Scope and Sequence for Grado 1

The big ideas in grade 1 include: developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; developing understanding of whole-number relationships and place value, including grouping in tens and ones; developing understanding of linear measurement and measuring lengths as iterating length units; and reasoning about attributes of, and composing and decomposing geometric shapes.

The mathematical work for grade 1 is partitioned into 8 units:

1. Adding, Subtracting, and Working with Data
2. Addition and Subtraction Story Problems
3. Adding and Subtracting within 20
4. Numbers to 99
5. Adding within 100
6. Length Measurements within 120 units
7. Geometry and Time
8. 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 deepen their understanding of addition and subtraction within 10. They also extend what they know about organizing objects into categories and representing the quantities.

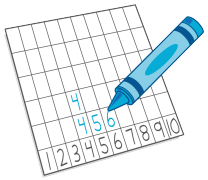
In kindergarten, students solved addition and subtraction word problems within 10 using objects and drawings. They learned about Put-Together, Result-Unknown problems and worked toward fluency with sums and differences within 5.

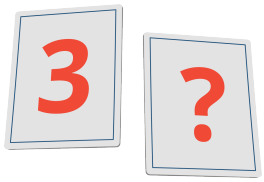
The activities in this unit reinforce these understandings and initiate the year-long work of developing fluency with sums and differences within 10. Some problems involve finding sums greater than 10, a skill to be honed throughout the course and with the support of tools, such as connecting cubes.

Students also build on the work of kindergarten as they engage with data. Previously, students sorted objects into given categories, such as by size or shape. Here, students use drawings, symbols, tally marks, and numbers to represent categorical data. They go further by choosing their own categories, interpreting representations with up to three categories, and asking and answering questions about the data.

This opening unit offers teachers 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.

Number Race | Five in a Row | Find the Pair | Check It Off





Section A: Sumemos y restemos hasta 10

- Lesson 1: Contemos y sumemos
- Lesson 2: Exploremos expresiones y sumas
- Lesson 3: Sumemos 1 o 2
- Lesson 4: Más trabajo con 1 y 2
- Lesson 5: Exploremos la suma y la resta
- Lesson 6: Día 1 de centros

Section B: Muéstranos tus datos

- Lesson 7: Clasifiquemos herramientas matemáticas
- Lesson 8: Clasifiquemos y contemos tarjetas de figura
- Lesson 9: ¿Cuál es tu favorito?
- Lesson 10: Día 2 de centros

Section C: ¿Qué nos dicen los datos?

- Lesson 11: Encuestas sobre una mascota para el curso
- Lesson 12: ¿Cuántos hay?
- Lesson 13: Preguntas sobre datos
- Lesson 14: Día 3 de centros
- Lesson 15: Actividades para el tiempo libre

Unit 2: Problemas-historia de sumar y restar

In this unit, students learn to solve new types of addition and subtraction story problems. As students make sense of the problems and share the ways they solve them, they deepen their understanding of addition, subtraction, and the relationship between these operations. These new problem types also elicit computation strategies, such as counting on, that students will use throughout the year as they add and subtract within 20 and develop fluency within 10.

In kindergarten, students solved a limited number of story problem types within 10. They made sense of story problems by acting them out with objects and drawings. As they compared different ways to represent and solve these problems, including the use of expressions, students developed an understanding of addition as adding to or putting together and subtraction as taking from or taking apart.

Here, students are introduced to three of the new problem types for grade 1:

- Add To, Change Unknown
- Put Together/Take Apart, Addend Unknown

- Compare, Difference Unknown

Each of these problem types involves an unknown addend. Still, they all provide unique opportunities for students to learn about the relationship between addition and subtraction as they make sense of the actions or relationships in the problems.

Throughout the unit, it is important to maintain a focus on sense-making as students share and compare the different ways they represent and solve problems. It is recommended to read the story problems aloud to all students during this unit to ensure access to the mathematics. Students will continue to use objects and drawings during the unit and throughout the year to make sense of problems and show their thinking.

In the next unit, students will solve addition and subtraction problems within 20 and work with equations with a symbol for the unknown in all positions. They will also further develop their fluency within 10.

Section A: Problemas-historia de agregar y quitar

- Lesson 1: Representemos problemas-historia
- Lesson 2: Resolvamos problemas-historia
- Lesson 3: Viene un cambio
- Lesson 4: Cambio desconocido
- Lesson 5: Día 1 de centros

Section B: Problemas-historia de juntar y separar

- Lesson 6: Problemas sobre mascotas
- Lesson 7: Una parte roja, una parte amarilla
- Lesson 8: Una parte roja, ¿cuántas amarillas?
- Lesson 9: ¿Qué es lo desconocido?
- Lesson 10: Día 2 de centros

Section C: Problemas-historia de comparar

- Lesson 11: ¿Hay suficientes?
- Lesson 12: ¿Cuántos más hay? ¿Cuántos menos hay?
- Lesson 13: Comparemos datos
- Lesson 14: Comparemos con suma o con resta
- Lesson 15: Diferentes tipos de problemas-historia
- Lesson 16: Día 3 de centros

Section D: Problemas-historia de todo tipo

- Lesson 17: Ecuaciones con valores desconocidos
- Lesson 18: Ecuaciones de suma y resta
- Lesson 19: ¿En qué se parecen y en qué son diferentes las historias?
- Lesson 20: Problemas-historia y ecuaciones
- Lesson 21: Demos sentido a las ecuaciones
- Lesson 22: Día 4 de centros

- Lesson 23: Información de los problemas-historia

Unit 3: Sumemos y restemos hasta 20

In this unit, students develop an understanding of 10 ones as a unit called "a ten" and use the structure of $10 + n$ to add and subtract within 20.

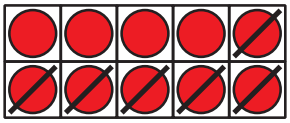
In kindergarten, students composed and decomposed the numbers 11–19 into 10 ones and some more ones. In a previous unit, students solved story problems of all types with unknown values in all positions and numbers within 10. They used the relationship between addition and subtraction, drawings and equations, and various tools (10-frames, connecting cubes, two-color counters) to represent the quantities in the problems. They learned that the values represented by the numbers or expressions on each side of an equation are equal.

Here, students decompose and recompose addends to find the sum of two or three numbers. For example, to find the value of $9 + 6$, they may decompose 6 into 1 and 5, compose the 1 and 9 into 10, and find $10 + 5$.

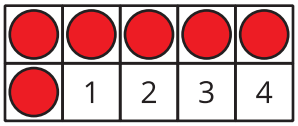
Subtraction work occurs throughout the unit and becomes the focus in the last section. Students consider taking away and counting on as methods for subtracting. They understand subtraction as an unknown-addend problem and use their knowledge of addition to find the difference of two numbers.

For instance, students may reason about the value of $10 - 6$ by:

Taking away 6 from 10.



Counting on to 10, starting from 6.



Using an addition fact, $6 + 4 = 10$.

Students solve story problems throughout the unit and learn two new problem types—Add To, Start Unknown and Take From, Change Unknown. Students compare the structure of different types of story problems as they practice adding and subtracting within 20.

Section A: Desarrollemos fluidez con la suma y la resta hasta 10

- Lesson 1: Sumas que sabemos
- Lesson 2: Relacionemos contar con sumar
- Lesson 3: ¿Son iguales?
- Lesson 4: Sumas de 10
- Lesson 5: Encontremos la diferencia
- Lesson 6: Problemas-historia hasta 10
- Lesson 7: Día 1 de centros

Section B: Sumemos y restemos usando las decenas como unidad

- Lesson 8: La decena: 10 como unidad
- Lesson 9: Suma con una decena
- Lesson 10: Suma y resta con una decena
- Lesson 11: Sumémosle a un número del 11 al 19
- Lesson 12: Restémosle a un número del 11 al 19

- Lesson 13: Más problemas-historia con números del 11 al 19
- Lesson 14: Día 2 de centros

Section C: Sumemos hasta 20

- Lesson 15: Resolvamos problemas-historia con tres números
- Lesson 16: Sumemos 3 números
- Lesson 17: Formemos 10 para sumar
- Lesson 18: Patrones en la suma
- Lesson 19: Métodos para sumar hasta 20
- Lesson 20: Un paseo al zoológico
- Lesson 21: Día 3 de centros

Section D: Restemos hasta 20

- Lesson 22: Restémosle a números del 11 al 19
- Lesson 23: Usemos una decena para restar
- Lesson 24: Relacionemos contar con la suma y con la resta
- Lesson 25: ¿Cómo quieren restar?
- Lesson 26: ¿Cuál es la historia?
- Lesson 27: Día 4 de centros
- Lesson 28: La huerta

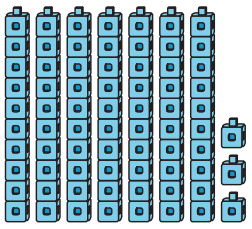
Unit 4: Números hasta 99

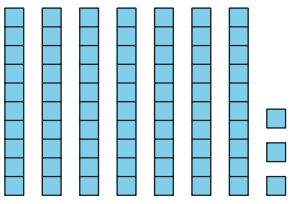
This unit develops students' understanding of the structure of numbers in base ten, allowing them to see that the two digits of a two-digit number represent how many tens and ones there are.

