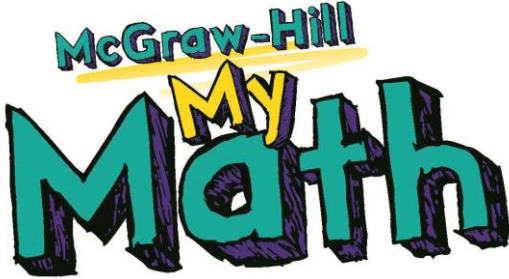
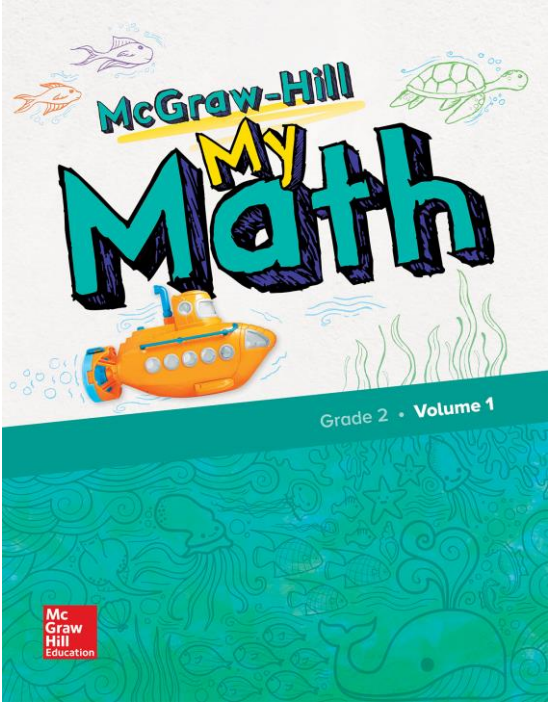




New Learning Standards for  
Mathematics  
Grade 2



Volumes 1 and 2

Grade 2

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STANDARDS

PAGE REFERENCES

Operations and Algebraic Thinking

**Represent and solve problems involving addition and subtraction.**

**2.OA.1** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. See Table 1, page 95.

11–16, 17–22, 23–28, 29–34, 35–40, 41–46, 49–54, 55–60, 61–66, 69–74, 76–80, 81–86, 87–92, 107–112, 113–118, 119–124, 165–170, 171–176, 177–182, 185–190, 191–196, 197–202, 203–208, 223–228, 229–234, 235–240, 241–246, 249–254, 255–260, 261–266, 267–272, 277–278

STANDARDS	PAGE REFERENCES
<p><b>Add and subtract within 20.</b></p> <p><b>2.OA.2</b> Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. <i>See standard 1.OA.6 for a list of mental strategies.</i></p>	11–16, 17–22, 23–28, 29–34, 35–40, 41–46, 49–54, 55–60, 61–66, 69–74, 76–80, 81–86, 107–112
<p><b>Work with equal groups of objects to gain foundations for multiplication.</b></p> <p><b>2.OA.3</b> Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</p>	139–144, 145–150
<p><b>Work with equal groups of objects to gain foundations for multiplication.</b></p> <p><b>2.OA.4</b> Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.</p>	127–132, 133–138
<b>Numbers and Operations in Base Ten</b>	
<p><b>Understand place value.</b></p> <p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p><b>a.</b> 100 can be thought of as a bundle of ten tens - called a “hundred.”</p> <p><b>b.</b> The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p>	295–300, 301–306, 307–312, 315–320
<p><b>Understand place value.</b></p> <p><b>2.NBT.2</b> Count <b>forward and backward</b> within 1000 <b>by ones, tens, and hundreds starting at any number; skip-count by 5s starting at any multiple of 5.</b></p>	107–112, 113–118, 119–124, 127–132, 327–332
<p><b>Understand place value.</b></p> <p><b>2.NBT.3</b> Read and write numbers to 1000 using base-ten numerals, number names, expanded form, <b>and equivalent representations, e.g., 716 is 700 + 10 + 6, or 6 + 700 + 10, or 6 ones and 71 tens, etc.</b></p>	301–306, 307–312, 315–320, 321–326
<p><b>Understand place value.</b></p> <p><b>2.NBT.4</b> Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p>	333–338

