

# Scope and Sequence for Grado 2

The big ideas in grade 2 include: extending understanding of the base-ten number system, building fluency with addition and subtraction, using standard units of measure, and describing and analyzing shapes.

The mathematical work for grade 2 is partitioned into 9 units:

1. Adding, Subtracting, and Working with Data
2. Adding and Subtracting within 100
3. Measuring Length
4. Addition and Subtraction on the Number Line
5. Numbers to 1,000
6. Geometry, Time, and Money
7. Adding and Subtracting within 1,000
8. Equal Groups
9. Putting it All Together

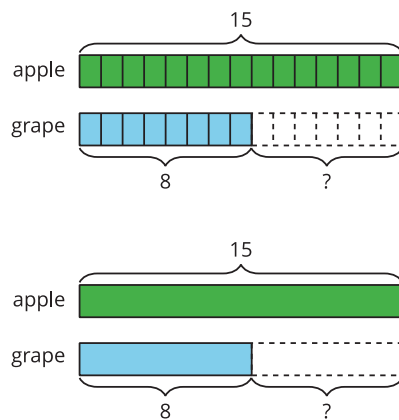
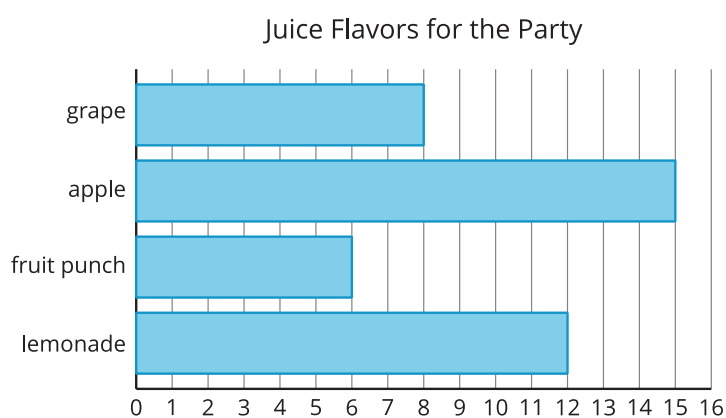
In these materials, particularly in units that focus on addition and subtraction, teachers will find terms that refer to problem types, such as Add To, Take From, Put Together or Take Apart, Compare, Result Unknown, and so on. These problem types are based on common addition and subtraction situations, as outlined in Table 1 of the Mathematics Glossary section of the Common Core State Standards.

## Unit 1: Sumemos, restemos y trabajemos con datos

In this unit, students begin the year-long work to develop fluency with sums and differences within 20, building on concepts of addition and subtraction from grade 1. They learn new ways to represent and solve problems involving addition, subtraction, and categorical data.

In grade 1, students added and subtracted within 20 using strategies based on properties of addition and place value. They developed fluency with sums and differences within 10. Students also gained experience in collecting, organizing, and representing categorical data.

In this unit, students are introduced to picture graphs and bar graphs as a way to represent categorical data. They ask and answer questions about situations described by the data. The structure of the bar graphs paves the way for a new representation, the tape diagram.



Students learn that tape diagrams can be used to represent and make sense of problems involving the comparison of

two quantities. The diagrams also help to deepen students' understanding of the relationship between addition and subtraction.

This opening unit also offers opportunities to introduce mathematical routines and structures for centers, and to develop a shared understanding of what it means to do math and to be a part of a mathematical community.

## Section A: Sumemos y restemos hasta 20

- Lesson 1: Sumemos y restemos hasta 10
- Lesson 2: Relacionemos la suma y la resta hasta 10
- Lesson 3: Relacionemos la suma y la resta hasta 20
- Lesson 4: Sumemos y restemos a nuestra manera
- Lesson 5: Sumemos hasta 50
- Lesson 6: Día 1 de centros

## Section B: Formas de representar datos

- Lesson 7: Recolectemos y representemos datos
- Lesson 8: Interpretemos gráficas de dibujos
- Lesson 9: Interpretemos gráficas de barras
- Lesson 10: Usemos gráficas de dibujos y gráficas de barras para representar datos
- Lesson 11: Preguntas sobre datos
- Lesson 12: Día 2 de centros

## Section C: Diagramas para comparar

- Lesson 13: Usemos gráficas de barras para comparar
- Lesson 14: Usemos diagramas para comparar
- Lesson 15: Diagramas con todo tipo de problemas de comparación
- Lesson 16: Resolvamos todo tipo de problemas de comparación
- Lesson 17: Día 3 de centros
- Lesson 18: Encuestas de la clase

## Unit 2: Sumemos y restemos hasta 100

Previously, students added and subtracted numbers within 100 using strategies they learned in grade 1, such as counting on and counting back, and with the support of tools, such as connecting cubes. In this unit, students add and subtract within 100 using strategies based on place value, the properties of operations, and the relationship between addition and subtraction.

