Scope and Sequence for Kínder

The big ideas in kindergarten include: representing and comparing whole numbers, initially with sets of objects; understanding and applying addition and subtraction; and describing shapes and space. More time in kindergarten is devoted to numbers than to other topics.

The mathematical work for kindergarten is partitioned into 8 units:

1. Math in Our World
2. Numbers 1–10
3. Flat Shapes All Around Us
4. Understanding Addition and Subtraction
5. Composing and Decomposing Numbers to 10
6. Numbers 0–20
7. Solid Shapes All Around Us
8. Putting it All Together

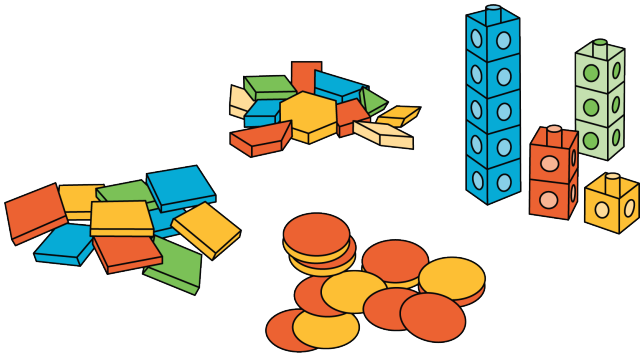
In these materials, particularly in units that focus on addition and subtraction, teachers will find terms that refer to problem types, such as Add To, Take From, Put Together or Take Apart, Compare, Result Unknown, and so on. These problem types are based on common addition and subtraction situations,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

Unit 1: Matemáticas en nuestro mundo

In this unit, students explore mathematical tools and notice numbers and quantities around them. Teachers gather information about students' counting skills and understanding of number concepts.

Students enter kindergarten with a range of counting experiences, concepts, and skills. So, this unit is designed to be accessible to all learners regardless of their prior experience. In the first three sections, activities do not require counting, though students may choose to count. Students also have opportunities to work with math tools and topics related to geometry, measurement, and data through a variety of centers.

In the last section, students count collections of objects and groups of people to answer, "how many?" questions. These questions reinforce the idea that counting is a way to tell how many objects there are. Counting up to 10 objects will support students in the next unit, which will focus more deeply on numbers 1–10.



The content of this unit is designed to establish the structures and routines for centers, to create norms for classroom learning, and to begin building a mathematical community. In the first section, lessons are shorter to give students time to learn these routines and norms and to develop a mathematical community.

At different points throughout the unit, consider asking individual students to count a small group of objects. As the

student works, observe the skills or understandings in the Checklist provided at the beginning of each section and in the Unit 1 Sections A–D Checkpoint document in the teacher resource packet. The end-of-unit assessment (a one-on-one interview) is another opportunity to find out what students know and can do. This assessment is not necessary for students who have demonstrated the skills on the checklist throughout the unit.

Section A: Exploremos nuestras herramientas

- Lesson 1: Exploremos los cubos encajables
- Lesson 2: Exploremos las fichas geométricas
- Lesson 3: Exploremos las fichas de dos colores y los tableros de 5
- Lesson 4: Exploremos los bloques sólidos geométricos
- Lesson 5: Exploremos nuestras herramientas matemáticas

Section B: Reconozcamos cantidades

- Lesson 6: Busquemos grupos pequeños
- Lesson 7: Juego de búsqueda en el salón de clase
- Lesson 8: Grupos diferentes, misma cantidad
- Lesson 9: Hagamos libros de imágenes

Section C: ¿Hay suficientes?

- Lesson 10: ¿Hay suficientes?
- Lesson 11: Consigamos suficientes

Section D: Contemos colecciones

- Lesson 12: ¿Cuántos hay? (Parte 1)
- Lesson 13: ¿Cuántos hay? (Parte 2)
- Lesson 14: Respondamos preguntas tipo “¿Cuántos?”
- Lesson 15: Expliquemos cómo contamos
- Lesson 16: Representemos nuestras colecciones
- Lesson 17: Modelemos con herramientas matemáticas

Unit 2: Números del 1 al 10

In this unit, students continue to develop counting concepts and skills, including comparing groups of objects and images, and representing quantities with objects, pictures, and numbers.

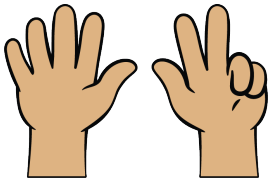
Previously, students learned structures and routines for activities and centers. They counted up to 10 objects to answer “how many?” questions. They also answered “are there enough?” questions—the basis of comparing quantities.