In a previous unit, students counted forward by one and ten within 100 in the *Choral Count* routine. They learned that 10 ones make a unit called a "ten" and that a "teen number" is a ten and some ones.

As students count and group quantities, they generalize the structure of two-digit numbers in terms of the number of tens and ones. This understanding enables students to transition from counting by one to counting by ten and then counting on. For example, to count to 73, students may count 7 tens and then count on—71, 72, 73.

Students interpret and use multiple representations of two-digit numbers: connecting cubes, base-ten diagrams, words, and expressions. Connecting cubes in towers of 10 and singles are used instead of base-ten blocks, so units of ten can be physically composed and decomposed with the cubes. Base-ten blocks will be introduced in grade 2. Here are some representations for 73:



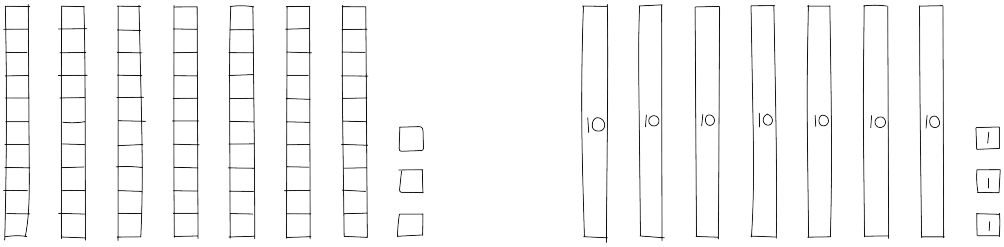


7 tens and 3 ones
3 ones and 7 tens

$70 + 3$
$63 + 10$
$60 + 13$

Students also represent two-digit numbers with drawings. They may start by drawing towers of ten and showing each

unit of one within each ten. Later, students simplify their drawings to show rectangles for tens and small squares for ones. Encourage students to use the drawings that make sense to them. Students that use abstract drawings should express how many ones each ten represents.



Students should have access to connecting cubes—towers of 10 and singles —in all lessons to help students make sense of base-ten representations. Some students may also benefit from access to double 10-frames and two-color counters. Students should be encouraged to work toward using connecting cubes in towers of 10 and singles.

Later in the unit, students use the value of the digits to compare two-digit numbers. Students learn to use comparison symbols (<, >) to record their comparisons. The unit concludes with opportunities for students to explore different ways of using tens and ones to represent two-digit numbers.

Section A: Unidades de diez (decenas)

- Lesson 1: Contemos colecciones grandes
- Lesson 2: Asociemos representaciones de decenas
- Lesson 3: Sumar y restar con decenas
- Lesson 4: Más suma y resta con decenas
- Lesson 5: Día 1 de centros

Section B: Decenas y unidades

- Lesson 6: Contemos colecciones más grandes
- Lesson 7: Números con decenas y unidades
- Lesson 8: Varias representaciones de decenas y unidades
- Lesson 9: Muéstrame tu número
- Lesson 10: Escribamos números de 2 dígitos
- Lesson 11: Sumemos decenas a números de 2 dígitos
- Lesson 12: Sumemos y restemos decenas mentalmente
- Lesson 13: Día 2 de centros

Section C: Comparemos números hasta 99

- Lesson 14: Comparemos
- Lesson 15: Mayor que, menor que
- Lesson 16: Escribamos comparaciones con símbolos
- Lesson 17: Comparemos y ordenemos números
- Lesson 18: Día 3 de centros

Section D: Diferentes maneras de formar un número

- Lesson 19: Formemos números de 2 dígitos
- Lesson 20: Formemos números de 2 dígitos de diferentes maneras
- Lesson 21: Comparemos números de 2 dígitos que se muestran de maneras diferentes
- Lesson 22: Día 4 de centros
- Lesson 23: ¿Qué pasa cuándo estimamos?

Unit 5: Sumemos hasta 100

In this unit, students add within 100, using place value and properties of operations in their reasoning.

In a previous unit, students composed, decomposed, and compared numbers within 100. They reasoned about units of tens and ones and represented numbers with connecting cubes, base-ten drawings, expressions, and equations in different ways (for example, $65 = 60 + 5$ and $65 = 50 + 15$). In this unit, students build on these understandings of place value to find sums.

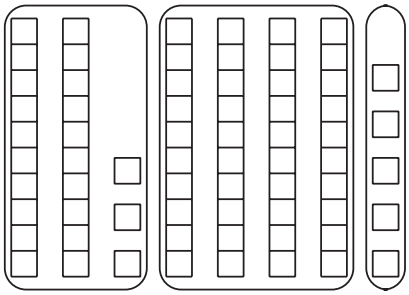
Students begin by adding a two-digit number with another two-digit number or with a one-digit number where it is not necessary to compose a new ten. Then they observe cases in which adding some ones together requires composing a new ten.

Two broad methods for finding sums are explored: adding on by place (adding on tens, then ones), and adding units by place (combining tens with tens and ones with ones).

They also compare methods from earlier work, such as counting on and making use of known sums, including sums of 10.

$23 + 45$

Add on tens, then add on ones:



Students make sense of methods for adding (especially as it relates to composing a ten when adding ones and ones). They work with a variety of representations—connecting cubes in towers of 10 and singles, base-ten drawings, expressions, and equations. They also use different representations to share their thinking with others.

Expressions and equations are presented horizontally to encourage students to make sense of the numbers and ways of adding rather than apply an algorithm. Eventually, students write equations to represent their thinking. For example, to find the sum of $52 + 46$, they might write:

$52 + 40 = 92$
$92 + 6 = 98$

or

$50 + 40 = 90$
$2 + 6 = 8$
$90 + 8 = 98$

Students are not expected to write or use equations in any specific way. Even in activities that focus on interpreting and writing equations, students should have continued access to drawings and other tools. Provide access to connecting cubes in towers of 10 and singles throughout the unit.

Section A: Sumemos sin formar una decena

- Lesson 1: Sumemos decenas o unidades
- Lesson 2: ¿Cómo sumaron?
- Lesson 3: Sumemos, expliquemos
- Lesson 4: Día 1 de centros

Section B: Formemos una decena: Sumemos un número de 1 dígito y uno de 2 dígitos

- Lesson 5: Formemos una decena
- Lesson 6: Formemos una decena y démosle sentido a las ecuaciones
- Lesson 7: ¿Se forma una nueva decena?
- Lesson 8: Día 2 de centros

Section C: Formemos una decena: Sumas hasta 100

- Lesson 9: Sumemos 2 números de dos dígitos
- Lesson 10: Decenas y decenas, unidades y unidades
- Lesson 11: ¿Cómo lo hicieron?
- Lesson 12: Sumémoslo
- Lesson 13: Día 3 de centros
- Lesson 14: Colecta de alimentos

Unit 6: Medidas de longitud de hasta 120 unidades

In this unit, students extend their knowledge of linear measurement while continuing to develop their understanding of operations, algebraic thinking, and place value.

In kindergarten, students identified attributes of objects that can be compared, such as length, weight, and capacity. In this unit, students compare the lengths of objects by lining them up at their endpoints, and explore ways to compare lengths of two objects that cannot be lined up.

From there, students transition to the idea of iterating length units, or using the same length unit, to measure the lengths of objects and to communicate measurements clearly.

