



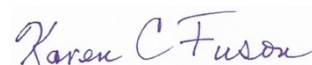
Math Expressions Common Core ©2013 Essential Content Frameworks for Grades K–6

A Note from Dr. Karen C. Fuson, Author and Professor Emerita, Northwestern University

As you begin planning for fall of 2020, you may need to consider disruptions in learning over the previous school year. There is a temptation to start with testing to diagnose potential gaps. I urge you not to start the year with testing. Students always forget things over the summer, and they will forget even more because of the Covid-19 school closures in the spring. Testing will not be valid, and it sends the wrong message for students.

Please start your instruction with Unit 1 as designed. Teachers, students, and parents/caregivers need normal classroom teaching/learning experiences this fall. I designed *Math Expressions* to cover all of the most important grade-level topics at the beginning of the year. These topics are all accessible to students even if they weren't able to complete Part 2 of the previous year in the spring. Some additional catch-up work may be needed at each grade and is described below. Please do this catch-up work when and where it is specified below, as doing it earlier will interfere with the crucial learning needed at students' current grade level. If schooling in the fall must be done remotely, the above is even more important because it will take longer to teach Part 1 remotely.

My support goes out to each and every one of you during this unprecedented time.



Update for Educators

The Math Expressions Fall 2020 Catch-Up Plan for Grades K–6 has been revised and renamed Essential Content Frameworks. The following updates have been included to help you prepare and plan for remote learning as we head into the upcoming school year. Our goal is to support you in creating a safe, engaging, and nurturing learning environment where children are challenged to think and discuss their reasoning. By design, the essential content for each grade is presented in Part 1 of Math Expressions and should be the primary focus of teaching.

In this updated document, we have identified additional practice resources available on Think Central. These resources are available to teachers within the same grade level, or in a prior grade level. A list of manipulatives for remote or hybrid learning is also included at the end of this document. In addition to the resources listed in this document, program author Dr. Karen Fuson has developed materials to use for remote teaching including Daily Routines, Quick Practices, and manipulatives for specific grade levels. You can find descriptions and a link to these Remote Teaching Materials on her website, karenfusonmath.com.

Math Expressions Common Core ©2013
Essential Content Framework: Grade 1

Part 1: Units 1 through 4: Be sure to do the Daily Routines to support children in learning place value concepts and counting to 120 before Unit 4. The Quick Practices are crucial for children to review Kindergarten concepts and understandings and to review fluency for addition and subtraction within 5 and then within 10. The Daily Routines and Quick Practices are described on the pages just before the first lesson of each unit.

- **Unit 1: Partners and Number Patterns Through 10:** This unit summarizes addition and subtraction work and visualizations from Kindergarten in ways that support first graders in remembering, analyzing, and discussing important concepts. Fluency for addition and subtraction within 5 is supported by focusing children on patterns and practice. This unit needs no special review materials.
- **Unit 2: Addition and Subtraction Strategies:** By the end of the unit, be sure that all children can count on to add and can retell in their own words, represent with fingers, objects, or drawings, and solve addition word problems. Children did a lot of this in Kindergarten Part 1, and they do more in this unit, so they should be fine by the end of this unit.
- **Unit 3: Unknown Numbers in Addition and Subtraction:** By the end of the unit, be sure that all children can count on to subtract and can retell in their own words, represent with fingers, objects, or drawings, and solve subtraction word problems. Children did a lot of this in Kindergarten Part 1, and they do more in this unit, so they should be fine by the end of this unit.
- **Unit 4: Place Value Concepts:** Children should be comfortable with the place value concepts in this unit because the Daily Routines in Kindergarten and in Grade 1 before this unit will support mastery. Children who missed Kindergarten Part 2 will not have as strong a grasp of the prerequisites for the make-a-ten method for addition introduced in this unit or the make-a-ten method for subtraction introduced in Unit 5. However, these methods are not absolutely necessary. As long as children can count on for single-digit additions and subtractions, they can do all multidigit addition and subtraction work in Grades 1, 2, 3, and 4. The practice cards for the make-a-ten strategy can be used to support counting on, so emphasize these cards in Units 4 and 5.

Part 2: Units 5 through 8: If you do not have enough time for all of the units, concentrate on **Unit 5: Place Value Situations**, Big Idea 1: Teen Solution Methods (6 lessons); **Unit 6: Comparisons and Data** (9 lessons); and **Unit 7: Geometry, Measurement, and Equal Shares**, Big Idea 1: Tell and Write Time (5 lessons).

