

## MTB4's Focus on Critical Areas in Grade 2

In Grade 2, students focus on the following areas as designated by the Common Core State Standards. Concepts and procedures are regularly revisited throughout the year as students' understanding builds and deepens.

- **Extending understanding of base-ten notation.**

In Unit 2, students focus on developing number sense for larger numbers up to 200 through practice with estimation and grouping and counting. Students use counters, number lines, and number charts to represent two- and three-digit numbers.

Unit 5 helps students connect representations of quantity to place value concepts of two- and three-digit numbers. Students group and count different quantities of objects and partition numbers into hundred, tens, and ones using number lines, charts, and connecting cubes.

In Unit 6, students continue their work with place value of three-digit numbers by using base-ten pieces and base-ten hoppers. Students also partition numbers into groups of tens and ones to further develop number sense.

In Unit 14, students apply place-value properties and use mental math strategies to calculate and estimate differences.

- **Building fluency with addition and subtraction.**

In Units 1–8, students systematically review and are assessed on small groups of addition facts that can be solved using similar strategies to maintain and increase proficiency and to learn to apply these strategies to larger numbers. This practice can be found regularly in the Daily Practice and Problems and Home Practice.

Unit	Addition Facts	Strategies Used	Focus
1	Group A 0 + 1, 1 + 1, 2 + 1, 3 + 1, 0 + 2, 2 + 2, 3 + 2, 4 + 2 Group B 3 + 0, 4 + 0, 4 + 1, 5 + 1, 6 + 1, 5 + 2, 6 + 2, 5 + 3, 7 + 1, 8 + 1	Counting On, Zero	Use strategies fluently for facts with sums to ten.  Develop mental math strategies and number sense and solve fact families for facts with sums more than ten.
2	Group C 1 + 9, 2 + 7, 2 + 8, 2 + 9, 3 + 6, 3 + 7, 3 + 8, 4 + 6, 4 + 7, 5 + 5, 5 = 6	Making Ten, Using Ten	
3	Group D 3 + 3, 3 + 4, 3 + 4, 4 + 5, 6 + 6, 6 + 7, 7 + 7, 7 + 8, 8 + 8, 10 + 9, 10 + 10	Using Doubles	
4	Group E 5 + 7, 8 + 4, 8 + 5, 9 + 3, 9 + 4, 9 + 5, 10 + 1, 10 + 2, 10 + 3	Making Ten, Using Ten	
5	Group F 8 + 6, 9 + 6, 9 + 7, 10 + 4, 10 + 5, 10 + 6, 10 + 7, 10 + 8, 9 + 8, 9 + 9	Making Ten, Using Ten	
6	Group C and D	Making Ten, Using Ten and Using Doubles	
7	Group E	Making Ten, Using Ten	Use strategies fluently and solve fact families
8	Group F	Making Ten, Using Ten	

In Units 9–15, students systematically review and are assessed on small groups of subtraction facts that can be solved using similar strategies to maintain and increase proficiency and to learn to apply these strategies to larger numbers. This practice can be found regularly in the Daily Practice and Problems and Home Practice.