Students begin by using the length of a connecting cube as a unit of measurement. Because connecting cubes snap together, students can focus on counting the length of the cubes without worrying about any gaps or overlaps in the units.

Later, students measure with length units that don't connect together, such as paper clips and centimeter cubes (small cubes). Throughout the unit, students do not use formal units of length, and therefore centimeter cubes are referred to as small cubes. Students develop precision as they make sure that there are no gaps or overlap in the units used to measure.

Students measure some lengths by iterating small units, yielding measurements of over 100 length units. Students consider how to count and represent these larger groups of units—up to 120—with a written number. They use familiar

representations (connecting cubes and base-ten drawings) to recognize 100 as 10 tens, but do not consider the unit of a hundred until grade 2.

Later in the unit, students solve problems in various contexts, including measurement. They revisit Compare, Difference Unknown story problems and learn to solve Compare, Bigger Unknown and Smaller Unknown problems about lengths. Next, students are introduced to a new problem type: Take From, Start Unknown. They practice solving all story problems types with unknowns in all positions.

Section A: De comparaciones directas a comparaciones indirectas

- Lesson 1: Comparemos longitudes
- Lesson 2: Comparemos longitudes de objetos de manera indirecta
- Lesson 3: Escojamos objetos para comparar su longitud indirectamente
- Lesson 4: Día 1 de centros

Section B: Midamos hasta 120 repitiendo unidades

- Lesson 5: Midamos con cubos encajables
- Lesson 6: Midamos con clips
- Lesson 7: Midamos longitudes con diferentes unidades de longitud
- Lesson 8: Grupos de hasta 110
- Lesson 9: Escribamos números hasta 120
- Lesson 10: Día 2 de centros

Section C: Todo tipo de problemas-historia

- Lesson 11: ¿Qué tan largos son nuestros zapatos?
- Lesson 12: Comparemos medidas
- Lesson 13: Resolvamos problemas-historia de quitar
- Lesson 14: ¿Cuál ecuación corresponde?
- Lesson 15: Escribamos ecuaciones para problemas-historia
- Lesson 16: Día 3 de centros
- Lesson 17: Colcha de la clase

Unit 7: Geometría y tiempo

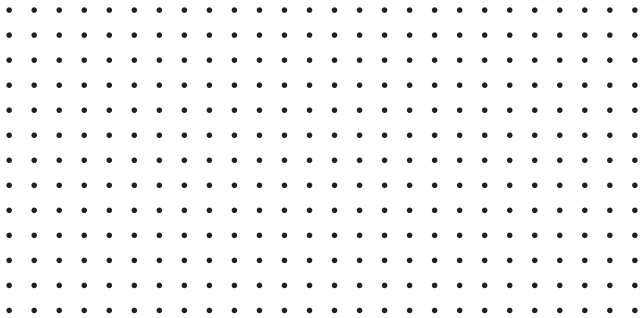
In this unit, students focus on geometry and time. They expand their knowledge of two- and three-dimensional shapes, partition shapes into halves and fourths, and tell time to the hour and half hour. Center activities and warm-ups continue to enable students to solidify their work with adding and subtracting within 20 and adding within 100.

In kindergarten, students learned about flat and solid shapes. They named, described, built, and compared shapes. They learned the names of some flat shapes (triangle, circle, square, and rectangle) and some solid shapes (cube, sphere, cylinder, and cone).

Here, students extend those experiences as they work with shape cards, pattern blocks, geoblocks, and solid shapes. They develop increasingly precise vocabulary as they use defining attributes (“squares have four equal-length sides”) rather than nondefining attributes (“the square is blue”) to describe why a specific shape belongs to a given category. Students should focus on manipulating, comparing, and composing shapes and using their own language, rather than

learning the formal definitions of shapes.

Draw 3 shapes that are not rectangles.



How do you know these are not rectangles?

Next, students transition to thinking about how to partition shapes into halves and fourths or quarters. These experiences allow students to learn the language of fractions. They come to understand that each piece gets smaller as the number of equal pieces increases.

In the last section, students tell time to the hour and the half hour. They learn about the hour and minute hands and what an analog clock looks like when the hour hand moves from one hour to the next. The experience of partitioning circles helps students make sense of time on the clock. Students see that a clock shows half hours when the minute hand has moved halfway around the clock from the hour, and the time can be written as "half past" or "___:30."

Section A: Figuras planas y sólidas

- Lesson 1: Figuras que son sólidas
- Lesson 2: Construyamos figuras usando otras figuras
- Lesson 3: Figuras que son planas
- Lesson 4: Dibujemos figuras planas
- Lesson 5: Algunos triángulos, todos los triángulos
- Lesson 6: Rectángulos y cuadrados
- Lesson 7: Juntemos figuras planas
- Lesson 8: Día 1 de centros

Section B: Medios y cuartos

- Lesson 9: Partes iguales
- Lesson 10: Una de las partes, todas las partes
- Lesson 11: Una parte más grande
- Lesson 12: Día 2 de centros

Section C: Leamos la hora en horas y medias horas

- Lesson 13: Es hora de aprender sobre relojes
- Lesson 14: La mitad del reloj
- Lesson 15: Escribamos horas
- Lesson 16: Horas difíciles

- Lesson 17: Día 3 de centros
- Lesson 18: Mitades y cuartos en nuestro mundo

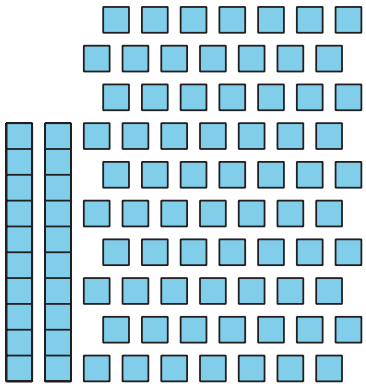
Unit 8: Conectemos todo

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

In *Section A*, students add and subtract within 20, concurrently working toward the goal of adding and subtracting fluently within 10. In *Section B*, they practice solving story problems of familiar types (those introduced in earlier units). In *Section C*, students count and represent numbers within 120.

Each of these topics is critical for students' readiness for the work in grade 2, in which students will expand their understanding of place value and add and subtract within 100.

What number is shown?
Record an estimate that is too low, too high, and about right.



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: Sumemos y restemos hasta 20

- Lesson 1: Fluidez para sumar hasta 10
- Lesson 2: Relacionemos la suma y la resta
- Lesson 3: Sumemos y restemos hasta 20

Section B: Problemas-historia

- Lesson 4: Problemas-historia con cambio desconocido
- Lesson 5: Problemas-historia de juntar y separar
- Lesson 6: Problemas-historia de comparación

Section C: Números hasta el 120

- Lesson 7: Contemos colecciones grandes
- Lesson 8: Muéstrenme todas las maneras
- Lesson 9: Resolvamos acertijos numéricos

- Lesson 10: Escribamos acertijos numéricos

Pacing Guide

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

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week 4</td><td>Unit 1
Math in Our World
(18–19 days)
Optional Lesson: 17</td><td>Unit 1
Adding, Subtracting, and Working with Data
(16–17 days)
Optional Lesson: 15</td><td>Unit 1
Adding, Subtracting, and Working with Data
(16–20 days)
Optional Lessons: 6, 12, 17, 18</td></tr>
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week 7
week 8
week 9</td><td>Unit 2
Numbers 1–10
(23–26 days)
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Addition and Subtraction Story Problems
(24–25 days)
Optional Lesson: 23</td><td>Unit 2
Adding and Subtracting within 100
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Optional Lessons: 4, 10, 16, 17</td></tr>
<tr><td>week 10
week 11
week 12
week 13</td><td>Unit 3
Flat Shapes All Around Us
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Optional Lesson: 15</td><td rowspan="2">Unit 3
Adding and Subtracting within 20
(29–30 days)
Optional Lesson: 28</td><td>Unit 3
Measuring Length
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Optional Lessons: 7, 13, 17, 18</td></tr>
<tr><td>week 14
week 15
week 16
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Understanding Addition and Subtraction
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Optional Lessons: 13, 18</td><td>Unit 4
Addition and Subtraction on the Number Line
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Optional Lessons: 6, 14, 15</td></tr>
<tr><td>week 18
week 19
week 20
week 21</td><td>Unit 5
Composing and Decomposing Numbers to 10
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Optional Lessons: 4, 15</td><td rowspan="2">Unit 4
Numbers to 99
(23–25 days)
Optional Lessons: 12, 23</td><td>Unit 5
Numbers to 1,000
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Optional Lessons: 7, 13, 14</td></tr>
<tr><td>week 22
week 23
week 24</td><td>Unit 6
Numbers 0-20
(13–15 days)
Optional Lessons: 2, 13</td><td rowspan="2">Unit 6
Geometry, Time, and Money
(19–24 days)
Optional Lessons: 5, 10, 14, 21, 22</td></tr>
<tr><td>week 25
week 26
week 27
week 28</td><td>Unit 7
Solid Shapes All Around Us
(17-18 days)
Optional Lesson: 16</td><td>Unit 5
Adding within 100
(15–16 days)
Optional Lesson: 14</td></tr>
<tr><td>week 29
week 30
week 31
week 32
week 33
week 34</td><td>Unit 8
Putting It All Together
(17–23 days)
Optional Lessons: 2, 4, 5, 17, 18, 19</td><td>Unit 6
Length Measurements within 120 Units
(18–19 days)
Optional Lesson: 17