Math Expressions Common Core ©2013
Essential Content Framework: Grade 2

Part 1: Units 1 through 3: Be sure to do the Daily Routines to support children in learning place value concepts to 200 and money before Unit 4. The Quick Practices are crucial for children to review Grade 1 concepts and understandings and to review fluency for addition and subtraction within 10 and then for teen totals. Be sure that children have and use the Make a Ten cards to support mastery. The Daily Routines and Quick Practices are described on the pages just before the first lesson of each unit.

- **Unit 1: Addition and Subtraction Within 20:** In this unit, children discuss count on and make-a-ten strategies for adding and subtracting that they learned in Grade 1. They cut out and use special strategy cards to practice addition and subtraction. These cards provide individualized practice within the learning zone of each child and permit children to practice only what they need to practice. They are used in Units 1, 2, and 3 in Quick Practices. Check that each child can count on for addition and subtraction by the end of the unit. There is plenty of time to review and practice this in the regular unit activities. The practice cards for the make-a-ten strategy can be used to support counting on for children who are not yet ready to do this make-a-ten advanced strategy. There are also many lessons about word problems. By the end of the 21 lessons in the unit, be sure that children can retell in their own words, represent with fingers, objects, or drawings, and solve some addition and subtraction word problems. Word problems will continue to be given in later units, so children do not need to master all types at this point.

- **Additional Practice for Unit 1:**

For children who need more practice with Grade 1 addition and subtraction, use the practice materials listed below to focus on totals within 5 and on totals 6 to 10. Additional practice with teen totals in the second half of Unit 1 can also be used in Unit 2 while children continue to increase their fluency. These practice materials can be used with the whole class or a group, and children can give responses with their fingers and then using words. Problems can be read aloud or pointed to by the teacher or a student leader.

Totals ≤ 5: Kindergarten Student Activity Book Volume 1: Pages 100 and 110

Kindergarten Student Activity Book Volume 2: Pages 255 and 256

Totals 6 to 10: Grade 1 Student Activity Book Volume 1: Pages 42, 43, 44, 50

Grade 1 Student Activity Book Volume 2: Pages 245, 246, and 248

Teen totals: Grade 2 Teacher Resource Book M80: Addition Sprint and M83: Subtraction Sprint

Practice versions of these two pages can also be made by filling in answers so that they can be used by individual students in the Dive the Deep format, where students cover the answers with a strip of paper and uncover each answer after they answer that problem.

- **Unit 2: Addition Within 200:** Children will continue to practice with the *Math Expressions* addition strategy cards in this unit. Place value concepts are developed from the beginning in this unit, so missing some Grade 1 place value learning is not a problem. The Daily Routines done during Grade 2 Unit 1 have also helped children develop these concepts. Because most students will not have reached Grade 1 Unit 8 on 2-Digit Addition with Regrouping, teachers may need to spend more time on Lessons 9 and 10 using Solve and Discuss in which children describe the strategy they are using. Children will have many other opportunities to solve addition within 200 on Homework and Remembering pages.

- **Unit 3: Length and Shapes:** This unit does not require any knowledge from Grade 1. This unit interweaves length measuring and discussion about and work with shapes so that children can develop knowledge about both. Children continue to practice with teen subtraction strategy cards to prepare for subtraction in Unit 4.

Part 2: Units 4 through 7: If you do not have enough time for all of the units, concentrate on **Unit 4: Subtract 2-Digit Numbers**, Lessons 1 through 20 and **Unit 5: Time, Graphs, and Word Problems** (10 lessons). The content from Unit 6 and Unit 7 will be covered in Grade 3.

Math Expressions Common Core ©2013
Essential Content Framework: Grade 3

Part 1: Units 1 through 3: It is vital to start with Units 1 and 2 on multiplication and division. These are the most important topics for this grade and can take all year for some students to obtain fluency. Do the units as written with all of the conceptual development of finding and learning patterns and also use the extensive practice materials for multiplication and division. Do not start with addition or subtraction at the beginning of the year or during Units 1 and 2 as this will interfere with the conceptual introduction of multiplication and division. In **Unit 4: Multidigit Addition and Subtraction** you can do catch-up for Grade 2 students who did not get to Grade 2 Unit 6 on Multidigit Subtraction (see below in Unit 4). Do **Unit 4** before doing **Unit 3** on **Measurement, Time, and Graphs**.