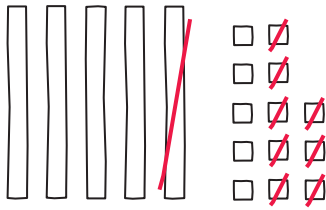
Students begin by using any strategy to find the value of sums and differences that do not involve composing or decomposing a ten. They are then introduced to base-ten blocks as a tool to represent addition and subtraction and move towards strategies that involve composing and decomposing tens.

Students develop their understanding of grouping by place value, and begin to subtract one- and two-digit numbers from two-digit numbers by decomposing a ten as needed. They apply properties of operations and practice reasoning flexibly as they arrange numbers to facilitate addition or subtraction.

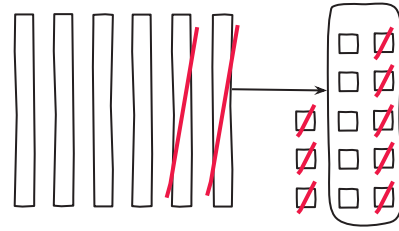
For example, students compare Mai and Lin's methods for finding the value of  $63 - 18$ .



Mai's Way  
 $63 - 18$



Lin's Way  
 $63 - 18$



At the end of the unit, students apply their knowledge of addition and subtraction within 100 to solve one- and two-step story problems of all types, with unknowns in all positions. To support reasoning about place value when adding and subtracting, students may choose to use connecting cubes, base-ten blocks, tape diagrams, or other representations learned in earlier units and grades.

### Section A: Sumemos y restemos

- Lesson 1: Sumemos y restemos para comparar
- Lesson 2: Encontremos el sumando desconocido
- Lesson 3: Sumemos o restemos para resolver problemas-historia
- Lesson 4: Día 1 de centros

### Section B: Descompongamos para restar

- Lesson 5: Resta a tu manera
- Lesson 6: Comparemos métodos de resta
- Lesson 7: Restemos 2 dígitos
- Lesson 8: Diferentes maneras de descomponer
- Lesson 9: Sumemos y restemos hasta 100
- Lesson 10: Día 2 de centros

### Section C: Representemos y resolvamos problemas-historia

- Lesson 11: ¿Cómo resolvemos problemas-historia?
- Lesson 12: Problemas-historia y diagramas
- Lesson 13: Problemas-historia y ecuaciones
- Lesson 14: Resuélvelo a tu manera
- Lesson 15: ¿Tiene sentido mi estimación?
- Lesson 16: Día 3 de centros
- Lesson 17: El inventario de nuestro mercado

## Unit 3: Midamos longitudes

This unit introduces students to standard units of lengths in the metric and customary systems.

In grade 1, students expressed the lengths of objects in terms of multiple copies of a shorter object laid end to end without gaps or overlaps. The length of the shorter object serves as the unit of measurement.



In this unit, students learn about standard units of length: centimeters, meters, inches, and feet. They examine how different measuring tools represent length units, learn how to use measurement tools, and measure and estimate the lengths of objects. Along the way, students notice that the length of the same object can be described with different measurements and relate this to differences in the size of the unit used to measure.

Throughout the unit, students solve one- and two-step story problems involving addition and subtraction of lengths. To make sense of and solve these problems, they use previously learned strategies for adding and subtracting within 100, including strategies based on place value.

To close the unit, students learn that line plots can be used to represent numerical data. They create and interpret line plots that show measurement data and use them to answer questions about the data.

Students relate the structure of a line plot to the tools they use to measure lengths. This prepares students for the work in the next unit, where they interpret numbers on the number line as lengths from 0. The number line is an essential representation that will be used in future grades and throughout students' mathematical experiences.

## **Section A: Medidas métricas**

- Lesson 1: Unidades estándar de medida
- Lesson 2: Midamos en centímetros
- Lesson 3: Hagamos y usemos una regla
- Lesson 4: Estimemos y midamos en centímetros
- Lesson 5: Midamos en metros
- Lesson 6: Comparemos longitudes de reptiles en problemas-historia
- Lesson 7: Día 1 de centros

## **Section B: Medidas tradicionales**

- Lesson 8: ¿Qué es una pulgada?
- Lesson 9: De pies a pulgadas
- Lesson 10: Midamos con una cinta rota
- Lesson 11: Historias de seda de saris: Collares y pulseras
- Lesson 12: Historias de seda de sari: Pulseras de la amistad
- Lesson 13: Día 2 de centros