Unit 7
Geometry and Time
(19-20 days)
Optional Lesson: 18

Unit 8
Putting It All Together
(12 days)
Optional Lessons: none</td><td>Unit 7
Adding and Subtracting within 1,000
(17–21 days)
Optional Lessons: 5, 11, 18, 19

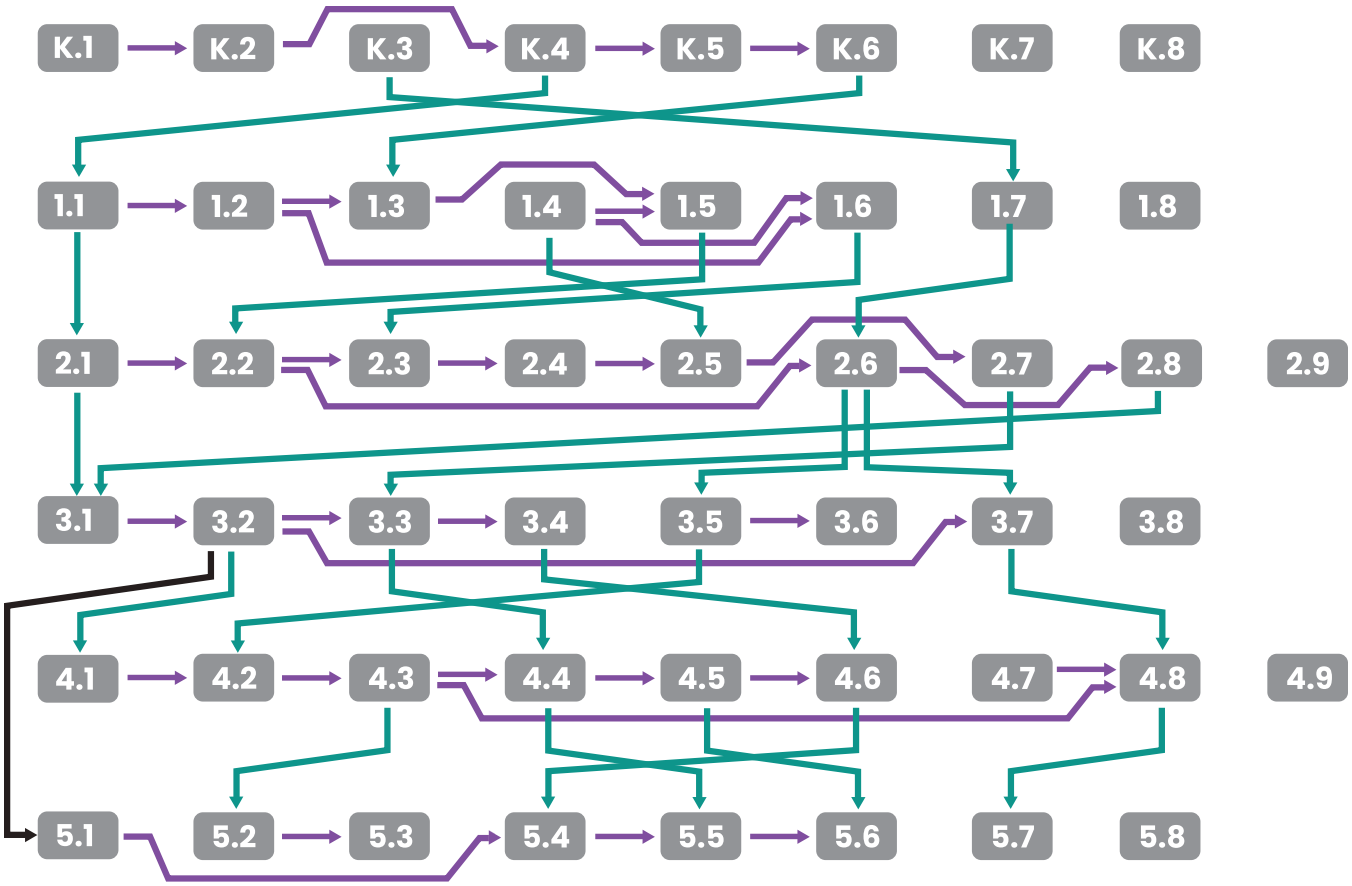
Unit 8
Equal Groups
(12–16 days)
Optional Lessons: 5, 6, 13, 14

Unit 9
Putting It All Together
(15 days)
Optional Lessons: none</td></tr>
</table>

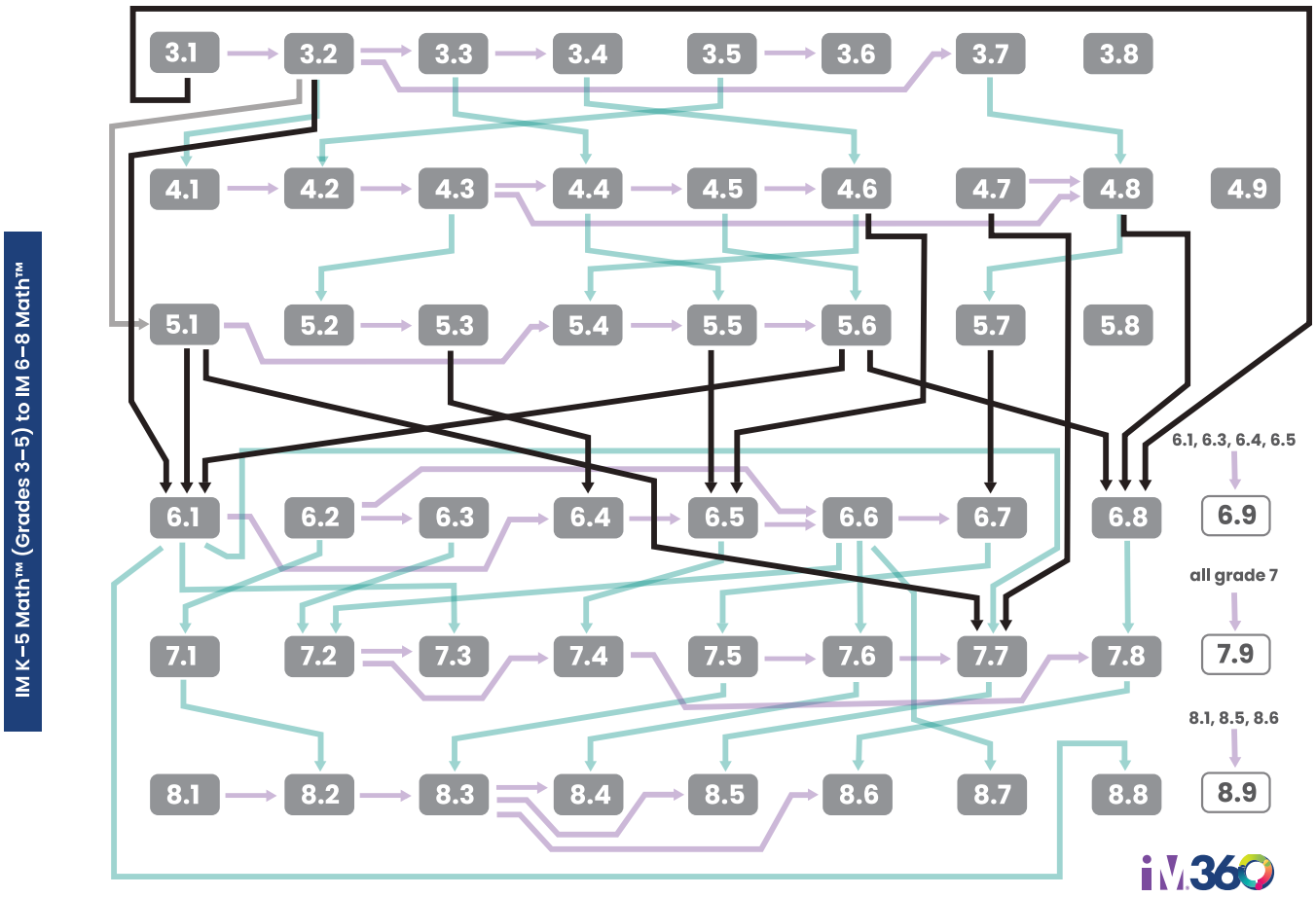
	Grade 3	Grade 4	Grade 5
week 1	Unit 1 Introducing Multiplication (22–23 days) Optional Lesson: 21	Unit 1 Factors and Multiples (8–10 days) Optional Lessons: 4, 8	Unit 1 Finding Volume (14–15 days) Optional Lesson: 12
week 2			
week 3		Unit 2 Fraction Equivalence and Comparison (18–19 days) Optional Lesson: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