Subtraction Facts Related to Addition Facts			
9	<p>Group A</p> $1 - 0, 1 - 1, 2 - 0, 2 - 1, 2 - 2, 3 - 1, 3 - 2,$ $4 - 1, 4 - 2, 4 - 3, 5 - 2, 5 - 3, 6 - 2, 6 - 4$	Counting On, Zero, Thinking Addition	<p>Use strategies fluently for facts with sums to ten.</p> <p>Develop mental math strategies and number sense and solve fact families for facts with sums more than ten.</p>
10	<p>Group B</p> $3 - 0, 4 - 0, 5 - 1, 5 - 4, 6 - 1, 6 - 5, 7 - 1, 7 - 2, 7 - 5,$ $7 - 6, 8 - 1, 8 - 2, 8 - 3, 8 - 5, 8 - 6, 8 - 7, 9 - 1, 9 - 8$	Counting On, Zero, Thinking Addition	
11	<p>Group C</p> $9 - 2, 9 - 3, 9 - 6, 9 - 7, 10 - 1, 10 - 2, 10 - 3,$ $10 - 4, 10 - 5, 10 - 6, 10 - 7, 10 - 8, 10 - 9, 11 - 2,$ $11 - 3, 11 - 4, 11 - 5, 11 - 6, 11 - 7, 11 - 8, 11 - 9$	Making Ten, Using Ten, Thinking Addition	
12	<p>Group D</p> $6 - 3, 7 - 3, 7 - 4, 8 - 4, 9 - 4, 9 - 5, 12 - 6, 13 - 6,$ $13 - 7, 14 - 7, 15 - 7, 15 - 8, 16 - 8, 19 - 10, 19 - 9, 20 - 10$	Using Doubles, Thinking Addition	
13	<p>Group E</p> $11 - 1, 11 - 10, 12 - 2, 12 - 3, 12 - 4, 12 - 5,$ $12 - 7, 12 - 8, 12 - 9,$ $12 - 10, 13 - 3, 13 - 4, 13 - 5, 13 - 8, 13 - 9,$ $13 - 10, 14 - 5, 14 - 9$	Making Ten, Using Ten, Thinking Addition	
14	<p>Group F</p> $14 - 4, 14 - 6, 14 - 8, 14 - 10, 15 - 5, 15 - 6,$ $15 - 9, 15 - 10, 16 - 6, 16 - 7, 16 - 9, 16 - 10,$ $17 - 7, 17 - 8, 17 - 9, 17 - 10, 18 - 8, 18 - 9,$ $18 - 10$	Making Ten, Using Ten, Thinking Addition	

In Unit 1, students solve the addition facts by building on their invented strategies to develop strategies reasoning from facts they know.

In Unit 3, students explore numbers and use mental math and reasoning strategies to solve addition and subtraction problems. Students explore addition and subtraction using the 200 Chart, number lines and manipulatives and solve word problems involving two whole numbers with a sum within 100.

Unit 7 focuses on the development of meaningful, accurate, and efficient methods for solving two-digit and three-digit addition problems. Students develop strategies to estimate sums, explore a variety of invented and mental math strategies supported with a variety of tools, and develop several addition methods (e.g., all-partials, expanded form, and compact).

In Unit 8, students practice applying and using the addition properties as they explore the concepts and skills of measurement, specifically mass.

In Unit 9, students solve subtraction problems using a variety of strategies, methods and representations. Students apply place-value properties and use mental math strategies to calculate and estimate differences. They also learn to use paper-and-pencil strategies (e.g., standard algorithm, expanded form) that apply place value concepts to solve subtraction problems.

In Unit 10, students explore and apply the associative and commutative properties of addition within the context of finding volume. Students then apply these properties to solve multistep addition problems.

In Unit 11, students solve one- and two-step addition and subtraction problems related to volume data.

In Unit 12, students use strategies, such as repeated addition and grouping, to begin exploring multiplication and division concepts.

In Unit 14, students extend their understanding and strategies for adding and subtracting to solve problems involving multidigit numbers. Students apply place-value properties and use mental math strategies to calculate and estimate differences. Students also learn to use paper-and-pencil strategies (e.g., standard algorithm, expanded form) that apply place value concepts to add and subtract.

In Unit 15, students identify, describe, and use patterns to make predictions about doubling and halving numbers.

- **Using standard units of measure.**

In Unit 4, students explore measurement concepts using a variety of nonstandard and standard units of length as they develop a list of measurement rules and compare the relative size of different units of measure.

In Unit 8, students practice applying and using the addition properties as they explore the concepts and skills of measurement, specifically mass.

In Unit 10, students use finding volume as a context for applying the associative and commutative properties of addition.

In Unit 11, students learn to read scales and apply their skills to find the volume of objects using a graduated cylinder.

- **Describing and analyzing shapes.**

In Unit 13, students solve partitioning problems using area models and rectangles and find the area of shapes that have whole units and parts of units. Students then analyze, sort, and describe the attributes of polygons.