## **Section C: Diagramas de puntos**

- Lesson 14: ¿Qué es un diagrama de puntos?
- Lesson 15: Hagamos diagramas de puntos
- Lesson 16: Interpretemos datos de medidas
- Lesson 17: Día 3 de centros
- Lesson 18: Hagamos una vara de una yarda

## **Unit 4: Sumemos y restemos en la recta numérica**

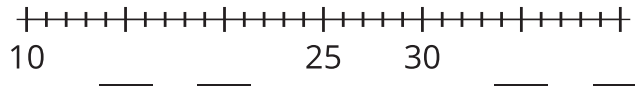
In this unit, students are introduced to the number line, an essential representation that will be used throughout students' K–12 mathematical experience. They learn to use the number line to represent whole numbers, sums, and differences.



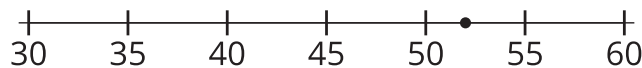
In a previous unit, students learned to measure length with rulers. Here, they see that the tick marks and numbers on the number line are like those on a ruler: both show equally spaced numbers that represent lengths from 0.

Students use this understanding of structure to locate and compare numbers on the number line, as well as to estimate numbers represented by points on the number line.

*Locate and label 17 on the number line.*



*What number could this be? \_\_\_\_*



Students then learn conventions for representing addition and subtraction on the number line: using arrows pointing to the right for adding and arrows pointing to the left for subtracting. Students also use the number line to represent addition and subtraction methods discussed in Number Talks, such as counting on, counting back by place, and decomposing a number to get to a ten. The reasoning here deepens students' understanding of the relationship between addition and subtraction.

The number lines in this unit show a tick mark for every whole number in the given range, though not all may be labeled with the numeral. As students become more comfortable with this representation, they may draw number lines that show only the numbers needed to solve the problems, which is acceptable.

## Section A: La estructura de la recta numérica

- Lesson 1: Números enteros en la recta numérica
- Lesson 2: Características de una recta numérica
- Lesson 3: Marcas sin números
- Lesson 4: Comparemos números en una recta numérica
- Lesson 5: Estimemos en una recta numérica
- Lesson 6: Día 1 de centros

## Section B: Sumemos y restemos en una recta numérica

- Lesson 7: La suma y la resta en la recta numérica
- Lesson 8: Ecuaciones en una recta numérica
- Lesson 9: La diferencia entre números
- Lesson 10: El valor posicional y la recta numérica
- Lesson 11: Distintas formas de sumar y de restar
- Lesson 12: Ecuaciones con números desconocidos
- Lesson 13: Representemos problemas-historia
- Lesson 14: Día 2 de centros

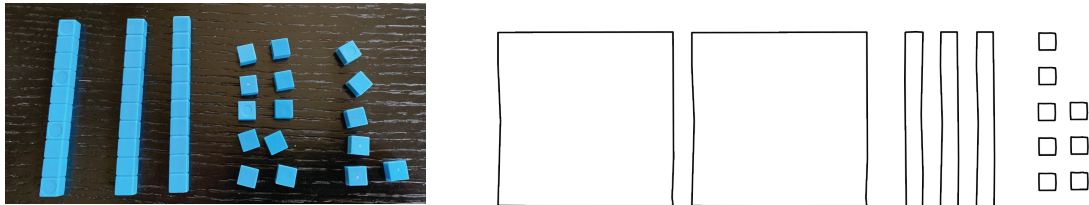
- Lesson 15: ¿Tienes la estatura para montar?

## Unit 5: Números hasta 1,000

In this unit, students extend their knowledge of the units in the base-ten system to include hundreds.

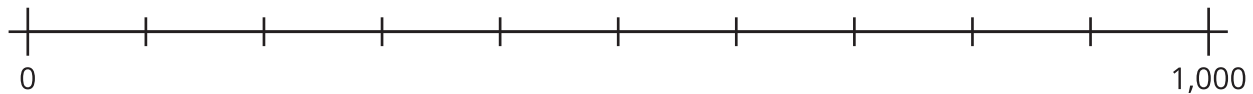
In grade 1, students learned that a ten is a unit made up of 10 ones, and two-digit numbers are formed using units of tens and ones. Here, they learn that a hundred is a unit made up of 10 tens, and three-digit numbers are formed using units of hundreds, tens, and ones.

To make sense of numbers in different ways and to build flexibility in reasoning with them, students work with a variety of representations: base-ten blocks, base-ten diagrams or drawings, number lines, expressions, and equations.