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.

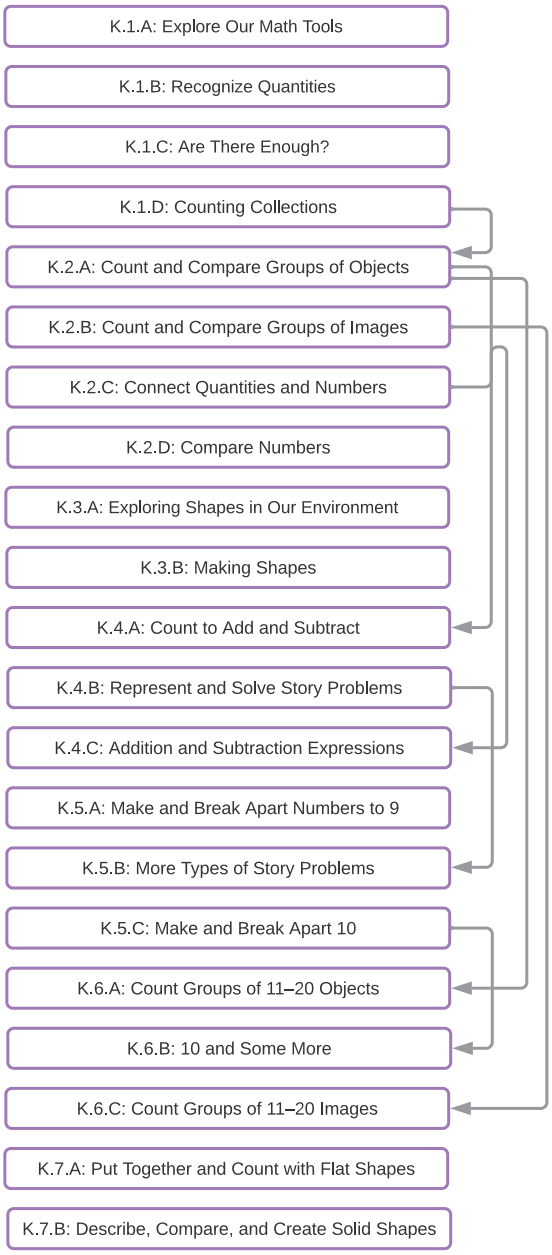


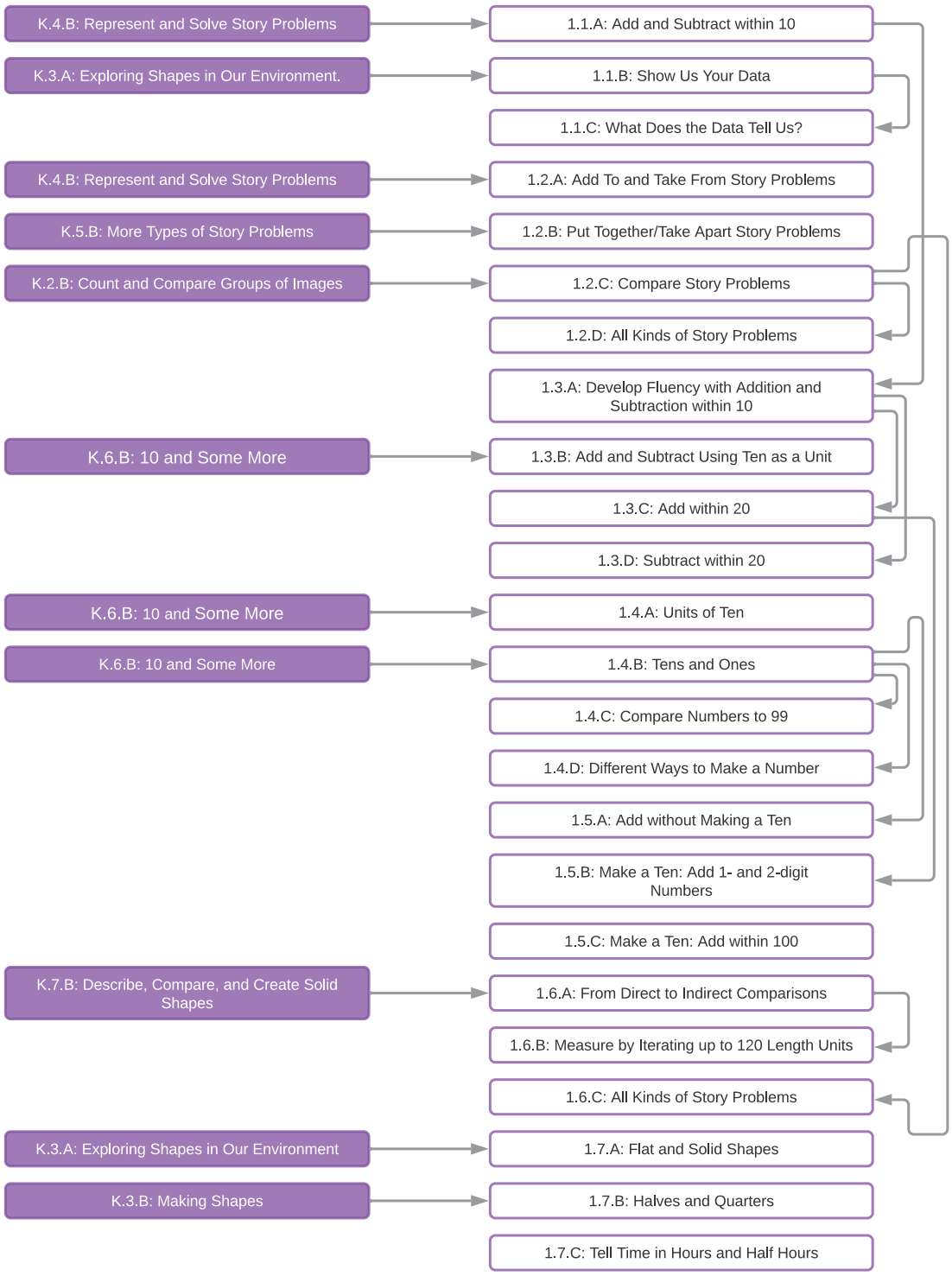
The following chart shows unit dependencies across the curriculum for IM Grades 3–8.

