

**Macmillan/McGraw-Hill**

**Math Connects**

**2009**

**Grade K**

**Correlated with**

**Alaska**

**Math Performance Standards  
Grade Level Expectations**

**Grade K**

**Paty Sak, Sales Representative  
Macmillan/McGraw-Hill  
The McGraw-Hill School Solutions Group  
503-744-0331**

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**2009**

**Kindergarten**

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 Correlated with  
 Alaska Math Performance Standards, Grade Level Expectations, Kindergarten

<b>Content Standard A: Mathematical facts, concepts, principles, and theories</b>	
<b>Numeration:</b> Understand and use numeration	
<b>Understanding Numbers</b>	
<b>The student demonstrates conceptual understanding</b>	
<b>• of whole numbers to 20 by</b>	
[K] N-1 demonstrating 1-1 correspondence (M1.1.1)	pp. 4, 27B, 27-28, 29A, 29B, 29-30, 31A, 31B, 31-32, 35, 36, 123
[K] N-2 recognizing and counting whole numbers from 0-20 (M1.1.1)	pp. 43-44, 45-46, 47-48, 49-50, 55-56, 101-102, 103-104, 105-106, 107, 108, 109-110, 111-112, 153-154, 155-156, 157-158, 159, 161-162, 163-164
[K] N-3 writing and ordering whole numbers from 0-20 (M1.1.1)	pp. 59A, 59B, 59-60, 117A, 117B, 117-118, 123, 167A, 167B, 167-168
[K] N-4 counting whole numbers backwards from 10 to 0 (M1.1.1)	Opportunities to address: pp. 60, P10
[K] N-5 identifying ordinal position, first to the tenth (M1.1.4)	pp. 68, 119A, 119B, 119-120, P10
<b>• of simple fractions</b>	
[K] N-6 dividing an even numbered set of concrete objects (up to 20) into halves (M1.1.5)	pp. 269B, 269, 270, 275, LA13, LA14
[K] N-7 identifying halves (M1.1.5)	pp. 269A, 269B, 269, 270, 275, LA13, LA14
[K] N-8 identifying full, half full, and empty containers (M1.1.5)	Opportunities to address: pp. 189B, 189, 190, 269A, 269B, 269, 270, 275, LA13, LA14
<b>Understanding Meaning of Operations</b>	
<b>The student demonstrates conceptual understanding of mathematical operations by</b>	
[K] N-9 recognizing (+), (-), and (=) signs (M1.1.3)	pp. 291A, 291B, 291-292, 323A, 323B, 323-324, 341A, 341B, 341-342
[K] N-10 using objects or pictures to model addition and subtraction of whole numbers (M1.1.3)	pp. 280, 281, 282, 283-286, 287-288, 289, 290, 291-292, 293-296, 297-298, 299-300, 301-302, 303-304, 305-306, 307-308, 309-310, 311-312, 314, 315, 316, 317-320, 321-322, 323-324, 325-328, 329, 330, 331-332, 333-334, 335-336, 337-338, 339-340, 341-342, 343-344, 345-346, 347-348
[K] N-11 using number lines or objects related to real situations (M1.1.3)	pp. 167B, 167, 168, 171, 215A, 215B, 215-216, 221, 223, 224, 278, 312

<b>Number Theory</b>	
<b>The student demonstrates conceptual understanding of number theory by</b>	
[K] N-12 demonstrating skip counting by 2's, 5's, and 10's with support (M1.1.6)	Opportunities to address: pp. LA7, LA8, P8
<b>Content Standard A: Mathematical facts, concepts, principles, and theories</b>	
<b>Measurement: Select and use systems, units, and tools of measurement</b>	
<b>Measurable Attributes</b>	
<b>The student demonstrates understanding of measurable attributes by</b>	
[K] MEA-1 making comparisons between objects using concepts of big/little, long/short, large/small, more/less, same (M2.1.1)	pp. 7, 8, 175G, 175H, 175, 176, 177, 178, 179A, 179B, 179-180, 181A, 181B, 181-182, 183B, 183-184, 185A, 185B, 185, 186, 187, 188, 189A, 189B, 189-190, 191A, 191B, 191-192, 195-196, 197, 198
[K] MEA-2 identifying coins by name: penny, nickel, dime, and quarter (M2.1.5)	pp. 34, 60, 106, 134, 152, 164, 170, 220, 288, 325B, 336, CS1-CS2
<b>Measurement Techniques</b>	
<b>The student demonstrates ability to use measurement techniques by</b>	
[K] MEA-3 identifying instruments used to measure length, time, and temperature (M2.1.3)	pp. 225G, 226, 239A, 239B, 239-240, 241A, 241B, 241-242, 243, 244, 247
[K] MEA-4 naming in sequence the days of the week (M2.1.1)	pp. 13H, 127H, 225H, 231A, 231B, 231-232, 236
[K] MEA-5 telling time to the hour using analog and digital clocks (M2.1.4)	pp. 239A, 239B, 239-240, 241A, 241B, 241-242, 243, 244, 247
<b>Content Standard A: Mathematical facts, concepts, principles, and theories</b>	
<b>Estimation and Computation: Perform basic arithmetic functions, make reasoned estimates, and select and use appropriate methods or tools</b>	
<b>Estimation</b>	
<b>The student determines reasonable answers to real-life situations, paper/pencil computations, or calculator results by</b>	
[K] E&C-1 comparing the number of objects in different sets using more, less, same	pp. 27B, 27-28, 29B, 29-30, 31B, 31-32, 35-36, 57-58, 115-116, 165-166
[K] E&C-2 estimating the number of objects in a given set as more or less than 10 (M3.1.1)	pp. 217A, 217B, 217-218
<b>Computation</b>	
<b>The student accurately solves problems (including real-world situations) involving</b>	
[K] E&C-3 adding and subtracting whole numbers up to ten using manipulatives (M3.1.3)	pp. 280, 281, 282, 283-286, 287-288, 289, 290, 291-292, 293-296, 297-298, 299-300, 301-302, 303-304, 305-306, 315, 316, 317-320, 321-322, 323-324, 325-328, 329, 330, 331-332, 333-334, 335-336, 337-338, 339-340, 341-342, 345-346