At the start of the unit, students express a quantity in terms of the number of units represented by base-ten blocks (3 hundreds, 14 tens, 22 ones). They practice composing larger units from smaller units and representing the value using the fewest number of each unit (4 hundreds, 6 tens, 2 ones). They connect the number of units to three-digit numerals (462).

Next, students make sense of three-digit numbers on the number line. In a previous unit, students learned about the structure of the number line by representing whole numbers within 100 as lengths from zero. Here, they get a sense of the relative distance of whole numbers within 1,000 from zero. Students learn to count to 1,000 by skip-counting on a number line by 10 and 100. They also locate, compare, and order three-digit numbers on a number line.



Throughout the unit, the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 are referred to as multiples of 100 for simplicity. The same is true for multiples of 10. “Multiple” is not a word that students are expected to understand or use in grade 2. Students can describe the numbers as some number of tens or hundreds, such as “20 tens” or “3 hundreds.”

### Section A: Los valores de tres dígitos

- Lesson 1: ¿Cómo componemos una centena?
- Lesson 2: Formemos centenas
- Lesson 3: Compongamos números de 3 dígitos
- Lesson 4: Escribamos números de 3 dígitos
- Lesson 5: Forma desarrollada de los números
- Lesson 6: Representemos números de distintas formas
- Lesson 7: Día 1 de centros

### Section B: Comparemos y ordenemos números hasta 1,000

- Lesson 8: Números de 3 dígitos en la recta numérica

- Lesson 9: Comparemos números en la recta numérica
- Lesson 10: Comparaciones usando valores posicionales (parte 1)
- Lesson 11: Comparaciones usando valores posicionales (parte 2)
- Lesson 12: Ordenemos números
- Lesson 13: Día 2 de centros
- Lesson 14: En la escuela

## Unit 6: Geometría, tiempo y dinero

In this unit, students transition from place value and numbers to geometry, time, and money.

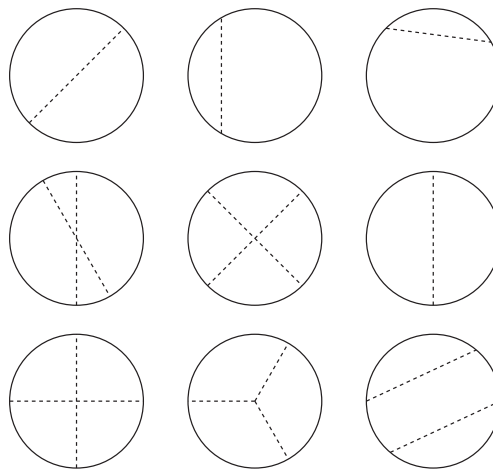
In grade 1, students distinguished between defining and nondefining attributes of shapes, including triangles, rectangles, trapezoids, and circles. Here, they continue to look at attributes of a variety of shapes and see that shapes can be identified by the numbers of sides and vertices (corners). Students then study three-dimensional (solid) shapes, and identify the two-dimensional (flat) shapes that make up the faces of these solid shapes.

Next, students look at ways to partition shapes and create equal shares. They extend their knowledge of halves and fourths (or quarters) from grade 1 to now include thirds.

Students compose larger shapes from smaller equal-size shapes and partition shapes into two, three, and four equal pieces.

As they develop the language of fractions, students also recognize that a whole can be described as two halves, three thirds, or four fourths, and that equal-size pieces of the same whole need not have the same shape.

*Which circles are not examples of circles partitioned into halves, thirds, or fourths?*



Later, students use their understanding of halves and fourths (or quarters) to tell time. In grade 1, they learned to tell time to the half hour. Here, they relate a quarter of a circle to the features of an analog clock. They use “quarter past” and “quarter till” to describe time, and skip-count to tell time in 5-minute intervals. They also learn to associate the notations “a.m.” and “p.m.” with their daily activities.

To continue to build fluency with addition and subtraction within 100, students conclude the unit with a money context. They skip-count, count on from the greatest value, and group like coins, and then add or subtract to find the value of a set of coins. Students also solve one- and two-step story problems involving sets of dollars and different coins, and use the symbols \$ and ¢.