- **Unit 1: Multiplication and Division with 0–5, 9, and 10:** 19 lessons
- **Unit 2: Multiplication and Division with 6s, 7s, 8s, and Multiply with Multiples of 10:** 15 lessons
- **Unit 3: Measurement, Time, and Graphs:** Do this unit after Unit 4.
- **Unit 4: Multidigit Addition and Subtraction:** Do the 18 lessons as written.
 - **Additional Practice for Unit 4:** To help Grade 3 students get their minds inside addition and subtraction after the crucial Units 1 and 2 on multiplication and division, Grade 3 Teacher Resource Book M145, M146, M147, and M148 can be used for Quick Practice with addition and subtraction. Please do not use these during Units 1 and 2 because students need to concentrate on multiplication and division at the beginning of the year. Use these resources when you begin Unit 4 on Addition and Subtraction instead of the ones in the Teacher Edition, which focus on multiplication and division. Do the current Unit 3 Quick Practice in any unit you do after Unit 4.

These pages can be used with the whole class or a group, and students can give responses with their fingers and then using words. Problems can be read aloud or pointed to by the teacher or a student leader. For the teen addition problems, students will give answers by flashing ten fingers to the left and the ones fingers to the right. For example, for $8 + 6$, flash 10 to the left and 4 to the right. These pages can be used repeatedly by giving the problems in different orders. Students also can fill in answers on these pages. Once the answers have been checked and corrected, these pages can be used to practice by covering the answers with a strip of paper, uncovering an answer after they answer that problem, and repeating the problem three times if they were not correct.

Part 2: Units 4 through 7: Do Unit 3 after Unit 4 this year to return to multiplication and division concepts. Some districts usually do **Unit 7: Fraction Concepts** before **Unit 4: Multidigit Addition and Subtraction**. In this special catch-up time, it is important to do Unit 4 right after you get multiplication and division going in Units 1 and 2 at the beginning of the year. Doing Unit 4 as the third unit will allow students who did not get to multidigit subtraction in Grade 2 Unit 4 to catch up and learn subtraction this year. You can do the 9 fraction lessons in Unit 7 after Unit 4, but those concepts will be covered again in Grade 4. They are not mandatory in this unprecedented year, especially if testing is not done or is not as important as usual.

Area and perimeter are crucial Grade 3 concepts that relate to multiplication/division, so Unit 6 Lessons 5 to 11 must be done. **Unit 3 Time** (Lessons 6 to 10) and **Pictographs, Bar Graphs, and Line Plots** (Lessons 11 to 15) are important and allow students to think about and use multiplication/division after the Unit 4 work on addition/subtraction. Unit 5 will be covered in Grade 4, so in this year it is ok not to get to the 11 lessons in this unit.

It is vital that all students move through their learning zones for multiplication and division so that they are proficient by the end of the year. You do not need a lot of special materials. Emphasize practice of particular facts that may be difficult for individual students, instead of rote practice and memorization of all facts.

Math Expressions Common Core ©2013
Essential Content Framework: Grade 4

Part 1: Units 1 through 4

- **Unit 1: Place Value and Multidigit Addition and Subtraction:** Students need no extra catch-up materials for this 14-lesson unit because they learned these concepts in Grade 2 and Grade 3, and this unit begins there but extends to greater numbers. Grade 4 Units 2 and 3 involve multidigit multiplication and division. So students do need to take one week after Unit 1 to get their brains back into the extensive work on multiplication and division they did in the first two units in Grade 3.
- **Additional Practice for Single-Digit Multiplication and Division:** Additional practice materials consisting of four lessons (Grade 4 Unit 1, Lessons 15 to 18,) from *Math Expressions* National ©2018 will be posted online. These lessons may be taught as regular lessons. Quick Practice and special practice materials are included. Practice on multiplications will continue during the teaching of Unit 2 as needed. All students will have a small Multiplication Table that they can tape to their desk or folder to use to check multiplications while they are solving multidigit problems. They will first try to recall the product and then check the Multiplication Table to be sure the answer is correct before writing it in the problem. Thus, students can be accurate in their multidigit multiplications while still learning, practicing, and correcting their single-digit multiplications. Students will use the Product cards to practice during the special catch-up week and then continue to use them until they reach mastery individually. These allow all students to practice those products they do not know yet or on which they are still slow.
- **Unit 2: Multiplication with Whole Numbers:** Special catch-up materials are used for one week between Unit 1 and Unit 2. They are described above. Practice on single-digit multiplication and division will continue as needed during Units 2 and 3.
 - **Additional Practice for Single-Digit Multiplication and Division:** Begin Unit 2 with the additional practice materials on single-digit multiplication and division. These can be found in Grade 4 Unit 1, Lessons 15 to 18 in *Math Expressions* National ©2018.
Teacher Edition, pages 113–142
Student Activity Book, pages 45–60 (including pages 46A to 46J)
Homework and Remembering, Unit 1 Lessons 15–18

These lessons may be taught as regular lessons. Quick Practice and special practice materials are included in these lessons and should be used. Practice on multiplications will continue during the teaching of Unit 2 as needed.