Here, students rely on familiar activity structures to build counting skills and an understanding of the connection between quantities and numbers. Students first count groups of objects. Then they count groups of images. Objects and images appear in different arrangements, such as lines, arrays, number cube patterns, and on 5-frames. This helps build an understanding that changing the arrangement doesn’t change the quantity.

Use of fingers and 5-frames to represent numbers are emphasized to help students see the structure of numbers 6–10 as $5 + n$. Fingers are also always available and help with counting.



These fingers show 3.



These fingers show 8.

Students also compare numbers of objects and images. To describe the comparisons, students start by using the terms "fewer" and "more." Later, when comparing written numbers, the term "less" is introduced. In general, "less" is used to compare numerals, and "fewer" is used to compare groups of objects. Students may use these terms interchangeably at first, but they will develop proficiency with the distinction over time.

Section A: Contemos y comparemos grupos de objetos

- Lesson 1: Los dedos como herramienta matemática
- Lesson 2: Contemos y organicemos
- Lesson 3: Grupos que se ven muy diferentes
- Lesson 4: Grupos que se parecen
- Lesson 5: Hagamos grupos de más, menos o lo mismo
- Lesson 6: Usemos "más", "menos" o "el mismo número" para describir grupos
- Lesson 7: Escribamos los números del 1 al 5
- Lesson 8: Escribamos los números del 6 al 10

Section B: Contemos y comparemos grupos de imágenes

- Lesson 9: Contemos imágenes en distintos arreglos
- Lesson 10: Comparemos emparejando imágenes
- Lesson 11: Más, menos o lo mismo
- Lesson 12: Encontremos más, menos o lo mismo
- Lesson 13: Hagamos grupos de imágenes

Section C: Conectemos cantidades y números

- Lesson 14: Conectemos cantidades con números
- Lesson 15: Números en diversas formas
- Lesson 16: Contemos objetos separando
- Lesson 17: Dibujemos grupos de cosas
- Lesson 18: Escribamos números para representar cantidades

Section D: Comparemos números

- Lesson 19: Ordenemos torres y números
- Lesson 20: 1 más o 1 menos con torres y números
- Lesson 21: Comparemos números e imágenes
- Lesson 22: Representemos y comparemos números
- Lesson 23: Comparemos números

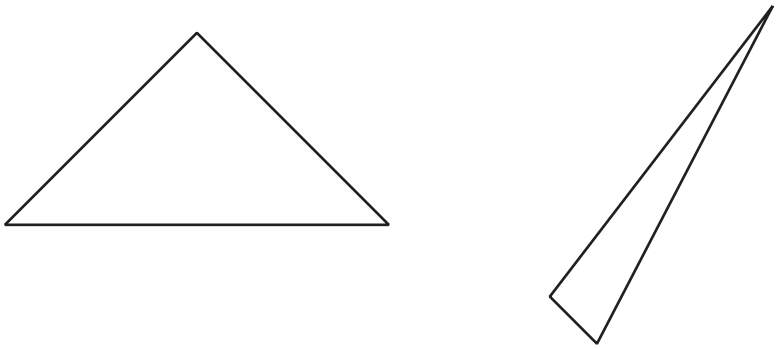
- Lesson 24: Pongamos la mesa

Unit 3: Figuras planas por todas partes

This unit introduces students to the foundational concepts of geometry, with a focus on familiar flat (two-dimensional) shapes.

Students may initially associate names of shapes with everyday objects. For example, a rectangle is a shape that looks like a door. Students need to see and interact with many examples of a shape to accurately relate objects in their environment to the geometric term.

For instance, students may say that only one of the two shapes is a triangle—the isosceles triangle sitting on its base—because they have seen examples like it referred to as triangles. They may not consider a scalene triangle sitting on a vertex as a part of the same shape category because, in their experience, a shape like it hasn't been associated with the term "triangle."



Students explore differences in shapes and use informal language to describe, compare, and sort them. Circle, triangle, rectangle, and square are four shapes that students study and name here. (They will not describe what defines each shape until grade 1.) Students also learn a key idea, that congruent shapes are still "the same" even if they are in different orientations.

Later in the unit, students use pattern blocks to make larger shapes. They reinforce their counting and comparison skills as they count and compare the pattern blocks used to create larger shapes. Students also use positional words (above, below, next to, beside) to describe the shapes they compose.

Section A: Exploremos figuras en nuestro entorno

- Lesson 1: Lo que sabemos sobre figuras
- Lesson 2: Emparejemos figuras
- Lesson 3: Describamos y comparemos figuras
- Lesson 4: Describamos, comparemos y clasifiquemos figuras
- Lesson 5: Círculos y triángulos
- Lesson 6: Rectángulos y cuadrados
- Lesson 7: Construyamos con pajillas
- Lesson 8: Dibujemos figuras
- Lesson 9: Las figuras están en todas partes

Section B: Hagamos figuras

- Lesson 10: Juntemos fichas geométricas
- Lesson 11: Las mismas figuras
- Lesson 12: Más de una manera de formar una figura
- Lesson 13: Describamos y formemos figuras que sean la misma
- Lesson 14: Las figuras en el arte
- Lesson 15: Arte de estampados con formas de animales

Unit 4: Comprendamos la suma y la resta

In this unit, students develop their understanding of addition and subtraction as they represent and solve story problems.

