Year at a Glance - Second Grade Mathematics

**What Students Learn**

In Grade 2, instructional time focuses on five critical areas: (1) extending understanding of place value using base-ten notation; (2) building fluency with addition and subtraction within 20; (3) addition and subtraction within 1,000; (4) solving all addition and subtraction word problem types; and (5) money. Major clusters are all addressed towards the beginning of the year so that they can spiral and be touched upon throughout the year.

Problem solving using addition and subtraction is a critical area of instruction. Students solve one-and two-step word problems up to 20 initially and later on to 100, involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. Students represent problems and explain solutions using number bonds, ten frames, tape diagrams, number lines, and base-ten blocks. Expected fluencies are to add and subtract within 20 using mental strategies, add within 100 using place value strategies, properties and relationships between addition and subtraction, and know from memory all sums of two one-digit numbers.

The next major cluster is place value, crucial in building a foundation for addition and subtraction of numbers to 1,000. Students understand 100 can be thought of as a bundle of 10 tens and also understand three-digit whole numbers in terms of hundreds, tens, and ones. A unit on linear measurement follows work with place value, as students learn to measure lengths using standard units. The next unit focuses on adding and subtracting numbers to 1,000, using concrete models, drawings, and strategies. Students should know how to apply addition and subtraction to solve a variety of one- and two-step word problems (within 100).

The third trimester begins with a study of money. Students identify dollar bills and different coin denominations and apply the concepts of addition and subtraction to solve money word problems. The next unit focuses on the study of shapes and fractions. Students identify, describe, and draw triangles, quadrilaterals, pentagons, hexagons, and cubes. Students partition circles and rectangles into two, three, or four equal shares to lay a foundation for fraction work in the subsequent grade. Students then tell time to the nearest 5 minutes and understand calendar concepts of days, weeks and months. In the final unit, students generate picture graphs and bar graphs (with single-unit scale) to represent a data set with up to four categories and solve simple problems using information presented in a bar graph.

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<th>Topics and Pacing</th>
<th>Second Grade Students Will Master…</th>
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<td><strong>0. Introductory Days (1 week)</strong></td>
<td><strong>Essential (High Priority) Standards:</strong></td>
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| **1. Fluency Strategies and Problem Solving up to 20 (4 weeks)** | • Count, skip-count (by 2, 5, 10, 100), read & write numbers within 1,000 in numerals, number names, and expanded form (NBT2-3)
• Compare 3-digit numbers (NBT4)
• Fluently add/subtract within 100 using strategies (NBT5)
• Know from memory all sums of two one-digit numbers (OA2)
• Solve word problems involving money (MD8)
• Mentally add 10 and 100 to a given number (NBT8)
• Solve word problems involving addition & subtraction within 100 (OA1) |
| **2. Place Value up to 1000 (4 weeks)** | **Regular Priority Standards:** |
| **3. Linear Measurement with standard units (3 weeks)** | • Add and subtract within 1,000 and explain strategies (NBT6-7,9)
• Tell and write time (MD7)
• Understand and use place value to 100 (NBT1)
• Estimate and measure lengths using standard units (MD1-4)
• Solve + and - word problems within 100 involving lengths (MD5)
• Understand 2D shapes and attributes (G1) |
| **4. Addition and Subtraction to 1,000 (12 weeks)** | **Low Priority Standards:** |
| **5. Money (3 weeks)** | • Determine if a group of objects has an even or odd number of members (OA3)
• Use arrays and repeated addition as a foundation for multiplication (OA4)
• Plot numbers on a number line (MD6)
• Partitioning circles and rectangles in equal shares as a foundation for fractions (G2-3)
• Generate data & create picture & bar graphs of results (MD9-10) |
| **6. Shapes 2D and 3D (3 weeks)** | |
| **7. Tools to tell time - Clock and Calendar (3 weeks)** | |
| **8. Generate and Represent Graphs and Data (3 weeks)** | |

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