

Next Generation Math Standards----Grade 2


Cognitive Complexity/Depth of Knowledge Rating: Low, Moderate, High

BIG IDEAS (2)

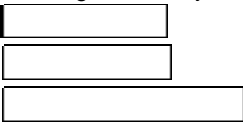
BIG IDEA 1: Develop an understanding of base-ten numerations system and place-value concepts.

MA.2.A.1.1 Moderate	Identify relationships between the digits and their place values through the thousands, including counting by tens and hundreds.	Example: Represent 2347 by using 3-dimensional base-10 blocks.
MA.2.A.1.2 Low	Identify and name numbers through thousands in terms of place value and apply this knowledge to expanded notation	Remark: Name and write in numeral whole numbers through 9,999. Identify the place value of the digits and order the numbers.
MA.2.A.1.3 Moderate	Compare and order multi-digit numbers through the thousands.	Remark: Students will use less than, equal to, and greater than symbols (<, =, >).

BIG IDEA 2: Develop quick recall of addition facts and related subtraction facts and fluency with multi-digit addition and subtraction.

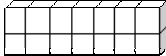

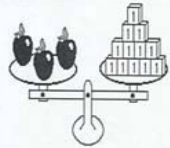
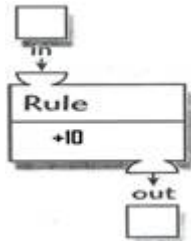
MA.2.A.2.1 Low	Recall basic addition and related subtraction facts.	Remark: Basic facts include addends from zero through nine.
MA.2.A.2.2 Moderate	Add and subtract multi-digit whole numbers through three digits with fluency by using a variety of strategies, including invented and standard algorithms and explanations of those procedures.	Remark: Activities include mental computation. Example: For $141 - 99$, the standard algorithm uses regrouping. An invented approach may be to subtract 100 and add 1 ($141 - 100 + 1$). Another invented approach is to add one to both the minuend and subtrahend so that you have $142 - 100$, which can be done mentally.
MA.2.A.2.3 Moderate	Estimate solutions to multi-digit addition and subtraction problems, through three digits.	Example: Your friend says that $247 + 65 = 897$. Without solving, explain why you think the answer is wrong. Activities include mental computation.
MA.2.A.2.4 High	Solve addition and subtraction problems that involve measurement and geometry.	Example: Students can add two units of the same measure ($34 \text{ cm} + 20 \text{ cm}$) Example: What is the total number of sides in two triangles? 

BIG IDEA 3: Develop an understanding of linear measurement and facility in measuring lengths.

MA.2.G.3.1 Moderate	Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.	Example: Measure and compare common objects using metric and customary units of length, such as centimeters and inches.
MA.2.G.3.2 Moderate	Describe the inverse relationship between the size of a unit and number of units needed to measure a given object.	Example: Suppose the perimeter of a room is lined with one-foot rulers. Now, suppose we want to line it with yardsticks instead of rulers. Will we need more or fewer yardsticks than rulers to do the job? Explain your answer.
MA.2.G.3.3 Moderate	Apply the Transitive Property when comparing lengths of objects.	Example: The Transitive Property states If object A is longer than object B, and object B is longer than object C, then object A is longer than object C.  Label these objects with A, B, and C according to the statement above.
MA.2.G.3.4 High	Estimate, select an appropriate tool, measure, and/or compute lengths to solve problems.	Remark: Activities do not include conversion of units.

SUPPORTING IDEAS (2)

SUPPORTING IDEA 4: Algebra

MA.2.A.4.1 Moderate	Extend number patterns to build a foundation for understanding multiples and factors – for example, skip counting by 2’s, 5’s, 10’s.	Remark: Activities such as skip counting by 2’s, 5’s, and 10’s will help students find multiples of 2, 5, and 10.																		
MA.2.A.4.2 Moderate	Classify numbers as odd or even and explain why.	Example: Is 14 an <i>even</i> number or an <i>odd</i> number? Explain why. Provide manipulatives (e.g. color tiles, cubes) for students to explore even and odd numbers. 14 is an even number because 14 cubes form a rectangular array with a side of 2. 																		
MA.2.A.4.3 High	Generalize numeric and non-numeric patterns using words and tables.	Remark: Activities include predicting numbers in a sequence when several terms are skipped. Example: Using the following number sequences, explain in words how you would know what the 9 th number could be. <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 150px;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>21</td><td>19</td><td>17</td><td>15</td><td></td><td></td><td></td><td></td><td>?</td></tr></table> Example: Say the name of each shape, starting from the left.  → If you continue saying those words in the same order, what is the 19 th word you’ll say? Why?	1	2	3	4	5	6	7	8	9	21	19	17	15					?
1	2	3	4	5	6	7	8	9												
21	19	17	15					?												
MA.2.A.4.4 High	Describe and apply equality to solve problems, such as in balancing situations.	Example: Jorge made 3 identical apples balance with twelve 1-ounce weights. How much did each apple weigh? 																		
MA.2.A.4.5 High	Recognize and state rules for functions that use addition and subtraction.	Example: Using the numbers from the in and out chart, find and state the rule in words. What was the input number that gave 14? <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 80px;"><thead><tr><th>IN</th><th>OUT</th></tr></thead><tbody><tr><td>10</td><td>20</td></tr><tr><td>5</td><td>15</td></tr><tr><td>2</td><td>12</td></tr><tr><td>3</td><td>13</td></tr><tr><td>?</td><td>14</td></tr></tbody></table> 	IN	OUT	10	20	5	15	2	12	3	13	?	14						
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?	14																			

SUPPORTING IDEA 5: Geometry and Measurement

MA.2.G.5.1 Moderate	Use geometric models to demonstrate the relationships between wholes and their parts as a foundation to fractions.	Example: Using pattern blocks, how many trapezoids does it take to make a hexagon?
MA.2.G.5.2 Low	Identify time to the nearest hour and half hour.	Remark: Identify time to the nearest hour and half hour.
MA.2.G.5.3 Moderate	Identify, combine, and compare values of money in cents up to \$1 and in dollars up to \$100, working with a single unit of currency.	Example: Name the different denominations of coins and bills. Match one coin of one denomination to an equivalent amount of another; in coins. Similarly, match dollar amounts of different denominations and combinations of bills. Remark: Activities will include the dollar sign (\$) and cent (¢) symbols.
MA.2.G.5.4 Low	Measure weight/mass and capacity/volume of objects. Include the use of the appropriate unit of measure and their abbreviations including cups, pints, quarts, gallons, ounces (oz), pounds (lbs), grams (g), kilograms (kg), milliliters (mL) and liters (L).	

SUPPORTING IDEA 6: Number and Operations

MA.2.A.6.1 Moderate	Solve problems that involve repeated addition.	Remark: Example: John earns \$3 per day for 7 days. How much money did he earn? $\$3 + \$3 + \$3 + \$3 + \$3 + \$3 + \$3 = \21
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