<b>Content Standard A: Mathematical facts, concepts, principles, and theories</b>	
<b>Functions and Relationships:</b> Represent, analyze, and use patterns, relations, and functions	
<b>Describing Patterns and Functions</b>	
<b>The student demonstrates conceptual understanding of functions, patterns, or sequences by</b>	
[K] <b>F&amp;R-1</b> recognizing patterns found in common objects, sounds, and movements (M4.1.1)	pp. 5, 6, 67G, 77-78, 80, 81-82, 85-86, 87-88, 91-92, 313G
[K] <b>F&amp;R-2</b> identifying, sorting, and classifying objects by attribute and identifying objects that do not belong to a particular group (M4.1.1)	pp. 13G, 17B, 17-18, 19A, 19B, 19-20, 21B, 21-22, 23-24, 25, 68, 94
[K] <b>F&amp;R-3</b> recognizing, identifying, and continuing simple patterns of color, shape, or size (M4.1.1)	pp. 67G, 67H, 77-78, 80, 81-82, 83-84, 267B
<b>Modeling and Solving Equations and Inequalities</b>	
<b>The student demonstrates algebraic thinking by</b>	
[K] <b>F&amp;R-4</b> adding or subtracting whole numbers to 10 using manipulatives to solve story problems (M4.1.4)	pp. 283-284, 285-286, 287A, 287, 288, 289, 299A, 301A, 305-306, 317-320, 321A, 321-322, 329, 330
[K] <b>F&amp;R-5</b> showing more, less, or equal to using objects (M4.1.4)	pp. 27B, 27-28, 29A, 29B, 29-30, 31B, 31-32, 57A, 57B, 57, 115B, 165B, 165
<b>Content Standard A: Mathematical facts, concepts, principles, and theories</b>	
<b>Geometry:</b> Construct, transform, and analyze geometric figures	
<b>Geometric Relationships</b>	
<b>The student demonstrates an understanding of geometric relationships by</b>	
[K] <b>G-1</b> sorting and classifying shapes according to similar attributes (M5.1.1)	pp. 251G, 251H, 251, 252, 257A, 257B, 257-258, 259-260, 261-262, 263-264, 265, 266, 267A
[K] <b>G-2</b> describing objects using three attributes such as size, color, and shape (M5.1.1)	pp. 257A, 257B, 257-258
[K] <b>G-3</b> identifying triangle, circle, rectangle, and square (M5.1.1)	pp. 251H, 253, 254, 259-260, 261-262, 263-264, 265, 266, 271B, 271-272
<b>Similarity, Congruence, Symmetry, and Transformation of Shapes</b>	
<b>The student demonstrates conceptual understanding of similarity, congruence, symmetry, or transformations of shapes by</b>	
[K] <b>G-4</b> comparing geometric shapes (M5.1.3)	pp. 251G, 251H, 251, 252, 253, 254, 255, 256, 257A, 257B, 257-258, 259-260, 261-262, 263-264, 265, 266, 267A, 271A, 271B, 271-272
<b>Perimeter, Area, Volume, and Surface Area</b>	
<b>The student solves problems using perimeter or area by</b>	
Not addressed at this grade level.	