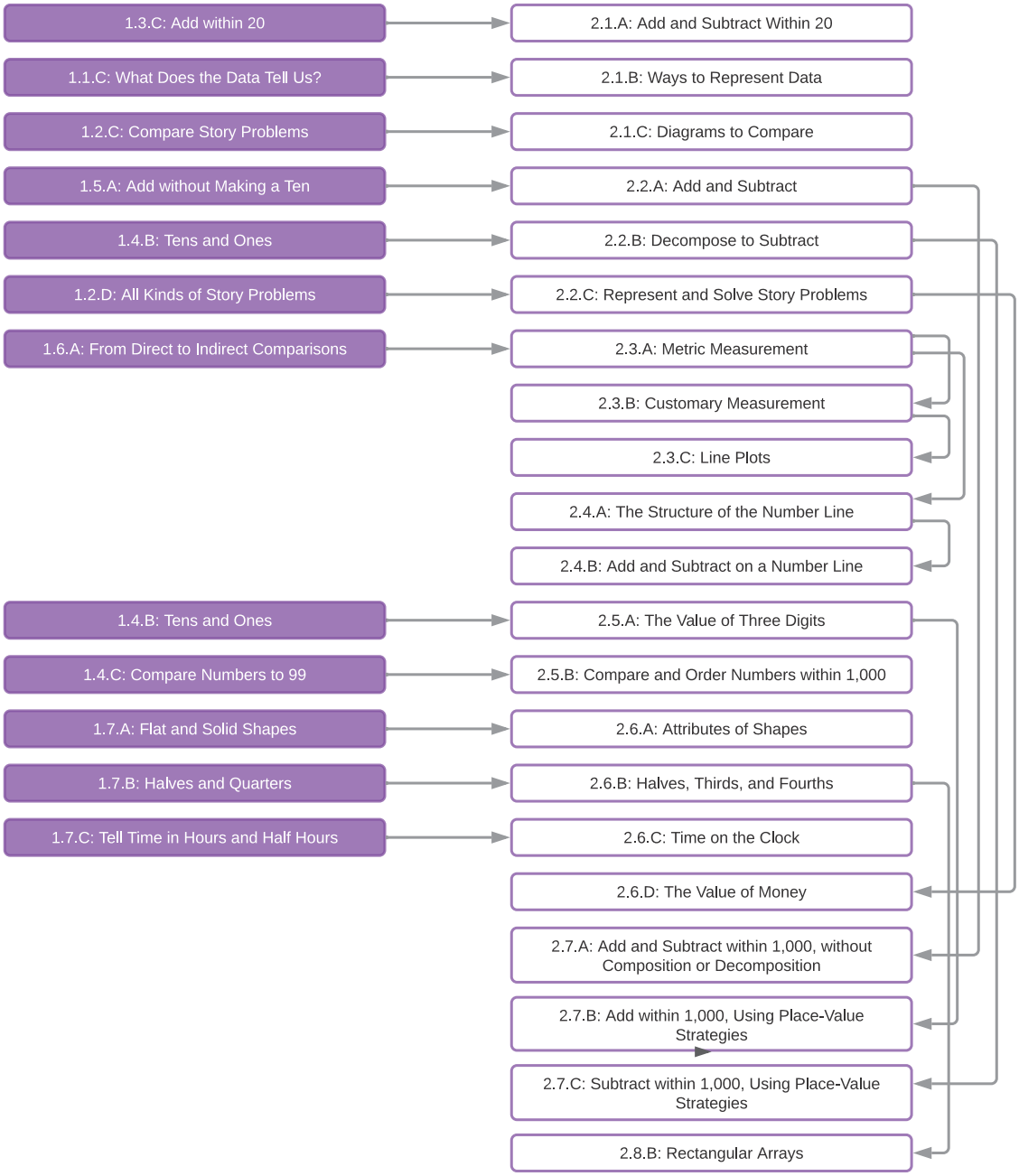


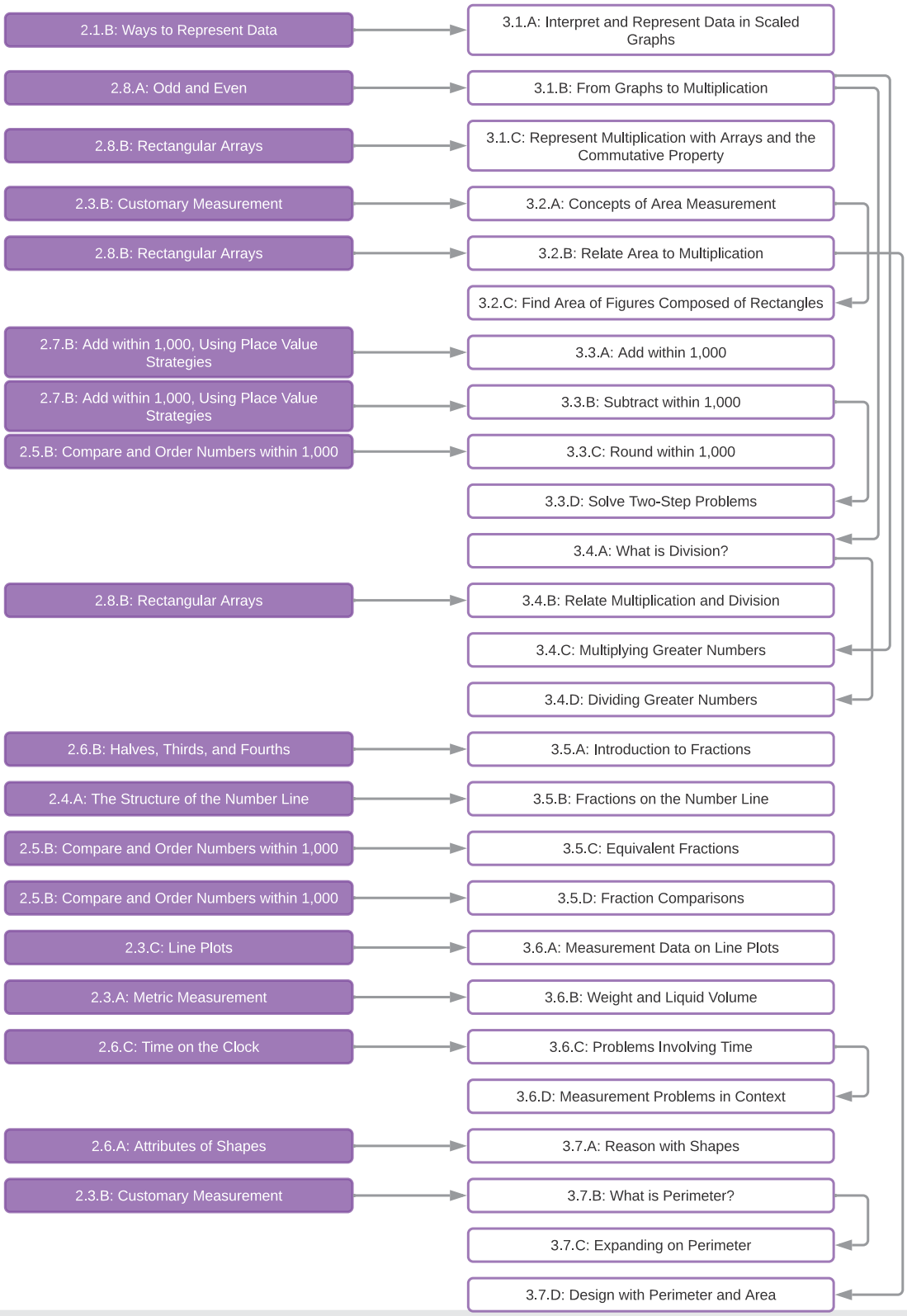
Section Dependency Diagrams

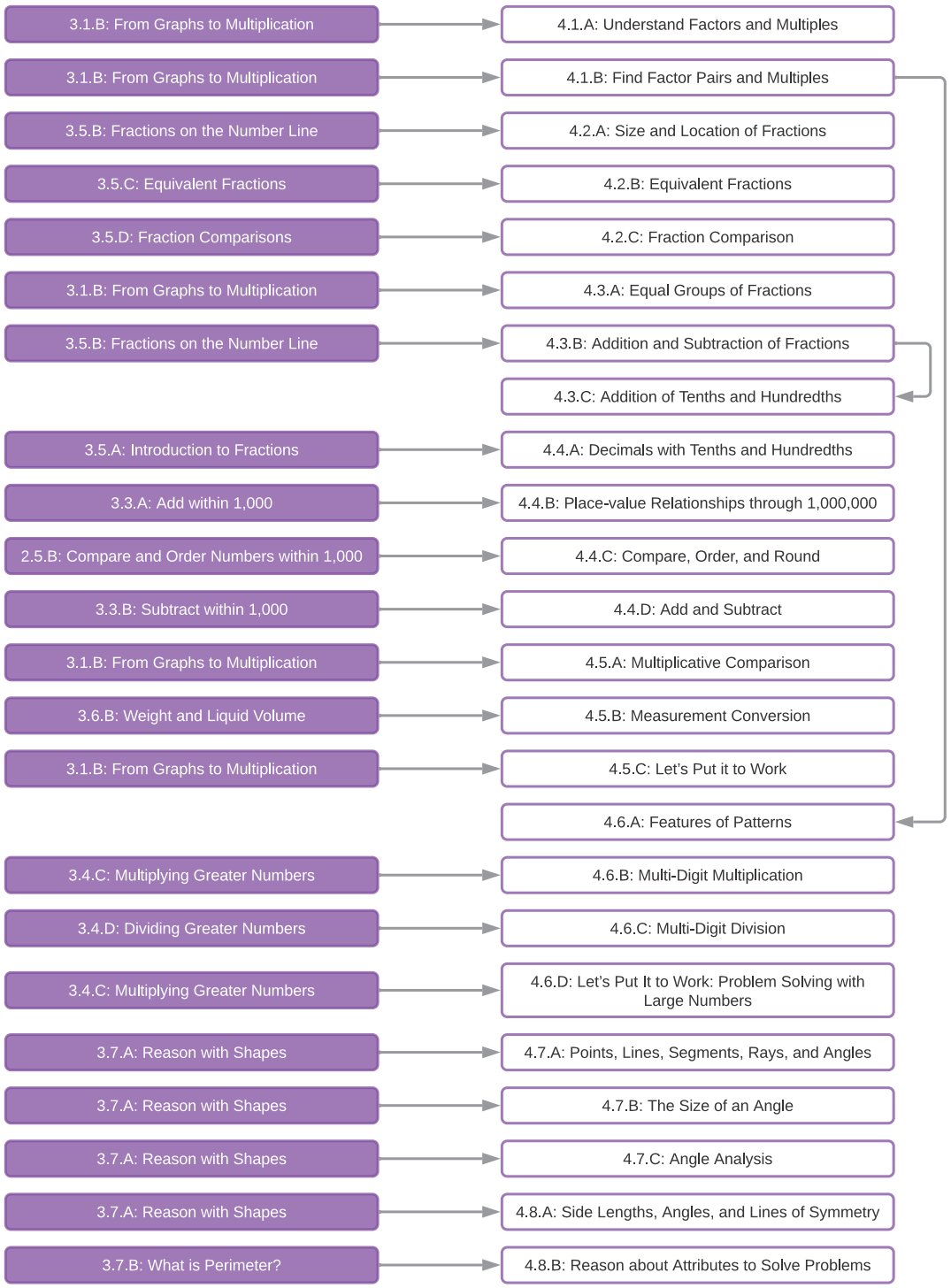
In the section dependency charts, an arrow indicates the prior section that contains content most directly designed to support or build toward the content in the current section.

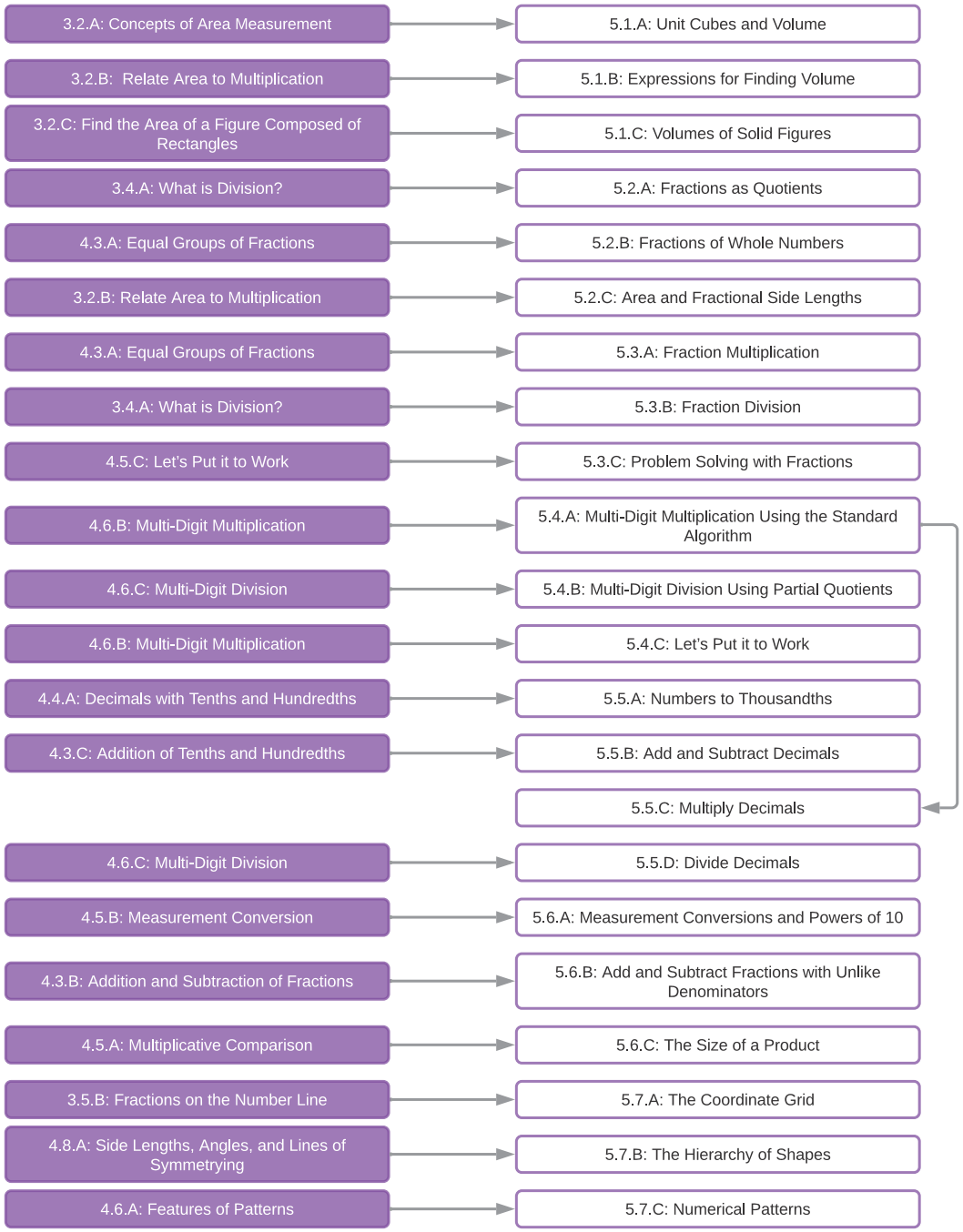

K.1.A: Explore Our Math Tools
K.1.B: Recognize Quantities
K.1.C: Are There Enough?
K.1.D: Counting Collections
K.2.A: Count and Compare Groups of Objects
K.2.B: Count and Compare Groups of Images
K.2.C: Connect Quantities and Numbers
K.2.D: Compare Numbers
K.3.A: Exploring Shapes in Our Environment
K.3.B: Making Shapes
K.4.A: Count to Add and Subtract
K.4.B: Represent and Solve Story Problems
K.4.C: Addition and Subtraction Expressions
K.5.A: Make and Break Apart Numbers to 9
K.5.B: More Types of Story Problems
K.5.C: Make and Break Apart 10
K.6.A: Count Groups of 11–20 Objects
K.6.B: 10 and Some More
K.6.C: Count Groups of 11–20 Images
K.7.A: Put Together and Count with Flat Shapes
K.7.B: Describe, Compare, and Create Solid Shapes