Previously, students developed their counting skills. Students learn addition as an extension of counting though joining two groups and counting to find the total. Students also extend their counting through subtraction. They count to find and remove objects within a collection and then count what remains. (The word "total" is used instead of "sum" to avoid confusion with the word "some" or part of a whole.)



Students then represent and solve Add To, Result Unknown and Take From, Result Unknown story problems. Students represent the problems in different ways, by acting them out, drawing, using numbers, or using objects. Connecting cubes and two-color counters should be made accessible in all lesson activities, including cool-downs, for students that want to use them throughout the unit.

Students are also introduced to expressions, a symbolic way to represent addition and subtraction. Initially, the teacher records the process of adding and subtracting using words such as "5 and 3" or "4 take away 1." Later, students see that "5 and 3" and "4 take away 1" can be expressed by 5+3 and 4–1 , respectively. They learn these expressions are read as "5 plus 3" and "4 minus 1." Students are not expected to read expressions out loud or to use precise language at this point.

Later in the unit, students connect expressions to pictures and story problems. They find the value of addition and subtraction expressions within 10.

In a future unit, students will compose and decompose numbers up to 10 and solve other types of addition and subtraction problems.

Section A: Contemos para sumar y restar

- Lesson 1: Contemos 2 grupos de objetos
- Lesson 2: Contemos dos grupos de imágenes
- Lesson 3: Contemos 2 grupos de dibujos que están en desorden
- Lesson 4: Sumemos con objetos
- Lesson 5: Restemos con objetos

Section B: Representemos y resolvamos problemas-historia

- Lesson 6: Contemos y actuemos historias
- Lesson 7: Usemos objetos para representar historias
- Lesson 8: Representemos y resolvamos problemas-historia
- Lesson 9: Resolvamos problemas-historia
- Lesson 10: Comparemos dibujos
- Lesson 11: Dibujos para representar problemas-historia
- Lesson 12: Comparemos problemas-historia de suma y de resta
- Lesson 13: Inventemos problemas-historia

Section C: Expresiones de suma y de resta

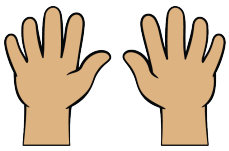
- Lesson 14: Expresiones y problemas-historia
- Lesson 15: Expresiones y dibujos
- Lesson 16: Encontremos el valor de expresiones
- Lesson 17: Sumemos 0 y 1
- Lesson 18: Contemos problemas-historia a partir de expresiones

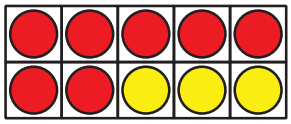
Unit 5: Compongamos y descompongamos números hasta 10

In this unit, students explore different ways to compose and decompose numbers within 10 and to represent the compositions and decompositions.

Previously, students counted and compared groups and images of up to 10 objects. Students solved addition and subtraction story problems and wrote expressions to represent the problems. In this unit, students use those experiences to compose and decompose numbers within 10. (The terms “make” or “break apart” are used with students.)

Special attention is given to composing and decomposing 10, as it is the basis of place value in our number system. To support their reasoning, students use their fingers and a 10-frame—created by putting together two 5-frames. They use these tools to think about pairs of numbers that make 10.





Symbolic notation develops slowly across the units. Students first complete expressions that represent numbers being composed and decomposed. They also practice writing numbers without handwriting lines.

Later, students encounter equations of the form $5 = 3 + 2$. Teachers read this equation as “5 is 3 plus 2.” Note that the equations are written with the total on the left side of the equal sign and the addends on the right. Aside from representing composition and decomposition, this notation helps students see that the equal sign means that “both sides have the same value,” rather than “the answer comes next.” In a later unit, students will see equations with the addends on the left side.

The work in this unit prepares students to make sense of teen numbers in the next unit and lays the groundwork for students to develop fluency with addition and subtraction facts within 10 in grade 1. (For example, to find the sum of $9 + 5$, they can decompose 5 into $1 + 4$ and find $9 + 1 + 4$ or $10 + 4$.) Much of the addition and subtraction work in future grades also hinges on the idea of composing and decomposing numbers, 10 in particular.