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<b>Position and Direction</b>	
<b>The student demonstrates understanding of position and direction by</b>	
[K] G-5 identifying positions of objects that are above, below, before, after, next to, in the middle of, in front of, behind... (M5.1.6)	pp. 71A, 71B, 71-72, 73A, 73B, 73-74, 75A, 75B, 75-76, 79, 93, 271B, LA7B
<b>Construction</b>	
<b>The student demonstrates a conceptual understanding of geometric drawings or constructions by</b>	
[K] G-6 drawing, copying, or describing triangles, squares, rectangles and circles (M5.1.7)	pp. 251H, 253, 254, 259-260, 261-262, 263-264, 265, 266, 271B, 271-272
<b>Content Standard A: Mathematical facts, concepts, principles, and theories</b>	
<b>Statistics and Probability: Formulate questions, gather and interpret data, and make predictions</b>	
<b>Data Display</b>	
<b>The student demonstrates an ability to classify and organize data by</b>	
[K] S&P-1 constructing real graphs using concrete objects or pictographs with support (M6.1.1)	pp. 127G, 127H, 131B, 133A, 133B, 133-134, 137, 138, 139-140, 141A, 141B, 141
[K] S&P-2 collecting and recording data with support (M6.1.1)	pp. 127G, 127H, 128, 131A, 131B, 131-132, 133A, 133B, 133-134, 135B, 137, 138, 139A, 139B, 139-140, 141A, 141B, 141-142, 143-144
<b>Analysis and Central Tendency</b>	
<b>The student demonstrates an ability to analyze data (comparing, explaining, interpreting, evaluating; or drawing or justifying conclusions) by</b>	
[K] S&P-3 describing information from real graphs or pictographs (M6.1.2)	pp. 127G, 127H, 131B, 133A, 133B, 133-134, 135-136, 137, 138, 139A, 139B, 139-140, 141A, 141B, 141, 143-144
<b>Probability</b>	
<b>The student demonstrates a conceptual understanding of probability and counting techniques by</b>	
[K] S&P-4 making simple predictions using events or repeated observations (M6.1.4)	Opportunities to address: pp. 139-140, 141-142, 303A
<b>Content Standards B, C, D, and E: Process skills and abilities</b>	
Applying conceptual knowledge and skills as designated in all strands of Content Standard A by problem solving, communicating, reasoning, and making connections	
<b>Problem Solving: Understand and be able to select and use a variety of problem-solving strategies</b>	
<b>The student demonstrates an ability to problem solve by</b>	
[K] PS-1 solving simple problems using concrete objects (M7.1.2)	pp. 17A, 19A, 21A, 23A, 27A, 29A, 31A, 43A, 45A, 47A, 49A, 53A, 55A, 57A, 59A, 71A, 73A, 75A, 77A, 81A, 83A, 101A, 103A, 109A, 113A, 115A, 131A, 133A, 135A, 153A, 155A, 157A, 161A, 163A, 165A, 179A, 181A, 185A, 189A, 191A, 205A, 207A, 209A, 213A, 217A, 239A, 241A, 243A, 255A, 257A, 259A, 261A, 267A, 269A, 271A, 283A, 287A, 291A, 293A, 297A,

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[K] <b>PS-1</b> solving simple problems using concrete objects (M7.1.2) (continued)	299A, 301A, 303A, 305A, 317A, 321A, 323A, 325A, 331A, 333A, 335A, 337A, 339A, 341A
<b>Communication:</b> Form and use appropriate methods to define and explain mathematical relationships	
<b>The student communicates his or her mathematical thinking by</b>	
[K] <b>PS-2</b> telling how objects were used to solve simple problems (M8.1.2)	pp. 209-210, 239A, 239B, 243
<b>Reasoning:</b> Use logic and reason to solve mathematical problems	
<b>The student demonstrates an ability to use logic and reason by</b>	
[K] <b>PS-3</b> explaining what makes sense (M9.1.3)	pp. 185-186, 339-340
[K] <b>PS-4</b> drawing pictures that support simple mathematical statements (M9.1.2)	pp. 53-54, 113-114, 267-268
<b>Connections:</b> Apply mathematical concepts and processes to situations within and outside of school	
<b>The student understands and applies mathematical skills and processes across the content strands by</b>	
[K] <b>PS-5</b> using real world context (i.e., self, friends, and family) (M10.1.2)	pp. 15-16, 18, 20, 24, 28, 30, 32, 41-42, 44, 46, 48, 50, 54, 56, 58, 60, 69-70, 72, 74, 76, 78, 82, 84, 86, 88, 99-100, 102, 104, 106, 110, 112, 114, 116, 118, 120, 129-130, 132, 134, 136, 140, 142, 151-152, 154, 156, 158, 162, 164, 166, 168, 177-178, 180, 182, 184, 186, 190, 192, 193-194, 206, 208, 210, 214, 216, 217-218, 230, 232, 234, 236, 240, 242, 244, 255-256, 258, 260, 262, 264, 268, 270, 272, 281-282, 286, 288, 292, 298, 300, 302, 304, 306, 315-316, 320, 322, 324, 328, 332, 334, 336, 338, 340, 342