Give each student a small Multiplication Table copied from Student Activity Book page 48 (the bottom table) or Homework and Remembering page 31. Students can use it to check their multiplication when solving multidigit problems. They will first try to recall the product and then check the Multiplication Table to be sure the answer is correct before writing it in the problem. Thus, students can be accurate in their multidigit multiplications while still learning, practicing, and correcting their single-digit multiplications.

Students will use the Product cards from Student Activity Book pages 46A to 46J to practice during the special catch-up week and then continue to use them until they reach mastery individually. It is important to discuss the hints and relationships between the fronts and backs of the cards when the cards are first introduced. These product cards can be used for the rest of the year to reach fluency for all numbers.

In Lesson 18, students complete diagnostic checkups for multiplication on Student Activity Book page 57 and for division on page 58. Once students have completed these and the answers have been checked and corrected, these pages can be used to practice by covering the answers with a strip of paper, uncovering an answer after they answer that problem, and repeating the problem three times if they were not correct. The Scrambled Multiplication Tables on Student Activity Book page 46 can be used in the same way to practice any products once their answers are checked and corrected.

- **Unit 3: Division with Whole Numbers:** Practice on single-digit multiplication and division will continue as needed during Unit 3.
- **Unit 4: Equations and Word Problems:** No special preparation for this unit is needed. Multiplication comparison situations are introduced, represented, and solved. Mixed word problems using all four operations are discussed, represented, and solved.

Part 2: Units 5 through 8: We suggest 17 lessons here that can be omitted this year to give time for the special catch-up work on single-digit multiplication and division described above.

- **Unit 5: Measurement:** The 8 lessons in this unit can be omitted this year because they will be covered in Grade 5.
- **Unit 6: Fraction Concepts and Operations:** These 10 lessons are important. Students can understand them even if they had no work on fractions in Grade 3 because these lessons start at a basic level.
- **Unit 7: Fractions and Decimals:** The first 7 lessons on comparing fractions and equivalent fractions are important and accessible to students even if they had no work on fractions in Grade 3. You can omit the 6 lessons from Lesson 8 to Lesson 13 on decimals because these concepts will be covered in Grade 5.
- **Unit 8: Geometry:** The first 9 lessons are important as students focus on angle measurement and use angles and parallel and perpendicular lines to understand, name, and classify quadrilaterals. You can omit Lessons 10 to 12 because these will be covered in Grade 5.

Math Expressions Common Core ©2013
Essential Content Framework: Grade 5

Part 1: Units 1 through 4

- **Unit 1: Addition and Subtraction with Fractions:** Grade 5 begins by adding and subtracting fractions. Even if students did not do fractions in Grade 4, they can understand equivalent fractions and find equivalent fractions to add and subtract unlike fractions. Some students might need more time on Lesson 9 on mixed numbers. Extra pages of problems for this purpose will be posted online. We begin with fractions because multiplying and dividing fractions is easier than multidigit multiplication and division. Doing this allows students to practice their single-digit multiplying and dividing before needing to use it for multidigit multiplication and division. If some students need practice on single-digit multiplying or dividing, please see the Grade 4 Unit 1 catch-up practice pages. Do not do the extra lessons listed there as that would take too much time from Grade 5 grade-level goals. Just use practice pages for those students who need them and sometimes have students discuss their strategies.
 - **Special practice materials:** Four pages of extra problems for Lesson 9: Addition and Subtraction of Mixed Numbers are posted online. Students can benefit from an extra class day solving and discussing their solutions. Two solutions are shown for addition and subtraction: add or subtract whole numbers and fractions separately, and change mixed numbers to fractions first. Students can choose the method they prefer, and some students may vary their method with the problem.
- **Unit 2: Addition and Subtraction with Decimals:** Students can do this unit even if they did not do decimals in Grade 4 because students discuss and use tenths and hundredths as well as thousandths.
- **Unit 3: Multiplication and Division with Fractions:** Students can do this unit even if they did not get to multiplying a fraction by a whole number in Grade 4. They might need some extra practice on Lesson 4: Multiply a Fraction by a Fraction.
 - **Special practice materials:** Two pages of extra problems for Unit 3 Lesson 4: Multiply a Fraction by a Fraction are posted online along with pages of answers on these pages. Students can benefit from an extra class day solving and discussing their solutions.
- **Unit 4: Multiplication with Whole Numbers and Decimals:** Students do not need catch-up work for this unit because the Grade 4 unit on multiplication with whole numbers was Unit 2, so all students got to that unit last year. However, Lessons 1, 3, and 4 are long, so you may need to spend two days on each lesson to consolidate whole number multiplying before moving to multiplying with decimals.