Section A: Formemos y separemos números hasta 9

- Lesson 1: Hagamos 2 partes
- Lesson 2: Formemos y separemos diseños con fichas geométricas
- Lesson 3: Separemos los cubos
- Lesson 4: Encontremos todas las maneras

Section B: Más tipos de problemas-historia

- Lesson 5: Juntemos
- Lesson 6: Manzanas rojas y amarillas
- Lesson 7: Resolvamos problemas-historia con ambos sumandos desconocidos
- Lesson 8: Más de una manera
- Lesson 9: Problemas-historia

Section C: Formemos y separemos 10

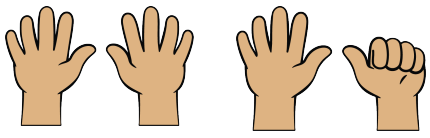
- Lesson 10: Conozcamos el tablero de 10
- Lesson 11: Ecuaciones que muestran 10
- Lesson 12: ¿Cuántas faltan?
- Lesson 13: Formemos 10
- Lesson 14: Torres de 10
- Lesson 15: Empaquemos fruta

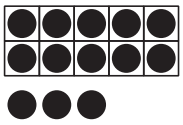
Unit 6: Números del 0 al 20

In this unit, students count and represent collections of objects and images within 20. They apply previously developed counting concepts, such as one-to-one correspondence, keeping track of what has been counted, and conservation of numbers, to larger numbers.

Previously, students counted, composed, and decomposed numbers up to 10. They used counters, connecting cubes, 5-frames, 10-frames, drawings, their fingers, and other tools. They also wrote expressions to record compositions and decompositions.

Here, students use the 10-frame to organize groups of 11–19 objects and images. This tool encourages students to see teen numbers as 10 and some more, emphasizing the $10 + n$ structure of the numbers 11–19. Students use this structure as they represent teen numbers with their fingers, objects, drawings, expressions, and equations. Students see equations with the addends written first, such as $10 + 6 = 16$. It is important to note that students are not expected to think of 10 ones as a unit called “a ten” or refer to single units as "ones" until Grade 1.





Throughout the unit, students practice tracing and writing numbers 11–20. It is common for students at this stage to write numbers backwards, so the emphasis is on writing a number that is recognizable to others. Reversing the order of the digits of teen numbers is also expected, due to how teen numbers are said in English. Repeatedly seeing the number 1 written first to represent teen numbers helps students recognize the structure of these numbers.

When tracing and writing numbers, students should write on a flat surface while sitting in a chair with feet flat on the

floor. Number writing practice can also happen in other parts of the day and can be done using a variety of writing tools (crayons, colored pencils, markers, and so on) for increased engagement. Students can practice creating numbers with dough, tracing numbers in sand, or forming numbers with pipe cleaners.

Section A: Contemos grupos de 11 a 20 objetos

- Lesson 1: Contemos colecciones grandes de objetos
- Lesson 2: Cómo saber si ya contamos
- Lesson 3: Contemos con cuidado
- Lesson 4: ¿El número cambia?

Section B: 10 y más

- Lesson 5: ¿Cuántos dedos? ¿Cuántos puntos?
- Lesson 6: Dedos y tableros de 10
- Lesson 7: Formemos números con 10 y más (parte 1)
- Lesson 8: Formemos números con 10 y más (parte 2)
- Lesson 9: Expresiones y ecuaciones
- Lesson 10: Completemos ecuaciones

Section C: Contemos grupos de 11 a 20 imágenes

- Lesson 11: Contemos imágenes (parte 1)
- Lesson 12: Contemos imágenes (parte 2)
- Lesson 13: Diseñemos una huerta

Unit 7: Figuras sólidas por todas partes

In this unit, students explore solid shapes while reinforcing their knowledge of counting, number writing and comparison, and flat shapes. They compose figures with pattern blocks and continue to count up to 20 objects, write and compare numbers, and solve story problems.

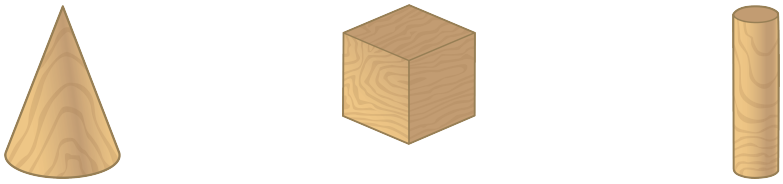
In an earlier unit, students investigated two-dimensional shapes. They named shapes (circle, triangle, rectangle, and square) and described the ways the shapes are different. Students used pattern blocks to build larger shapes and used positional words (above, below, next to, beside) along the way.

Here, students distinguish between flat and solid shapes before focusing on solid shapes. They consider the weights and capacities of solid objects and identify solid shapes around them.