STANDARDS	PAGE REFERENCES
<p><b>Use place value understanding and properties of operations to add and subtract.</b></p> <p><b>2.NBT.5</b> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>	11–16, 171–176, 177–182, 185–190, 191–196, 223–228, 235–240, 241–246, 249–254, 255–260, 261–266
<p><b>Use place value understanding and properties of operations to add and subtract.</b></p> <p><b>2.NBT.6</b> Add up to four two-digit numbers using strategies based on place value and properties of operations.</p>	191–196, 197–202
<p><b>Use place value understanding and properties of operations to add and subtract.</b></p> <p><b>2.NBT.7</b> Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p>	351–356, 357–362, 371–376, 377–382, 383–388, 389–394, 395–400, 413–418, 419–424, 433–438, 439–444, 445–450, 451–456, 457–462, 463–468
<p><b>Use place value understanding and properties of operations to add and subtract.</b></p> <p><b>2.NBT.8</b> Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.</p>	327–332, 363–368, 425–430
<p><b>Use place value understanding and properties of operations to add and subtract.</b></p> <p><b>2.NBT.9</b> Explain why addition and subtraction strategies work, using place value and the properties of operations.</p>	11–16, 35–40, 55–60, 81–86, 171–176, 177–182, 185–190, 197–202, 235–240, 241–246, 249–254, 357–362, 371–376, 377–382, 383–388, 419–424, 433–438, 439–444, 445–450, 463–468
<b>Measurement and Data</b>	
<p><b>Measure and estimate lengths in standard units.</b></p> <p><b>2.MD.1</b> Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p>	645–650, 651–656, 657–662, 685–690, 691–696
<p><b>Measure and estimate lengths in standard units.</b></p> <p><b>2.MD.2</b> Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.</p>	671–676, 703–708

STANDARDS	PAGE REFERENCES
<p><b>Measure and estimate lengths in standard units.</b>  <b>2.MD.3</b> Estimate lengths using units of inches, feet, centimeters, and meters.</p>	645–650, 651–656, 657–662, 685–690, 691–696
<p><b>Measure and estimate lengths in standard units.</b>  <b>2.MD.4</b> Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p>	665–670, 697–702
<p><b>Relate addition and subtraction to length.</b>  <b>2.MD.5</b> Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same whole number units, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.  <i>Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)</i></p>	645–650, 651–656, 677–682, 685–690
<p><b>Relate addition and subtraction to length.</b>  <b>2.MD.6</b> Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.</p>	709–714
<p><b>Work with time and money.</b>  <b>2.MD.7</b> Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p>	593–598, 599–604, 605–610, 613–618, 619–624, 625–630
<p><b>Work with time and money.</b>  <b>2.MD.8</b> <i>Solve problems with money.</i>  <b>a.</b> <i>Identify nickels and quarters by name and value.</i>  <b>b.</b> <i>Find the value of a collection of quarters, dimes, nickels, and pennies.</i>  <b>c.</b> <i>Solve word problems by adding and subtracting within 100, dollars with dollars and cents with cents (not using dollars and cents simultaneously) using the \$ and ¢ symbols appropriately (not including decimal notation).</i></p>	483–488, 489–494, 495–500, 501–502, 503–508, 509–514, 515–518
<p><b>Represent and interpret data.</b>  <b>2.MD.9</b> Generate measurement data by measuring lengths of several objects to the nearest whole unit or by making repeated measurements of the same object. Show the measurements by <b>creating</b> a line plot, where the horizontal scale is marked off in whole-number units.</p>	715–720, 723

STANDARDS	PAGE REFERENCES
<p><b>Represent and interpret data.</b></p> <p><b>2.MD.10</b> Organize, represent, and interpret data with up to four categories; complete picture graphs when single-unit scales are provided; complete bar graphs when single-unit scales are provided; solve simple put-together, take-apart, and compare problems in a graph. See Table 1, page 95.</p>	<p>529–534, 535–540, 541–546, 547–548, 549–550, 555–560, 561–566, 580</p>
<b>Geometry</b>	
<p><b>Reason with shapes and their attributes.</b></p> <p><b>2.G.1</b> Recognize and identify triangles, quadrilaterals, pentagons, and hexagons based on the number of sides or vertices. Recognize and identify cubes, rectangular prisms, cones, and cylinders.</p>	<p>739–744, 745–750, 751–756, 757–758, 759–764, 765–770, 771–776, 789–792</p>
<p><b>Reason with shapes and their attributes.</b></p> <p><b>2.G.2</b> Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p>	<p>783–788</p>
<p><b>Reason with shapes and their attributes.</b></p> <p><b>2.G.3</b> Partition circles and rectangles into two, three, or four equal shares; describe the shares using the words <i>halves</i>, <i>thirds</i>, or <i>fourths</i> and <i>quarters</i>, and use the phrases <i>half of</i>, <i>third of</i>, or <i>fourth of</i> and <i>quarter of</i>. Describe the whole as two halves, three thirds, or four fourths in real-world contexts. Recognize that equal shares of identical wholes need not have the same shape.</p>	<p>778–782</p>