

**Houghton Mifflin Harcourt**  
***Math Expressions, Grade 4* © 2013**

correlated to the

**Pennsylvania Common Core Standards for Mathematics**  
**Grade 4**

Standard	Descriptor	Citations
<b>Standards for Mathematical Practice</b>		
•	Make sense of problems and persevere in solving them.	Representative Pages: SAB: 7, 26, 36, 64, 85, 114, 116, 118, 131, 132, 136, 138, 142, 144, 150, 187, 189, 214, 224, 230 TE: 15, 80, 107, 186, 244, 256, 305, 309, 315, 322, 330, 336, 369, 382, 389, 397, 404, 419, 496, 502, 552, 580, 587, 599
•	Reason abstractly and quantitatively.	Representative Pages: SAB: 59, 114, 115, 122, 130, 133, 135, 141, 195, 201 TE: 126, 174, 182, 288, 304, 321, 322, 326, 347, 357, 365, 367, 374, 380, 396, 504, 514, 516, 527, 533, 566, 588
•	Construct viable arguments and critique the reasoning of others.	Representative Pages: SAB: 41, 60, 62, 79, 110, 113, 145, 148, 202, 205, 210, 218, 222 TE: 116, 176, 183, 240, 310, 320, 348, 370, 392, 403, 409, 412, 418, 504, 528, 535, 545, 553, 570, 582, 588, 599
•	Model with mathematics.	Representative Pages: SAB: 25, 119, 121, 132, 134, 146, 147, 197, 206, 213, 220, 223 TE: 12, 78, 286, 341, 346, 348, 367, 368, 375, 376, 380, 388, 411, 518, 536, 561, 575, 586
•	Use appropriate tools strategically.	Representative Pages: SAB: 35, 86, 122, 152, 158, 178, 203, 224 TE: 14, 106, 117, 181, 257, 286, 347, 426, 441, 476, 483, 504, 513, 524, 532, 540, 550, 587, 597

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•	Attend to precision.	Representative Pages: SAB: 45, 63, 80, 104, 109, 121, 127, 140, 142, 184, 190 TE: 130, 175, 185, 242, 268, 292, 306, 335, 346, 356, 386, 391, 397, 489, 503, 534, 580, 586, 588, 600
•	Look for and make use of structure.	Representative Pages: SAB: 8, 44, 81, 94, 101, 120, 129, 137, 151, 154, 181, 196, 209, 224 TE: 16, 125, 132, 243, 258, 271, 287, 342, 360, 364, 375, 387, 425, 428, 482, 517, 542, 551, 587
•	Look for and make sense of regularity in repeated reasoning.	Representative Pages: SAB: 42, 46, 102, 112, 128, 153, 156, 185, 201, 215 TE: 79, 108, 120, 131, 245, 270, 289, 309, 316, 348, 358, 427, 435, 491, 523, 567, 588, 598

Standard	Descriptor	Citations
<b>2.1 Numbers and Operations</b>		
<b>2.1.4 Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</b>		
<b>(A) Counting &amp; Cardinality</b>		
	N/A	
<b>(B) Numbers &amp; Operations in Base Ten</b>		
<b>CC.2.1.4.B.1</b>	Apply place-value concepts to show an understanding of multi-digit whole numbers.  M04.A-T.1.1.1 M04.A-T.1.1.2 M04.A-T.1.1.3 M04.A-T.1.1.4	SAB: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 TE: 2–3, 4, 5–8, 9–10, 12–15, 16, 17–18, 20–23, 24, 25–26, 27–28
<b>CC.2.1.4.B.2</b>	Use place-value understanding and properties of operations to perform multi-digit arithmetic.  M04.A-T.2.1.1 M04.A-T.2.1.2 M04.A-T.2.1.3 M04.A-T.2.1.4	SAB: 15, 16, 17, 18, 23, 24, 27, 28, 43, 44, 45, 46, 53, 54, 62, 87, 98, 109 TE: 46–49, 50–52, 53–54, 56–57, 58, 59–60, 70–71, 72, 73, 75–76, 84, 85–88, 89–90, 124, 125–126, 127–128, 130–131, 132, 133–134, 152–153, 154–156, 157–158, 183, 276–277, 278–279, 283, 304–305, 306–308