### Section A: Características de las figuras

- Lesson 1: Identifiquemos y clasifiquemos figuras
- Lesson 2: Dibujemos figuras
- Lesson 3: Longitudes de lado particulares
- Lesson 4: Figuras sólidas
- Lesson 5: Día 1 de centros

## Section B: Medios, tercios y cuartos

- Lesson 6: Componemos y descomponemos figuras
- Lesson 7: Hagamos medios, tercios y cuartos
- Lesson 8: ¿Todas las partes son creadas iguales?
- Lesson 9: ¡Te lo llevaste todo!
- Lesson 10: Día 2 de centros

## Section C: La hora en el reloj

- Lesson 11: Leamos la hora con mitades y cuartos
- Lesson 12: Contemos de 5 en 5 para leer la hora
- Lesson 13: ¿Es a.m. o p.m.?
- Lesson 14: Día 3 de centros

## Section D: El valor del dinero

- Lesson 15: Identifiquemos pennies, nickels y dimes
- Lesson 16: Identifiquemos quarters
- Lesson 17: Formemos un dólar
- Lesson 18: Problemas sobre dinero
- Lesson 19: Más problemas sobre dinero
- Lesson 20: ¿Tiene sentido mi respuesta?
- Lesson 21: Día 4 de centros
- Lesson 22: Gastemos dinero

## Unit 7: Sumemos y restemos hasta 1,000

In this unit, students add and subtract within 1,000, with and without composing and decomposing a base-ten unit.

Previously, students added and subtracted within 100, using methods such as counting on, counting back, and composing or decomposing a ten. Here, they apply the methods they know and their understanding of place value and three-digit numbers to find sums and differences within 1,000.

Initially, students add and subtract, without composing or decomposing a ten or a hundred. Instead, they rely on methods based on the relationship between addition and subtraction and the properties of operations. They make sense of sums and differences, using counting sequences, number relationships, and representations (number lines, base-ten blocks, base-ten diagrams, and equations).

As the unit progresses, students work with numbers that prompt them to compose and decompose one or more units, eliciting strategies based on place value. When adding and subtracting by place, students first compose or decompose only a ten, then either a ten or a hundred, and finally both a ten and a hundred. They also make sense of and connect different ways to represent place-value strategies. For example, students make sense of a written method for subtracting 145 from 582 by connecting it to a base-ten diagram and their experiences with base-ten blocks.

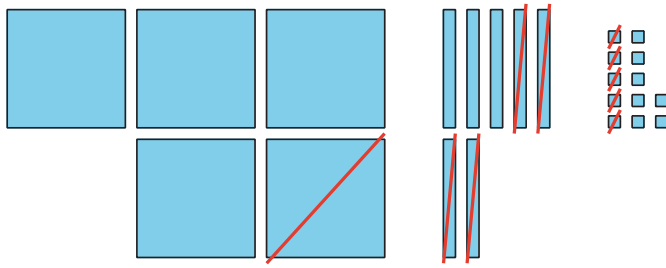
*How do Jada's equations match Lin's diagram?*

*Finish Jada's work to find  $582 - 145$ .*

*Lin's diagram*

*Jada's equations*





$$500 - 100 =$$

$$\begin{array}{r} 70 \\ 80 \\ \hline \end{array} - 40 =$$

$$\begin{array}{r} 12 \\ 11 \\ \hline \end{array} - 5 =$$

Students learn to recognize when composition or decomposition is a useful strategy for adding or subtracting by place. In the later half of the unit, they encounter lessons that encourage them to think flexibly and to use strategies that make sense to them, based on number relationships, properties of operations, and the relationship between addition and subtraction.

## Section A: Sumemos y restemos hasta 1,000 sin componer o descomponer

- Lesson 1: Comparemos, contemos hacia adelante y contemos hacia atrás
- Lesson 2: Sumemos y restemos con decenas y centenas
- Lesson 3: Contemos hacia adelante o hacia atrás para restar
- Lesson 4: Sumemos y restemos de formas diferentes números de 3 dígitos
- Lesson 5: Día 1 de centros

## Section B: Sumemos hasta 1,000 usando estrategias de valor posicional

- Lesson 6: Usemos una decena para sumar hasta 1,000
- Lesson 7: Compongamos una unidad mayor
- Lesson 8: Compongamos decenas y centenas para sumar
- Lesson 9: Sumemos números de 3 dígitos
- Lesson 10: Sumemos hasta 1,000
- Lesson 11: Día 2 de centros

## Section C: Restemos hasta 1,000 usando estrategias de valor posicional

- Lesson 12: Descompongamos para restar
- Lesson 13: Descompongamos decenas o centenas
- Lesson 14: Piensa antes de restar
- Lesson 15: Descompongamos una decena y una centena para restar
- Lesson 16: Restemos hasta 1,000
- Lesson 17: ¿Tiene sentido?
- Lesson 18: Día 3 de centros
- Lesson 19: Colecta de libros

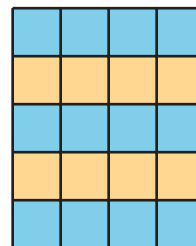
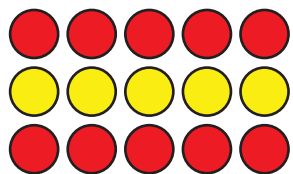
## Unit 8: Grupos iguales

In this unit, students develop an understanding of equal groups, building on their experiences with skip-counting and with finding the sums of equal addends. The work here serves as the foundation for multiplication and division in grade 3 and beyond.