Part 2: Units 5 through 8

- **Unit 5: Division with Whole Numbers and Decimals:** These 11 lessons are important. Students do not need catch-up work for this unit because the Grade 4 unit on division with whole numbers was Unit 3, and most students got to that unit last year.
- **Unit 6: Operations and Word Problems:** You may omit these 11 lessons because students did a lot of work with such problems in earlier grades.

- **Unit 7: Algebra, Patterns, and Coordinate Graphs:** You may omit Lessons 1 to 3 on Algebraic Reasoning and Expressions because there is a lot of work on this in Grade 6, but do Lessons 4 through 7 on Patterns and Graphs.
- **Unit 8: Measurement and Geometry:** Quickly review lessons 1, 4, and 8 on length, area, and perimeter. Then do the 5 lessons on volume (Lessons 9, 10, 11, 12, 13). This is important new work for Grade 5. Quickly review or omit metric and customary units of liquid volume and mass/weight in Lessons 1 to 7 (these topics were done in Grade 4). Do the important 4 lessons on classifying geometric figures (Lessons 14 to 17). Use the Grade 5 geometry poster (on Teacher Edition page T4, in the back) and Student Activity Book page 268 to define shapes and support students in discussing relationships.

Math Expressions Common Core ©2013
Essential Content Framework: Grade 6

Part 1: Units 1 through 4

- **Unit 1: Rates, Ratios, and Proportions:** These are new topics that build in accessible ways on student understanding of the multiplication table. No special materials are needed for the 15 lessons in this unit.
- **Unit 2: Area of Polygons:** These 10 lessons build student understanding with shapes and drawings, beginning with a discussion of representations of and patterns for perimeter and area of rectangles. No special materials are needed for the 10 lessons in this unit.
- **Unit 3: Operations with Whole Numbers, Fractions, and Decimals:** This unit gives an overview of the topic and relates operations with fractions to operations with decimals. Most of this work in previous grades was in the earlier part of the year. The only lesson for which students might need extra catch-up work is for Lesson 4: Decimal Divisors because that work was in Unit 5 of Grade 5.
 - **Additional Practice for Unit 3 Lesson 4:** Grade 5 Unit 5, Lessons 7 to 10 can be used to provide more practice with decimal divisors.
Teacher Edition, pages 431–462
Student Activity Book, pages 165–180
Homework and Remembering, Grade 5 Unit 5, Lessons 7 to 10
- **Unit 4: Surface Area of Prisms and Pyramids:** This unit needs no special materials.

Part 2: Units 5 through 9

- **Unit 5: Expressions and Equations:** The first 13 lessons in this unit are important. Lessons 14 to 18 on inequalities can be omitted because they will be covered in Grade 7.
- **Unit 6: Volume of a Rectangular Prism:** These 6 lessons can be omitted because this is just extending Grade 5 volume to fractional sides.
- **Unit 7: Ratios and Rates with Fractions, Decimals, and Percents:** The first 11 lessons are important. The final 3 lessons on measurement units can be omitted because the same strategies are used and do not need more practice.
- **Unit 8: Analyzing Statistics:** These 12 lessons can be omitted because they will be covered in Grade 7.
- **Unit 9: Rational Numbers and the Coordinate Plane:** The first 4 lessons on graphing integers are important. The final 4 lessons can be omitted because they will be covered in Grade 7.

Manipulative Support for Remote Learning by Grade

Access to these manipulatives is critical for student learning, especially in remote and hybrid learning environments. Many manipulatives are two-sided. If you are copying these, they need to be carefully placed so that the fronts and backs match. Digital versions of many of these materials can also be accessed on Dr. Fuson's website, karenfusonmath.com. (SAB = Student Activity Book; HWR = Homework and Remembering; TRB = Teacher's Resource Book; TE = Teacher Edition)

Kindergarten Volume 1

Unit 1

Purple Number Tiles (1–10), SAB pages 3, 4

Red and Blue Square-Inch Tiles with a small circle on one side, SAB pages 3, 4

Comparing Mat, SAB page 13

Rectangles (including squares), SAB pages 29, 30

Unit 2

5-Strip Red and Blue Square-Inch Tiles with a small circle on one side and $+$ $-$ \neq , SAB pages 45, 46

5-Strip Blue Circles, SAB pages 49, 50; make double copies so some can be cut apart if the round blue see-through counters are not available.