Geoblocks, connecting cubes, and everyday objects are used throughout the unit. Standard geoblock sets do not include cylinders, spheres, and cones. When these shapes are required, “solid shapes” are indicated as required materials. If solid shapes are not available, students can work with everyday items that represent each shape.

The mathematical names **cube**, **cone**, **sphere**, and **cylinder** are introduced in this unit; however, students are not expected to use the names of solid shapes. Students can and are encouraged to continue to use their own language to describe and identify solid shapes.

3 cones 4 cubes 5 cylinders



How many shapes did you use all together?

The work here prepares students to identify defining attributes of shapes and to use flat and solid shapes to create composite shapes in grade 1.

Section A: Juntemos y contemos figuras planas

- Lesson 1: Construyamos figuras
- Lesson 2: Más fichas o menos fichas
- Lesson 3: Preguntas e historias sobre figuras
- Lesson 4: Rompecabezas de fichas geométricas y ecuaciones
- Lesson 5: Problemas-historia sobre figuras
- Lesson 6: Forma y separa 10 con fichas geométricas

Section B: Describamos, comparemos y hagamos figuras sólidas

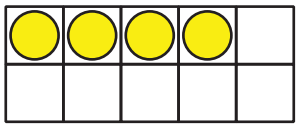
- Lesson 7: Figuras planas y sólidas
- Lesson 8: Comparemos pesos
- Lesson 9: Comparemos capacidades
- Lesson 10: Identifiquemos y describamos figuras sólidas
- Lesson 11: Comparemos y clasifiquemos figuras sólidas
- Lesson 12: Construyamos figuras sólidas
- Lesson 13: Describamos figuras sólidas que hay a nuestro alrededor
- Lesson 14: Construyamos con figuras sólidas
- Lesson 15: Construyamos y contemos con figuras sólidas
- Lesson 16: Representemos el salón con figuras

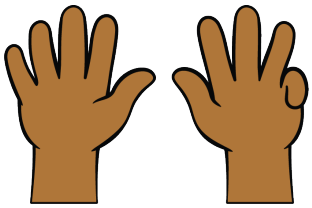
Unit 8: Conectemos todo

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

Section A focuses on the concepts of counting and comparing. Section B highlights the presence of math in students' school community. Section C enables students to practice composing and decomposing numbers within 5, as well as adding and subtracting within 5. Section D focuses on composing and decomposing 10.

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.





$10 = \underline{8} + \underline{2}$

The content here lays the foundation for grade 1, where students add and subtract fluently within 10 and count and compare larger quantities. Students also learn about "ten" as a unit, which is the basis for understanding place value in the base-ten system.

Section A: Contemos y comparemos

- Lesson 1: Clasifiquemos, contemos y comparemos grupos de objetos
- Lesson 2: Contemos y comparemos colecciones
- Lesson 3: Contemos para sumar y restar
- Lesson 4: 1 más y 1 menos
- Lesson 5: Ordenemos números del 1 al 20

Section B: Las matemáticas en nuestra escuela

- Lesson 6: Hagamos libros de números (parte 1)
- Lesson 7: Hagamos libros de números (parte 2)
- Lesson 8: Busquemos a alguien que, busquemos algo que
- Lesson 9: ¿En dónde están las matemáticas?
- Lesson 10: Contemos historias sobre nuestra escuela
- Lesson 11: Compartamos problemas-historia

Section C: Fluidez hasta 5

- Lesson 12: Hagamos imágenes de puntos
- Lesson 13: Dominós hasta 5
- Lesson 14: Clasifiquemos y coloreemos expresiones e imágenes hasta 5
- Lesson 15: Expresiones de suma y de resta hasta 5
- Lesson 16: Partes que forman 5

Section D: Todo sobre el 10

- Lesson 17: Formemos 10 y separemos el 10
- Lesson 18: Todas las maneras de formar 10
- Lesson 19: Encontremos el número con el que se forma 10
- Lesson 20: ¿Más de 10 o menos de 10?
- Lesson 21: Formemos y separemos números del 11 al 19