Students begin by analyzing even and odd numbers of objects. They learn that any even number can be split into 2 equal groups or into groups of 2, with no objects left over. Students use visual patterns to identify whether numbers of objects are even or odd.

Next, students learn about rectangular arrays. They describe arrays using mathematical terms, such as “rows” and “columns.” Students see the total number of objects as a sum of the objects in each row and as a sum of the objects in each column, which they express by writing equations with equal addends. Students also recognize that there are many ways of seeing the equal groups in an array.



Later, students transition from working with arrays that contain discrete objects to equal-size squares within a rectangle. Students build rectangular arrays using inch tiles and partition rectangles into rows and columns of equal-size squares. The work here sets the stage for the concept of area in grade 3.

## Section A: Impares y pares

- Lesson 1: ¿Pueden compartir?
- Lesson 2: Los compañeros hacen parejas
- Lesson 3: ¿Es par o impar?
- Lesson 4: Descompongamos números pares e impares
- Lesson 5: Patrones con números pares e impares
- Lesson 6: Día 1 de centros

## Section B: Arreglos rectangulares

- Lesson 7: ¿Qué es un arreglo?
- Lesson 8: Contemos columnas y objetos en columnas
- Lesson 9: Una suma de sumandos iguales
- Lesson 10: Escribamos expresiones y ecuaciones para representar arreglos
- Lesson 11: Arreglos y rectángulos
- Lesson 12: Partamos rectángulos en cuadrados
- Lesson 13: Día 2 de centros
- Lesson 14: El concierto de una banda

## Unit 9: Conectemos todo

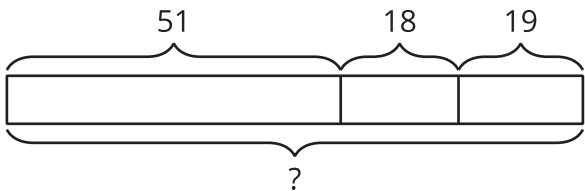
In this unit, students revisit major work and fluency goals of the grade, applying their learning from the year.

The first section gives students a chance to solidify their fluency with addition and subtraction within 20. The second section, students apply methods they used with smaller numbers to add and subtract numbers within 100. Students also revisit numbers within 1,000: composing and decomposing three-digit numbers in different ways and using methods based on place value to find their sums and differences.



In the final section, students interpret, solve, and write story problems involving numbers within 100, which further develop their fluency with addition and subtraction of two-digit numbers. Students work with all problem types with the unknown in all positions.

*Clare picked 51 apples. Lin picked 18 apples. Andre picked 19 apples.  
Here is the work a student shows to answer to a question about the apples.*



$51 + 19 = 70$   
 $70 + 18 = 88$

*What is the question?*

The sections in this unit are standalone sections, not required to be completed in order. The goal is to offer ample opportunities for students to integrate the knowledge they have gained and to practice skills related to the expected fluencies of the grade.

**Section A: Fluidez hasta 20 y medición**

- Lesson 1: Sumas y diferencias hasta 20
- Lesson 2: Fluidez al revés
- Lesson 3: Midamos en un mapa
- Lesson 4: Midamos y ubiquemos

**Section B: Números hasta 1,000**

- Lesson 5: Compongamos y descompongamos números hasta 1,000
- Lesson 6: Representemos números usando expresiones
- Lesson 7: Sumemos y restemos hasta 1,000
- Lesson 8: Sumemos y restemos hasta 100

**Section C: Inventemos y resolvamos problemas-historia**

- Lesson 9: Clasifiquemos los problemas-historia
- Lesson 10: ¿Cuál es la pregunta?
- Lesson 11: Todo sobre los diagramas de cinta
- Lesson 12: ¿Cuál es la historia?
- Lesson 13: Resolvamos nuestros problemas-historia

**Pacing Guide**

The number of days includes two assessment days per unit. The upper bound of the range includes optional lessons.