More Purple Number Tiles (1–10) and $+$ $-$ \neq , SAB pages 55, 56

Triangles, SAB pages 67, 68

Unit 3

10-Strip Blue Circles with 10 on the back, SAB pages 93, 94

At Home Number Cards 1 to 9 and 10 double-wide to hold the ones cards, SAB pages 103, 104

Kindergarten Volume 2

No new manipulatives

Grade 1 Volume 1

Notes: It is very helpful for children to have and use at home the Grade 1 strategy/fluency cards: the red, yellow, and orange Count On Strategy/Fluency Cards and the green Addition, purple Unknown Addend, and blue Subtraction Make-a-Ten Strategy/Fluency Cards. When students first use these cards, it is important to help them see how to use the cards to practice counting on or the make-a-ten strategy using the visual representations on the cards. The cards permit study time to be maximized by focusing on problems and strategies students still need to learn. A card goes into the correct and fast pile, the slow and correct pile, or the “Oops” pile if the answer was not correct. Cards in the correct and fast pile do not need to be practiced except occasionally.

Unit 1

Stair Steps 1 to 10, SAB pages 3, 4

Yellow Number Cards 1 to 10, SAB pages 7, 8

Unit 2

Red Count On Strategy/Fluency Cards, SAB pages 43, 44

Unit 3

Yellow Count On Strategy/Fluency Cards, SAB pages 71, 72

Orange Count On Strategy/Fluency Cards, SAB pages 79, 80

Unit 4

Green Addition Make-a-Ten Strategy/Fluency Cards, SAB pages 105 to 108

Blue Secret Code Cards 1 to 9, 10 to 90, and 100, SAB pages 117, 118

Grade 1 Volume 2

Unit 5

Purple Unknown Addend Make-a-Ten Strategy/Fluency Cards, SAB pages 135 to 138

Blue Subtraction Make-a-Ten Strategy/Fluency Cards, SAB pages 141 to 144

Unit 7

Clock with Hands, SAB pages 199

2D Shape Set, SAB pages 211 to 214

Grade 2 Volume 1

Notes: It is very helpful for children to have and use at home the Grade 2 Strategy/Fluency cards: the yellow and blue Math Mountain Strategy/Fluency Cards and the green Addition and blue Subtraction Make-a-Ten Strategy/Fluency Cards. When students first use these cards, it is important to help them see how to use the cards to practice counting on or the make-a-ten strategy using the visual representations on the cards. The cards permit study time to be maximized by focusing on problems and strategies students still need to learn. A card goes into the correct and fast pile, the slow and correct pile, or the “Oops” pile if the answer was not correct. Cards in the correct and fast pile do not need to be practiced except occasionally.

Unit 1

Math Mountain Strategy/Fluency Cards: Yellow totals ≤ 10 , Blue Teen totals, SAB pages 9 to 12
Penny, Nickel, Dime Coins and 5-Penny/Nickel strips and 10-Penny/Dime strips, SAB pages 13, 14
Dive the Deep practice page, SAB pages 25, 26
Green Addition Make-a-Ten Strategy/Fluency Cards, SAB pages 45 to 48
Blue Subtraction Make-a-Ten Strategy/Fluency Cards, SAB pages 61 to 64

Unit 2

Blue Secret Code Cards 1 to 9, 10 to 90, and 100, SAB pages 75, 76
One Dollar/100 Pennies, SAB pages 95, 96

Unit 3

Meter Ruler in Centimeters, SAB pages 135, 136
Inch Ruler, SAB pages 141, 142

Grade 2 Volume 2

Unit 4

Quarters in Dimes, Nickels, and Pennies, SAB pages 161 to 164
Dollars in Quarters, Dimes, Nickels, and Pennies, SAB pages 165, 166

Unit 5

Clock with Hands SAB pages, 223, 224

Unit 6

Dollars with 100 Pennies on the back, SAB pages 257, 258
Blue Secret Code Cards 200 to 900 and 1000, SAB pages 259, 260

Grade 3 Volume 1

Units 1 and 2

Learning multiplication and division includes learning many specific patterns of numbers. Teaching fluency requires extensive classroom and home study materials. These materials are summarized on four pages of the Teacher Edition in the Unit 1 Overview (pages MB7–U1). It is crucial that the teacher and someone at home organize resources to support all students in gaining fluency with multiplication and division by the end of the year. Topics in Grades 4 and 5 depend on this knowledge. For helpers at home, keep all of the study materials and the cards to practice over the summer and during the following year as needed.