Pacing Guide

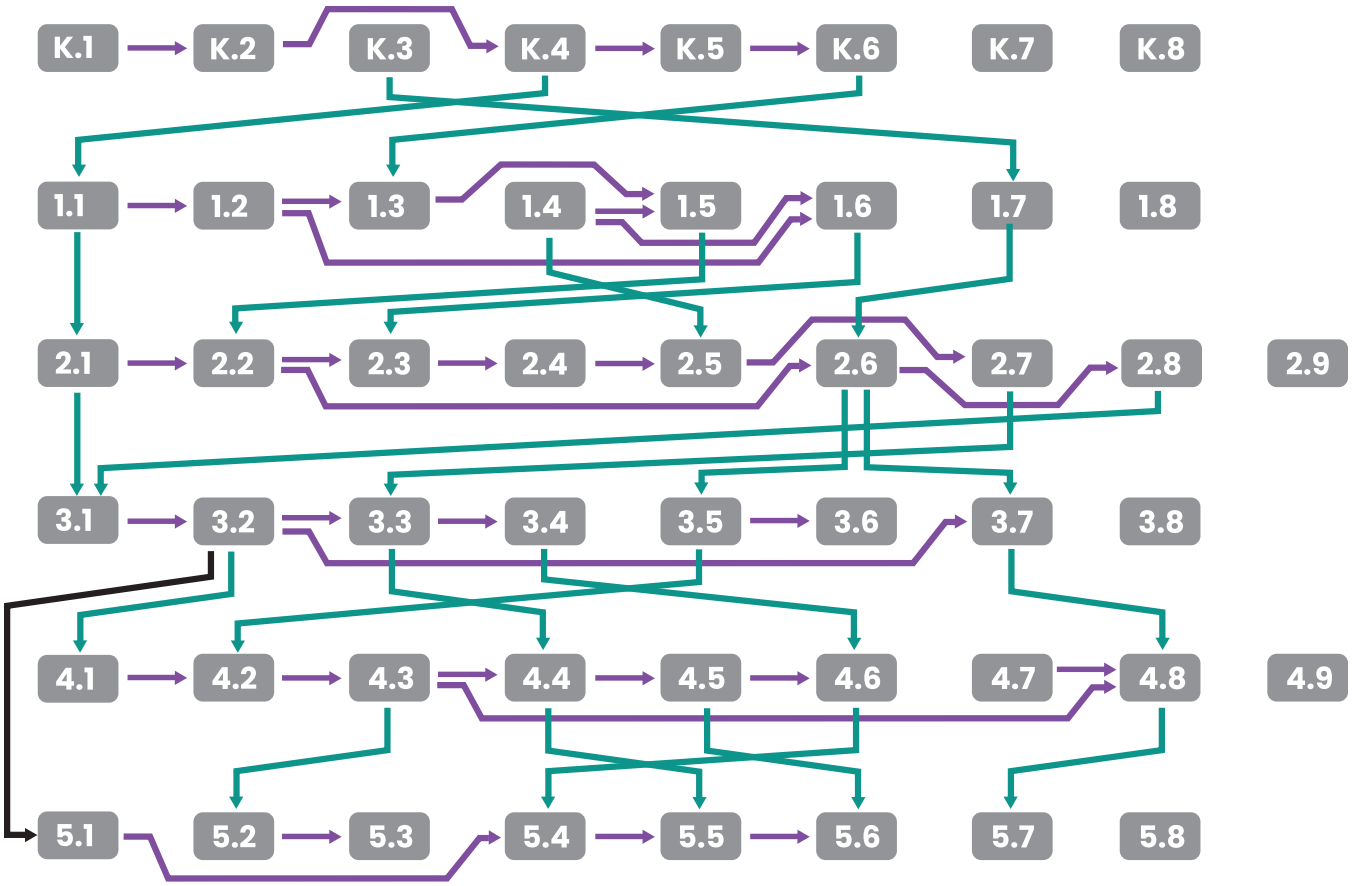
The number of days includes two assessment days per unit. The upper bound of the range includes optional lessons.