|         | Kindergarten                                                                                    | Grade 1                                                                                        | Grade 2                                                                                                    |
|---------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| week 1  | Unit 1<br>Math in Our World<br>(18–19 days)<br>Optional Lesson: 17                              | Unit 1<br>Adding, Subtracting, and<br>Working with Data<br>(16–17 days)<br>Optional Lesson: 15 | Unit 1<br>Adding, Subtracting, and<br>Working with Data<br>(16–20 days)<br>Optional Lessons: 6, 12, 17, 18 |
| week 2  |                                                                                                 |                                                                                                |                                                                                                            |
| week 3  |                                                                                                 |                                                                                                |                                                                                                            |
| week 4  |                                                                                                 |                                                                                                |                                                                                                            |
| week 5  | Unit 2<br>Numbers 1–10<br>(23–26 days)<br>Optional Lessons: 7, 8, 24                            | Unit 2<br>Addition and Subtraction<br>Story Problems<br>(24–25 days)<br>Optional Lesson: 23    | Unit 2<br>Adding and Subtracting<br>within 100<br>(15–19 days)<br>Optional Lessons: 4, 10, 16, 17          |
| week 6  |                                                                                                 |                                                                                                |                                                                                                            |
| week 7  |                                                                                                 |                                                                                                |                                                                                                            |
| week 8  |                                                                                                 |                                                                                                |                                                                                                            |
| week 9  | Unit 3<br>Flat Shapes All Around Us<br>(16–17 days)<br>Optional Lesson: 15                      | Unit 3<br>Adding and Subtracting<br>within 20<br>(29–30 days)<br>Optional Lesson: 28           | Unit 3<br>Measuring Length<br>(16–20 days)<br>Optional Lessons: 7, 13, 17, 18                              |
| week 10 |                                                                                                 |                                                                                                |                                                                                                            |
| week 11 |                                                                                                 |                                                                                                |                                                                                                            |
| week 12 |                                                                                                 |                                                                                                |                                                                                                            |
| week 13 | Unit 4<br>Understanding Addition<br>and Subtraction<br>(18–20 days)<br>Optional Lessons: 13, 18 | Unit 4<br>Numbers to 99<br>(23–25 days)<br>Optional Lessons: 12, 23                            | Unit 4<br>Addition and Subtraction<br>on the Number Line<br>(14–17 days)<br>Optional Lessons: 6, 14, 15    |
| week 14 |                                                                                                 |                                                                                                |                                                                                                            |
| week 15 |                                                                                                 |                                                                                                |                                                                                                            |
| week 16 |                                                                                                 |                                                                                                |                                                                                                            |
| week 17 | Unit 5<br>Composing and Decomposing<br>Numbers to 10<br>(15–17 days)<br>Optional Lessons: 4, 15 | Unit 5<br>Adding within 100<br>(15–16 days)<br>Optional Lesson: 14                             | Unit 5<br>Numbers to 1,000<br>(13–16 days)<br>Optional Lessons: 7, 13, 14                                  |
| week 18 |                                                                                                 |                                                                                                |                                                                                                            |
| week 19 |                                                                                                 |                                                                                                |                                                                                                            |
| week 20 |                                                                                                 |                                                                                                |                                                                                                            |
| week 21 | Unit 6<br>Numbers 0–20<br>(13–15 days)<br>Optional Lessons: 2, 13                               | Unit 6<br>Length Measurements<br>within 120 Units<br>(18–19 days)<br>Optional Lesson: 17       | Unit 6<br>Geometry, Time, and<br>Money<br>(19–24 days)<br>Optional Lessons: 5, 10, 14,<br>21, 22           |
| week 22 |                                                                                                 |                                                                                                |                                                                                                            |
| week 23 |                                                                                                 |                                                                                                |                                                                                                            |
| week 24 |                                                                                                 |                                                                                                |                                                                                                            |
| week 25 | Unit 7<br>Solid Shapes All Around Us<br>(17–18 days)<br>Optional Lesson: 16                     | Unit 7<br>Geometry and Time<br>(19–20 days)<br>Optional Lesson: 18                             | Unit 7<br>Adding and Subtracting<br>within 1,000<br>(16–21 days)<br>Optional Lessons: 5, 11, 17, 18,<br>19 |
| week 26 |                                                                                                 |                                                                                                |                                                                                                            |
| week 27 |                                                                                                 |                                                                                                |                                                                                                            |
| week 28 |                                                                                                 |                                                                                                |                                                                                                            |
| week 29 | Unit 8<br>Putting It All Together<br>(17–23 days)<br>Optional Lessons: 2, 4, 5, 17,<br>18, 19   | Unit 8<br>Putting It All Together<br>(12 days)<br>Optional Lessons: none                       | Unit 8<br>Equal Groups<br>(12–16 days)<br>Optional Lessons: 5, 6, 13, 14                                   |
| week 30 |                                                                                                 |                                                                                                |                                                                                                            |
| week 31 |                                                                                                 |                                                                                                |                                                                                                            |
| week 32 |                                                                                                 |                                                                                                |                                                                                                            |
| week 33 |                                                                                                 |                                                                                                | Unit 9<br>Putting It All Together<br>(15 days)<br>Optional Lessons: none                                   |
| week 34 |                                                                                                 |                                                                                                |                                                                                                            |