Standard	Descriptor	Citations
<b>(C) Numbers &amp; Operations – Fractions</b>		
<b>CC.2.1.4.C.1</b>	Extend the understanding of fractions to show equivalence and ordering.  M04.A-F.1.1.1 M04.A-F.1.1.2	SAB: 229, 230, 233, 234, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248 TE: 596–598, 599–600, 601–602, 607–610, 611–612, 620, 621–623, 624, 625–626, 628, 629–631, 632, 633–634, 636–637, 638–640, 641–642, 643–644
<b>CC.2.1.4.C.2</b>	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.  M04.A-F.2.1.1 M04.A-F.2.1.2 M04.A-F.2.1.3 M04.A-F.2.1.4 M04.A-F.2.1.5 M04.A-F.2.1.6 M04.A-F.2.1.7	SAB: 199, 200, 201, 202 TE: 522–523, 524–525, 526–528, 529–530
<b>CC.2.1.4.C.3</b>	Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g., 19/100).  M04.A-F.3.1.1 M04.A-F.3.1.2 M04.A-F.3.1.3	SAB: 253, 254, 255, 256, 257, 258 TE: 652–657, 658, 659–660, 662–663, 665, 668, 670

Standard	Descriptor	Citations
<b>2.2 Algebraic Concepts</b>		
<b>2.2.4 Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</b>		
<b>(A) Operations and Algebraic Thinking</b>		
<b>CC.2.2.4.A.1</b>	Represent and solve problems involving the four operations.  M04.B-O.1.1.1 M04.B-O.1.1.2 M04.B-O.1.1.3 M04.B-O.1.1.4	SAB: 56, 57, 58, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 143, 144, 145, 146, 147, 148, 149, 150, 157, 158 TE: 163–164, 166, 169–170, 171, 356–358, 359–360, 361–362, 364, 365–366, 367–370, 371–372, 374–375, 376, 377–378, 380–381, 382, 383–384, 386–389, 390–392, 393–394, 402–403, 404, 405–406, 408–410, 411–412, 413–414, 416–418, 419–420, 421–422, 440–441
<b>CC.2.2.4.A.2</b>	Develop and/or apply number theory concepts to find factors and multiples.  M04.B-O.2.1.1	SAB: 151, 152, 153, 154 TE: 424–425, 426, 427–428, 429–430
<b>CC.2.2.4.A.4</b>	Generate and analyze patterns using one rule.  M04.B-O.3.1.1 M04.B-O.3.1.2 M04.B-O.3.1.3	SAB: 155, 156 TE: 432–433, 434–436, 437–438

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<b>2.3 Geometry</b>		
<b>2.3.4 Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</b>		
<b>(A) Geometry</b>		
<b>CC.2.3.4.A.1</b>	Draw lines and angles and identify these in two-dimensional figures.  M04.C-G.1.1.1	SAB: 275, 276, 276A, 278, 279, 280, 281, 282, 297, 298, 299 TE: 712–713, 714, 715–716, 720–722, 723–724, 726–727, 728, 729–730, 756–757, 758 759, 761
<b>C.2.3.4.A.2</b>	Classify two- dimensional figures by properties of their lines and angles.  M04.C-G.1.1.2	SAB: 283, 284, 285, 286, 287, 288, 301, 302, 303, 304, 304A, 311, 312, 312A TE: 732–733, 734–736, 737–738, 739–740, 764–765, 766, 767–768, 769–770, 780, 781, 782, 783–784
<b>CC.2.3.4.A.3</b>	Recognize symmetric shapes and draw lines of symmetry.  M04.C-G.1.1.3	SAB: 313, 314, 315, 316, 317 TE: 710, 786, 787–788, 789–790, 791–792, 794, 797–798
<b>2.4 Measurement, Data, and Probability</b>		
<b>2.4.4 Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</b>		
<b>(A) Measurement and Data</b>		
<b>CC.2.4.4.A.1</b>	Solve problems involving measurement and conversions from a larger unit to a smaller unit.  M04.D-M.1.1.1 M04.D-M.1.1.2 M04.D-M.1.1.3 M04.D-M.1.1.4	SAB: 165, 166, 167, 168, 169, 170, 171, 172, 177, 178, 179, 180, 181, 182, 187, 188 TE: 450–452, 453–454, 455–456, 458–460, 461, 462, 463–464, 474–475, 476, 477–478, 480–481, 482, 483–484, 485–486, 496, 498, 499, 500
<b>CC.2.4.4.A.2</b>	Translate information from one type of data display to another.  M04.D-M.2.1.3	This standard is addressed in <i>Math Expressions</i> Grade 3 and Grade 6.

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<b>CC.2.4.4.A.4</b>	Represent and interpret data involving fractions using information provided in a line plot.  M04.D-M.2.1.1 M04.D-M.2.1.2	SAB: 249, 250 TE: 646–647, 648, 649–650
<b>CC.2.4.4.A.6</b>	Measure angles and use properties of adjacent angles to solve problems.  M04.D-M.3.1.1 M04.D-M.3.1.2	SAB: 277, 278 279, 280, 282, 289, 290, 291, 292, 293, 294 TE: 718–720, 721–722, 723–724, 728, 729–730, 742–743, 744–746, 747–748, 750–751, 752, 753–754