts, and graphs.	TE: 10, 108, 240–243, 244–252, 254–255, 260–261, 266, 274–275, 286, 291–292 PE: 240–243, 244–252, 254–255, 260–261, 274–275, 286, 291–292
2. Explain and describe the mean, median, mode, and range of a set of data.	TE: 140–141, 154, 172, 178, 182, 258–261, 279, 285, 288–292, 306, 325, 338, 345, 347, 427, 465, 487, 573, 579, 585 PE: 140–141, 154, 172, 178, 182, 258–261, 279, 285, 288–292, 306, 325, 338, 345, 347, 427, 465, 487, 573, 579, 585
3. Compare data in order to derive and make true statements.	TE: 5, 16, 25, 31, 53, 59, 61, 108, 111, 141, 151, 209, 215, 244–281, 284–286, 293, 303, 310, 333, 347, 370, 411, 413, 421, 493, 548, 552 PE: 5, 16, 25, 31, 53, 59, 61, 108, 111, 141, 151, 209, 215, 244–281, 284–286, 293, 303, 310, 333, 347, 370, 411, 413, 421, 493, 548, 552
4. Interpret data and agree or disagree with statements made about the data.	TE: 5, 16, 25, 31, 53, 59, 61, 108, 111, 140–141, 151, 154, 172, 178, 182, 209, 215, 244–281, 284–286, 288–292, 293, 303, 306, 310, 325, 333, 338, 345, 347, 370, 411, 413, 421, 427, 465, 487, 493, 548, 552, 573, 579, 585 PE: 5, 16, 25, 31, 53, 59, 61, 108, 111, 140–141, 151, 154, 172, 178, 182, 209, 215, 244–281, 284–286, 288–292, 293, 303, 306, 310, 325, 333, 338, 345, 347, 370, 411, 413, 421, 427, 465, 487, 493, 548, 552, 573, 579, 585
5. Read and interpret a transportation schedule or similar kind of guide.	TE: 208–209, 231 PE: 208–209, 231
<b>CAS C.</b> Formulate questions of interest and select ways to systematically collect, organize, and describe data appropriate to the questions.	
1. Gather, organize, and display data using tallies, tables, charts, bar graphs, line graphs, and circle graphs.	TE: 244–252, 260–271, 280, 292–293 PE: 244–252, 260–271, 280, 292–293
2. Analyze and communicate the results of a survey or experiment and state conclusions.	TE: 280–281, 543, 552, 554–555, 556–557, 561 PE: 280–281, 543, 552, 554–555, 556–557, 561
3. Select a sample group and describe common characteristics of the group.	TE: 246–248, 249, 276–277, 278–279, 282 PE: 246–248, 249, 276–277, 278–279, 282
<b>CAS D.</b> Determine the probability of events when there are equally likely outcomes.	
1. Determine the probability distribution of an event, using concrete materials and tree diagrams representing all possible results.	TE: 34–35, 41, 45, 252, 274–275, 276–277, 278–279, 280–281, 282, 286–287, 290–291 PE: 34–35, 41, 45, 252, 274–275, 276–277, 278–279, 280–281, 282, 286–287, 290–291

**Curriculum Framework Statement**

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2. Express probabilities as fractions and as decimals.	TE: 278–279, 280–281, 282 PE: 278–279, 280–281, 282
3. Compare the likelihood of events in terms of <i>certain, more likely, less likely, equally likely, or impossible</i> .	TE: 276–279, 286–287 PE: 276–279, 286–287
4. Find all possible arrangements involving a limited number of variables.	TE: 274–275, 276–279, 286–287 PE: 274–275, 276–279, 286–287
5. Determine the probability of a simple event and express that probability as a ratio or decimal.	TE: 276–279, 278, 282, 286–287 PE: 276–279, 278, 282, 286–287