|         | Grade 3                                                                                               | Grade 4                                                                                            | Grade 5                                                                                                                       |
|---------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| week 1  | Unit 1<br>Introducing Multiplication<br>(22–23 days)<br>Optional Lesson: 21                           | Unit 1<br>Factors and Multiples<br>(8–10 days)<br>Optional Lessons: 4, 8                           | Unit 1<br>Finding Volume<br>(13–14 days)<br>Optional Lesson: 12                                                               |
| week 2  |                                                                                                       | Unit 2<br>Fraction Equivalence and<br>Comparison<br>(18–19 days)<br>Optional Lesson: 17            | Unit 2<br>Fractions as Quotients and<br>Fraction Multiplication<br>(17–19 days)<br>Optional Lessons: 16, 17                   |
| week 3  |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 4  |                                                                                                       | Unit 3<br>Extending Operations to<br>Fractions<br>(20–22 days)<br>Optional Lessons: 19, 20         | Unit 3<br>Multiplying and Dividing<br>Fractions<br>(20–22 days)<br>Optional Lessons: 10, 20                                   |
| week 5  | Unit 2<br>Area and Multiplication<br>(16–17 days)<br>Optional Lessons: 15                             |                                                                                                    |                                                                                                                               |
| week 6  | Unit 3<br>Wrapping Up Addition and<br>Subtraction within 1,000<br>(22–23 days)<br>Optional Lesson: 21 | Unit 4<br>From Hundredths to<br>Hundred-thousands<br>(24–25 days)<br>Optional Lesson: 23           | Unit 4<br>Wrapping Up Multiplication<br>and Division with Multi-<br>Digit Numbers<br>(20–22 days)<br>Optional Lessons: 16, 20 |
| week 7  |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 8  | Unit 4<br>Relating Multiplication to<br>Division<br>(23–24 days)<br>Optional Lesson: 22               | Unit 5<br>Multiplicative Comparison<br>and Measurement<br>(19–20 days)<br>Optional Lesson: 18      | Unit 5<br>Place Value Patterns and<br>Decimal Operations<br>(26–28 days)<br>Optional Lessons: 4, 26                           |
| week 9  |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 10 | Unit 5<br>Fractions as Numbers<br>(19–20 days)<br>Optional Lesson: 18                                 | Unit 6<br>Multiplying and Dividing<br>Multi-digit Numbers<br>(27–28 days)<br>Optional Lesson: 26   | Unit 6<br>More Decimal and Fraction<br>Operations<br>(21–23 days)<br>Optional Lessons: 20, 21                                 |
| week 11 |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 12 | Unit 6<br>Measuring Length, Time,<br>Liquid Volume, and Weight<br>(17–18 days)<br>Optional Lesson: 16 | Unit 7<br>Angles and Angle<br>Measurement<br>(17–18 days)<br>Optional Lesson: 16                   | Unit 7<br>Shapes on the Coordinate<br>Plane<br>(15–16 days)<br>Optional Lesson: 14                                            |
| week 13 |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 14 | Unit 7<br>Two-dimensional Shapes<br>and Perimeter<br>(16–17 days)<br>Optional Lesson: 15              | Unit 8<br>Properties of Two-dimensional<br>Shapes<br>(9–13 days)<br>Optional Lessons: 6, 9, 10, 11 | Unit 8<br>Putting It All Together<br>(19–20 days)<br>Optional Lesson: 9                                                       |
| week 15 |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 16 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              | Unit 9<br>Putting It All Together<br>(14 days)<br>Optional Lessons: none                           | Unit 8<br>Putting It All Together<br>(19–20 days)<br>Optional Lesson: 9                                                       |
| week 17 |                                                                                                       |                                                                                                    |                                                                                                                               |
| week 18 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 19 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 20 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 21 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 22 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 23 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 24 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 25 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 26 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 27 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 28 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 29 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 30 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 31 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 32 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 33 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |
| week 34 | Unit 8<br>Putting It All Together<br>(17 days)<br>Optional Lessons: none                              |                                                                                                    |                                                                                                                               |

## Dependency Chart

In the unit dependency chart, an arrow indicates that a particular unit is designed for students who already know the material in a previous unit. Reversing the order of the units would have a negative effect on mathematical or pedagogical coherence.





The following chart shows unit dependencies across the curriculum for IM Grades 3-8.



## Section Dependency Diagrams

In the section dependency charts, an arrow indicates the prior section that contains content most directly designed to support or build toward the content in the current section.