Many of the study materials are in both the Student Activity Book and in the daily Homework and Remembering. The Homework and Remembering resources are sufficient for learning if the teacher orchestrates and supports the conceptual learning in interactive teaching sessions online and also organizes and monitors helping at home. A list of these study materials in the Student Activity Book (SAB) and the Homework and Remembering book (HWR) follows.

Top priorities for sending home:

Family Letters, SAB pages 11, 12 (English) or 13, 14 (Spanish) and SAB pages 89, 90
Class Multiplication Table Poster with factors and products, copied from Teacher Edition page T2 on regular-size paper
Multiplication Table with factors only, copied from SAB page 31
Multiplication Strategy/Fluency Cards, SAB pages 51A to 51J or HWR pages 41 to 50
Division Strategy/Fluency Cards, SAB pages 51K to 51Z or HWR pages 51 to 66
Strategy/Fluency Product Cards: 2s, 5s, 9s, SAB pages 149A to 149D or HWR pages 133 to 136
Strategy/Fluency Product Cards: 3s and 4s, SAB pages 149E and 149F or HWR pages 137 and 138
Strategy/Fluency Product Cards: 6s, 7s, 8s, SAB pages 149G to 149J or HWR pages 139 to 142
Study Sheet A: 5s, 2s, 10s, and 9s, SAB page 17 and HWR page 7
Study Sheet B: 3s, 4s, 0s, 1s, SAB page 49 or HWR page 67
Study Sheet C: 6s, 7s, 8s, squares, SAB page 93 or HWR page 99
Signature Sheet, SAB page 15 or HWR page 8
Check Sheet 1: 5s and 2s, SAB page 29 or HWR page 17
Check Sheet 2: 10s and 9s, SAB page 37 or HWR page 29
Check Sheet 3: 2s, 5s, 9s, and 10s, SAB page 41 or HWR page 33
Check Sheet 4: 3s and 4s, SAB page 53 or HWR page 73
Check Sheet 5: 1s and 0s Class, SAB page 71 or HWR page 87
Check Sheet 6: Mixed 3s, 4s, 0s, and 1s Class, SAB page 72 or HWR page 88
Check Sheet 7: 6s and 8s Multiplications and Divisions, SAB page 99 or HWR page 104
Check Sheet 8: 7s and Squares Multiplications and Divisions, SAB page 109 or HWR page 113

Check Sheet 9: Mixed 6s, 7s, and 8s Multiplications and Divisions, SAB page 113 and HWR page 117

Check Sheet 10: Mixed 0s to 10s Multiplications and Divisions, SAB page 114 or HWR page 118

Diagnostic Checkup for Basic Multiplication, SAB page 149

Diagnostic Checkup for Basic Division, SAB page 150

Helpful to send these if possible:

The individual Study Charts in the Homework and Remembering book are also helpful. They are on pages 11 (for 5s), 15 (2s), 23 (10s), 27 (9s), 37 (3s), 71 (4s), 81 (0s and 1s), 95 (6s), 103 (8s), and 109 (7s).

The SAB has dashes (quizzes) that are not in the HWR and do not have to be sent home but could be if desired.

Dash Record Sheet page 16

Dashes 1 to 4: 2s, 5s, 9s, 10s Multiplications and Divisions, page 77

Dashes 5 to 8: 3s, 4s, 0s, 1s Multiplications and Divisions, page 78

Dashes 9 to 12: 2s, 5s, 9s, 10s and 3s, 4s, 0s, 1s Multiplications and Divisions, page 79

Dashes 9A to 12A: 2s, 5s, 9s, 10s and 3s, 4s, 0s, 1s Multiplications and Divisions, page 80

Answers to Dashes 1 to 8, page 81

Answers to Dashes 9 to 12 and 9A to 12A, page 82

Dashes 13 to 16: 6s, 8s and 7s, 8s Multiplications and Divisions, page 121

Dashes 17 to 20: 6s, 7s and 6s, 7s, 8s Multiplications and Divisions, page 122

Dashes 9B to 12B: 2s, 5s, 9s, 10s and 0s, 1s, 3s, 4s Multiplications and Divisions, page 123