K.4.B: Represent and Solve Story Problems
1.1.A: Add and Subtract within 10
K.3.A: Exploring Shapes in Our Environment.
1.1.B: Show Us Your Data
1.1.C: What Does the Data Tell Us?
K.4.B: Represent and Solve Story Problems
1.2.A: Add To and Take From Story Problems
K.5.B: More Types of Story Problems
1.2.B: Put Together/Take Apart Story Problems
K.2.B: Count and Compare Groups of Images
1.2.C: Compare Story Problems
1.2.D: All Kinds of Story Problems
1.3.A: Develop Fluency with Addition and Subtraction within 10
K.6.B: 10 and Some More
1.3.B: Add and Subtract Using Ten as a Unit
1.3.C: Add within 20
1.3.D: Subtract within 20
K.6.B: 10 and Some More
1.4.A: Units of Ten
K.6.B: 10 and Some More
1.4.B: Tens and Ones
1.4.C: Compare Numbers to 99
1.4.D: Different Ways to Make a Number
1.5.A: Add without Making a Ten
1.5.B: Make a Ten: Add 1- and 2-digit Numbers
1.5.C: Make a Ten: Add within 100
K.7.B: Describe, Compare, and Create Solid Shapes
1.6.A: From Direct to Indirect Comparisons
1.6.B: Measure by Iterating up to 120 Length Units
1.6.C: All Kinds of Story Problems
K.3.A: Exploring Shapes in Our Environment
1.7.A: Flat and Solid Shapes
K.3.B: Making Shapes
1.7.B: Halves and Quarters
1.7.C: Tell Time in Hours and Half Hours


1.3.C: Add within 20
2.1.A: Add and Subtract Within 20
1.1.C: What Does the Data Tell Us?
2.1.B: Ways to Represent Data
1.2.C: Compare Story Problems
2.1.C: Diagrams to Compare
1.5.A: Add without Making a Ten
2.2.A: Add and Subtract
1.4.B: Tens and Ones
2.2.B: Decompose to Subtract
1.2.D: All Kinds of Story Problems
2.2.C: Represent and Solve Story Problems
1.6.A: From Direct to Indirect Comparisons
2.3.A: Metric Measurement
2.3.B: Customary Measurement
2.3.C: Line Plots
2.4.A: The Structure of the Number Line
2.4.B: Add and Subtract on a Number Line
1.4.B: Tens and Ones
2.5.A: The Value of Three Digits
1.4.C: Compare Numbers to 99
2.5.B: Compare and Order Numbers within 1,000
1.7.A: Flat and Solid Shapes
2.6.A: Attributes of Shapes
1.7.B: Halves and Quarters
2.6.B: Halves, Thirds, and Fourths
1.7.C: Tell Time in Hours and Half Hours
2.6.C: Time on the Clock
2.6.D: The Value of Money
2.7.A: Add and Subtract within 1,000, without Composition or Decomposition
2.7.B: Add within 1,000, Using Place-Value Strategies
2.7.C: Subtract within 1,000, Using Place-Value Strategies
2.8.B: Rectangular Arrays


2.1.B: Ways to Represent Data
3.1.A: Interpret and Represent Data in Scaled Graphs
2.8.A: Odd and Even
3.1.B: From Graphs to Multiplication
2.8.B: Rectangular Arrays
3.1.C: Represent Multiplication with Arrays and the Commutative Property
2.3.B: Customary Measurement
3.2.A: Concepts of Area Measurement
2.8.B: Rectangular Arrays
3.2.B: Relate Area to Multiplication
3.2.C: Find Area of Figures Composed of Rectangles
2.7.B: Add within 1,000, Using Place Value Strategies
3.3.A: Add within 1,000
2.7.B: Add within 1,000, Using Place Value Strategies
3.3.B: Subtract within 1,000
2.5.B: Compare and Order Numbers within 1,000
3.3.C: Round within 1,000
3.3.D: Solve Two-Step Problems
3.4.A: What is Division?
2.8.B: Rectangular Arrays
3.4.B: Relate Multiplication and Division
3.4.C: Multiplying Greater Numbers
3.4.D: Dividing Greater Numbers
2.6.B: Halves, Thirds, and Fourths
3.5.A: Introduction to Fractions
2.4.A: The Structure of the Number Line
3.5.B: Fractions on the Number Line
2.5.B: Compare and Order Numbers within 1,000
3.5.C: Equivalent Fractions
2.5.B: Compare and Order Numbers within 1,000
3.5.D: Fraction Comparisons
2.3.C: Line Plots
3.6.A: Measurement Data on Line Plots
2.3.A: Metric Measurement
3.6.B: Weight and Liquid Volume
2.6.C: Time on the Clock
3.6.C: Problems Involving Time
3.6.D: Measurement Problems in Context
2.6.A: Attributes of Shapes
3.7.A: Reason with Shapes
2.3.B: Customary Measurement
3.7.B: What is Perimeter?
3.7.C: Expanding on Perimeter
3.7.D: Design with Perimeter and Area


3.1.B: From Graphs to Multiplication
4.1.A: Understand Factors and Multiples
3.1.B: From Graphs to Multiplication
4.1.B: Find Factor Pairs and Multiples
3.5.B: Fractions on the Number Line
4.2.A: Size and Location of Fractions
3.5.C: Equivalent Fractions
4.2.B: Equivalent Fractions
3.5.D: Fraction Comparisons
4.2.C: Fraction Comparison
3.1.B: From Graphs to Multiplication
4.3.A: Equal Groups of Fractions
3.5.B: Fractions on the Number Line
4.3.B: Addition and Subtraction of Fractions
4.3.C: Addition of Tenths and Hundredths
3.5.A: Introduction to Fractions
4.4.A: Decimals with Tenths and Hundredths
3.3.A: Add within 1,000
4.4.B: Place-value Relationships through 1,000,000
2.5.B: Compare and Order Numbers within 1,000
4.4.C: Compare, Order, and Round
3.3.B: Subtract within 1,000
4.4.D: Add and Subtract
3.1.B: From Graphs to Multiplication
4.5.A: Multiplicative Comparison
3.6.B: Weight and Liquid Volume
4.5.B: Measurement Conversion
3.1.B: From Graphs to Multiplication
4.5.C: Let's Put it to Work
4.6.A: Features of Patterns
3.4.C: Multiplying Greater Numbers
4.6.B: Multi-Digit Multiplication
3.4.D: Dividing Greater Numbers
4.6.C: Multi-Digit Division
3.4.C: Multiplying Greater Numbers
4.6.D: Let's Put It to Work: Problem Solving with Large Numbers
3.7.A: Reason with Shapes
4.7.A: Points, Lines, Segments, Rays, and Angles
3.7.A: Reason with Shapes
4.7.B: The Size of an Angle
3.7.A: Reason with Shapes
4.7.C: Angle Analysis
3.7.A: Reason with Shapes
4.8.A: Side Lengths, Angles, and Lines of Symmetry
3.7.B: What is Perimeter?
4.8.B: Reason about Attributes to Solve Problems


3.2.A: Concepts of Area Measurement
5.1.A: Unit Cubes and Volume
3.2.B: Relate Area to Multiplication
5.1.B: Expressions for Finding Volume
3.2.C: Find the Area of a Figure Composed of Rectangles
5.1.C: Volumes of Solid Figures
3.4.A: What is Division?
5.2.A: Fractions as Quotients
4.3.A: Equal Groups of Fractions
5.2.B: Fractions of Whole Numbers
3.2.B: Relate Area to Multiplication
5.2.C: Area and Fractional Side Lengths
4.3.A: Equal Groups of Fractions
5.3.A: Fraction Multiplication
3.4.A: What is Division?
5.3.B: Fraction Division
4.5.C: Let's Put it to Work
5.3.C: Problem Solving with Fractions
4.6.B: Multi-Digit Multiplication
5.4.A: Multi-Digit Multiplication Using the Standard Algorithm
4.6.C: Multi-Digit Division
5.4.B: Multi-Digit Division Using Partial Quotients
4.6.B: Multi-Digit Multiplication
5.4.C: Let's Put it to Work
4.4.A: Decimals with Tenths and Hundredths
5.5.A: Numbers to Thousandths
4.3.C: Addition of Tenths and Hundredths
5.5.B: Add and Subtract Decimals
5.5.C: Multiply Decimals
4.6.C: Multi-Digit Division
5.5.D: Divide Decimals
4.5.B: Measurement Conversion
5.6.A: Measurement Conversions and Powers of 10
4.3.B: Addition and Subtraction of Fractions
5.6.B: Add and Subtract Fractions with Unlike Denominators
4.5.A: Multiplicative Comparison
5.6.C: The Size of a Product
3.5.B: Fractions on the Number Line
5.7.A: The Coordinate Grid
4.8.A: Side Lengths, Angles, and Lines of Symmetrying
5.7.B: The Hierarchy of Shapes
4.6.A: Features of Patterns
5.7.C: Numerical Patterns