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

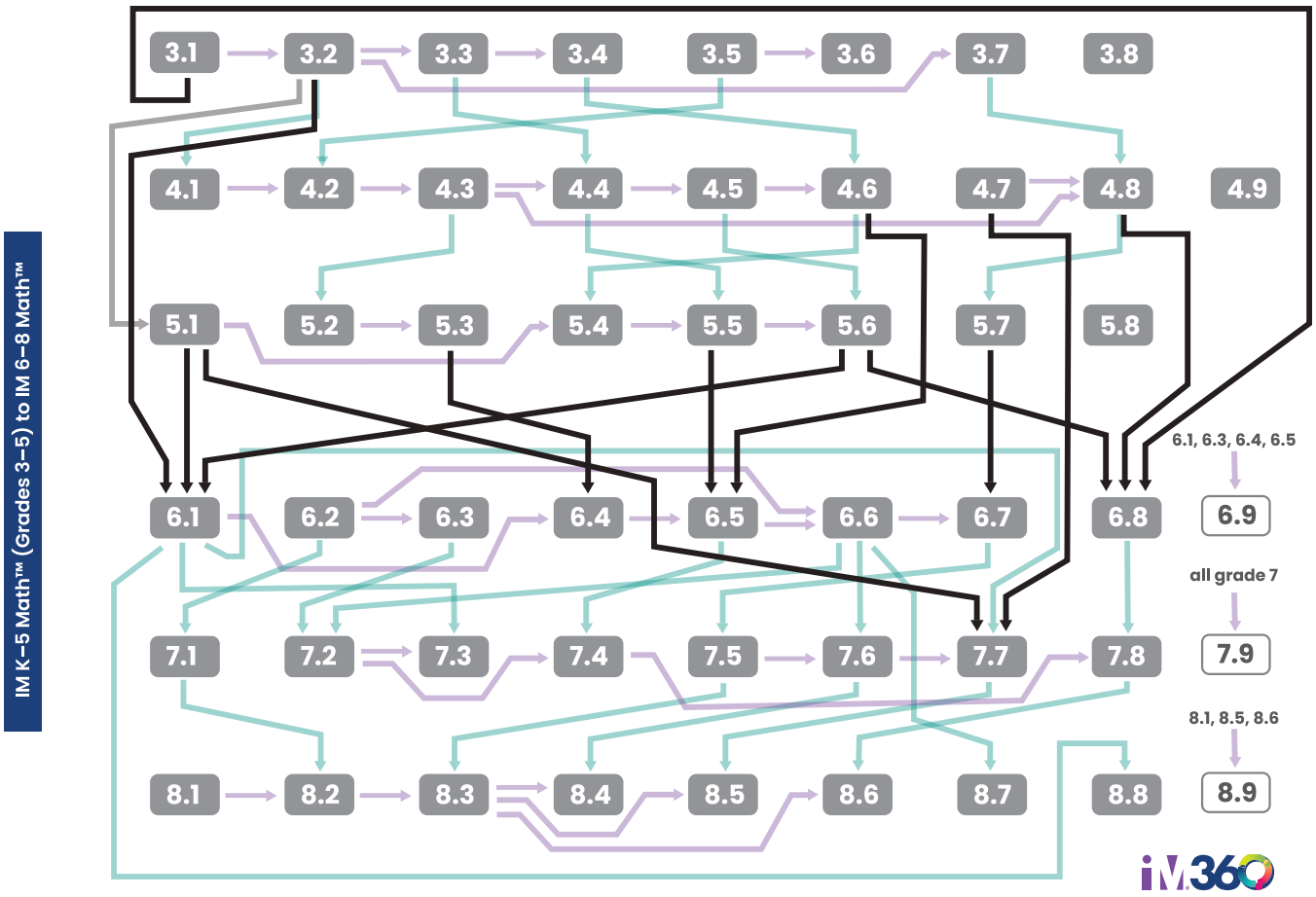
	Grade 3	Grade 4	Grade 5
week 1	Unit 1 Introducing Multiplication (22–23 days) Optional Lesson: 21	Unit 1 Factors and Multiples (8–10 days) Optional Lessons: 4, 8	Unit 1 Finding Volume (13–14 days) Optional Lesson: 12
week 2			
week 3		Unit 2 Fraction Equivalence and Comparison (18–19 days) Optional Lesson: 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 8 Putting It All Together (19–20 days) Optional Lesson: 9
week 32		Unit 9 Putting It All Together (14 days) Optional Lessons: none	
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.