Dashes 9C to 12C: 2s, 5s, 9s, 10s and 0s, 1s, 3s, 4s Multiplications and Divisions, page 124

Answers to Dashes 13 to 20, page 125

Answers to Dashes 9B to 12B and 9C to 12C, page 126

Dashes 21 and 22 and 19A and 20A: 2s, 3s, 4s, 5s, 9s and 6s, 7s, 8s Multiplications and Divisions, page 139

Dashes 21A and 22A and 19B and 20B: 2s, 3s, 4s, 5s, 9s and 6s, 7s, 8s Multiplications and Divisions, page 140

Dashes 21B and 22B and 19C and 20C: Mixed 2s, 3s, 4s, 5s, 9s and 6s, 7s, 8s Multiplications and Divisions, page 141

Dashes 21C and 22C and 19D and 20D: Mixed 2s, 3s, 4s, 5s, 9s and 6s, 7s, 8s Multiplications and Divisions, page 142

Answers to Dashes 21 and 22, 19A to 22A, 19B and 20B, page 143

Answers to Dashes 21B and 22B, 19C to 22C, 19D and 20D, page 144

Diagnostic Checkup for Basic Multiplication, page 149

Diagnostic Checkup for Basic Division, page 150

Grade 3 Volume 2

Unit 3

Clock, SAB page 179A

Unit 4

Secret Code Cards Ones, Tens, Hundreds, SAB pages 219A to 219D

Ungroup from Left or Right, SAB page 243

Unit 6

Squares, SAB page 319A

Tangram Shapes and Area, SAB pages 335A and 335B, 335, 336, 337, 338, 339, 340

Build Quadrilaterals from Triangles, SAB page 301A

Build Polygons from Triangles, SAB page 303A

Unit 7

Make Fraction Strips, SAB page 363A

Grade 4 Volume 1

Unit 1

Secret Code Cards Whole Number, SAB pages 6A to 6B
The Place Value Chart and frame for making numbers, SAB page 7

Grade 4 Volume 2

Unit 6

Fraction Bars, SAB page 204A
Understand Fractions Greater Than 1 and Mixed Numbers, SAB pages 208A and 208B

Unit 7

Compare Fractions, SAB page 228A
Secret Code Cards Decimal, SAB pages 258A and 258B
Discuss Symmetry Around the Ones and Show and Read Decimal Numbers, SAB page 261
Secret Code Cards Whole Numbers to go with Decimal Cards, SAB pages 262A and 262B

Unit 8

Sort Angles, SAB page 276A
Protractor, TRB page M27
Identify Types of Quadrilaterals, SAB page 302
Classify Quadrilaterals, SAB page 304A
Classify Polygons, SAB page 312A

Grade 5 Volume 1

Unit 2

Place Value Chart, SAB page 37

Secret Code Cards, SAB pages 38C to 38F

Decimal Secret Code Cards, SAB pages 38A to 38D

Unit 3

Use Bar Models to Multiply Fractions, SAB page 67

Use Area Models to Multiply Fractions, SAB page 68

Area Model for Mixed Number Multiplication, SAB page 73

Grade 5 Volume 2

Unit 5

Experiment with Two-Digit Divisors, SAB page 151

Unit 8

Geometry Poster, TE page T4

Nets for Rectangular Prisms, SAB pages 258A and 258B

Classify Quadrilaterals, SAB page 268

Quadrilateral Cards, SAB page 268A

Classify Triangles, SAB page 270

Triangle Cards, SAB page 270A

Two-Dimensional Shape Cards, SAB pages 272A and 272B

Attribute Cards, SAB pages 272C and 272D

Grade 6 Volume 1

Unit 2

Experiment with Parallelograms, SAB pages 51A and 51B

Experiment with Triangles, SAB page 55A

Experiment with Trapezoids, SAB pages 63A to 63D

Unit 3

Decimal and Whole Number Secret Code Cards, SAB pages 83A and 83B

Unit 4

Rectangular Prism Net, SAB pages 143A and 143B

Draw a Net for a Rectangular Prism, SAB pages 145A and 145B

Make and Draw Nets for Nonrectangular Prisms, SAB pages 149A to 149F

Make Pyramids and Draw Nets for Pyramids, SAB pages 153A to 153J

Grade 6 Volume 2

Unit 6

Nets for Cubic Units and a Rectangular Prism, SAB pages 245A and 245B

Nets for Part of a Unit Cube, SAB pages 249A and 249B

Prism Layers, SAB pages 253A and 253B