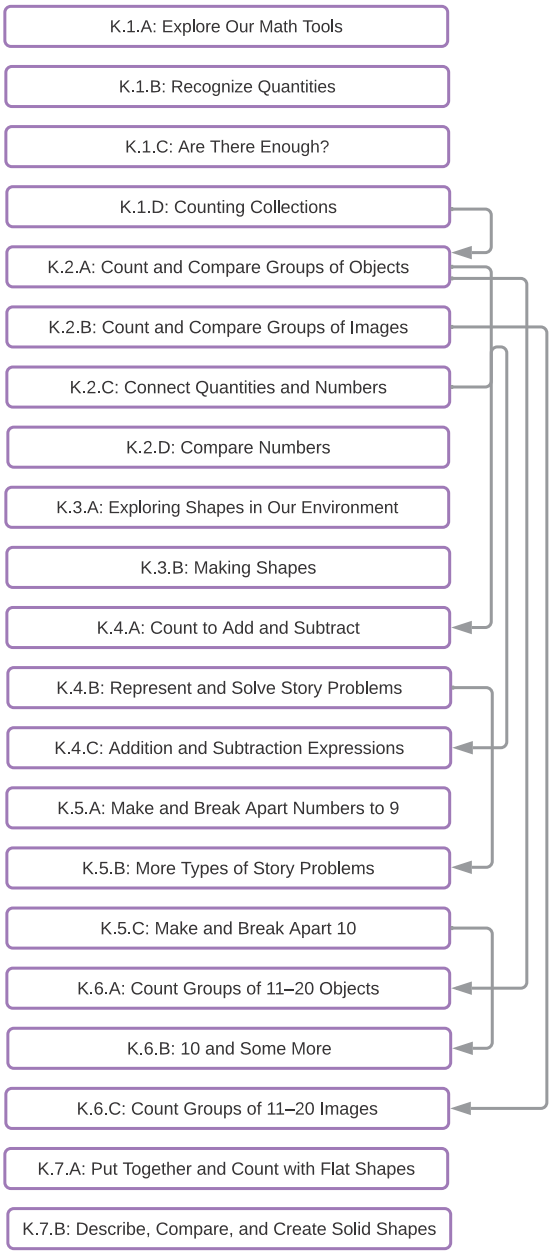


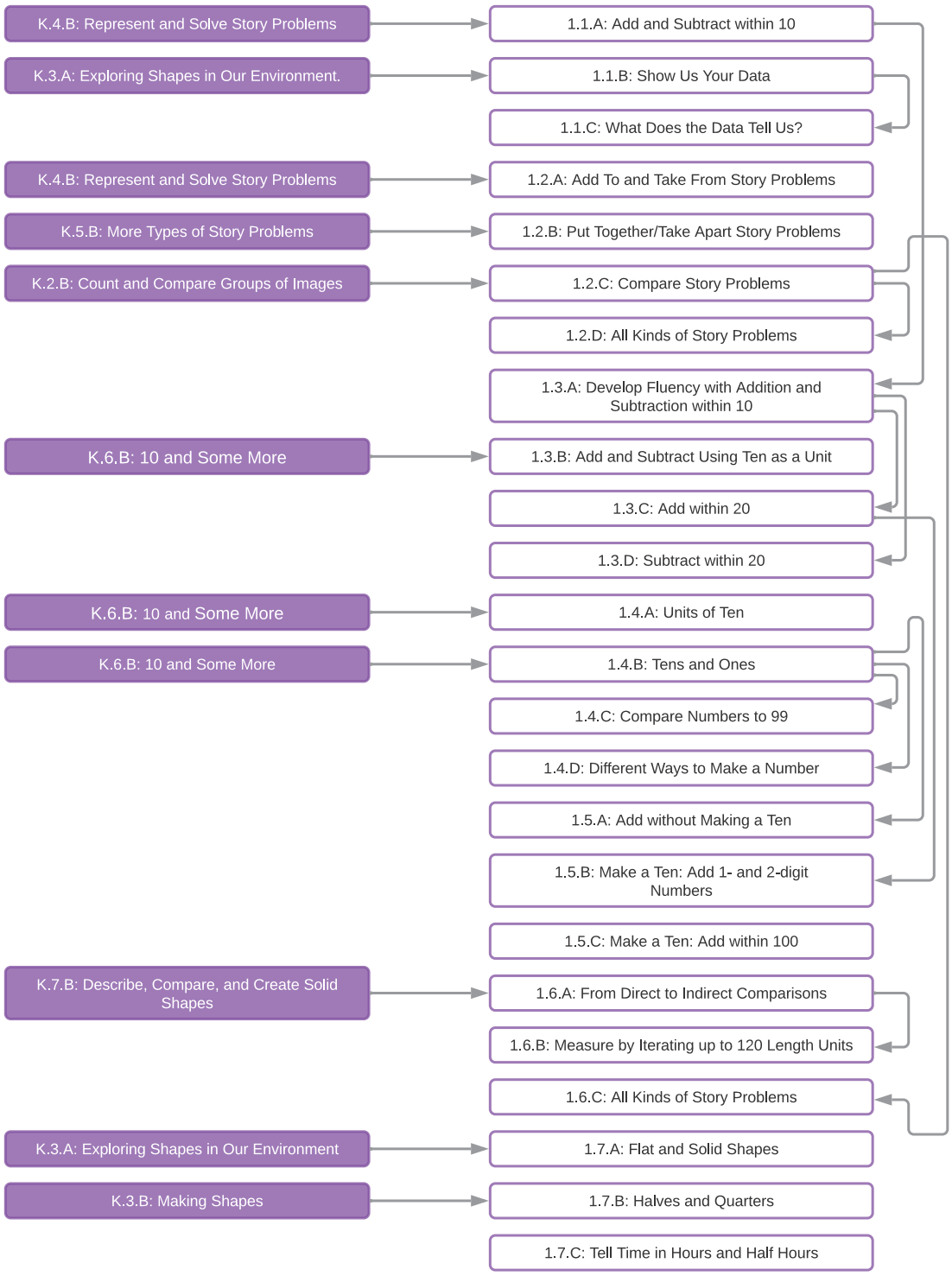
The following chart shows unit dependencies across the curriculum for IM Grades 3–8.

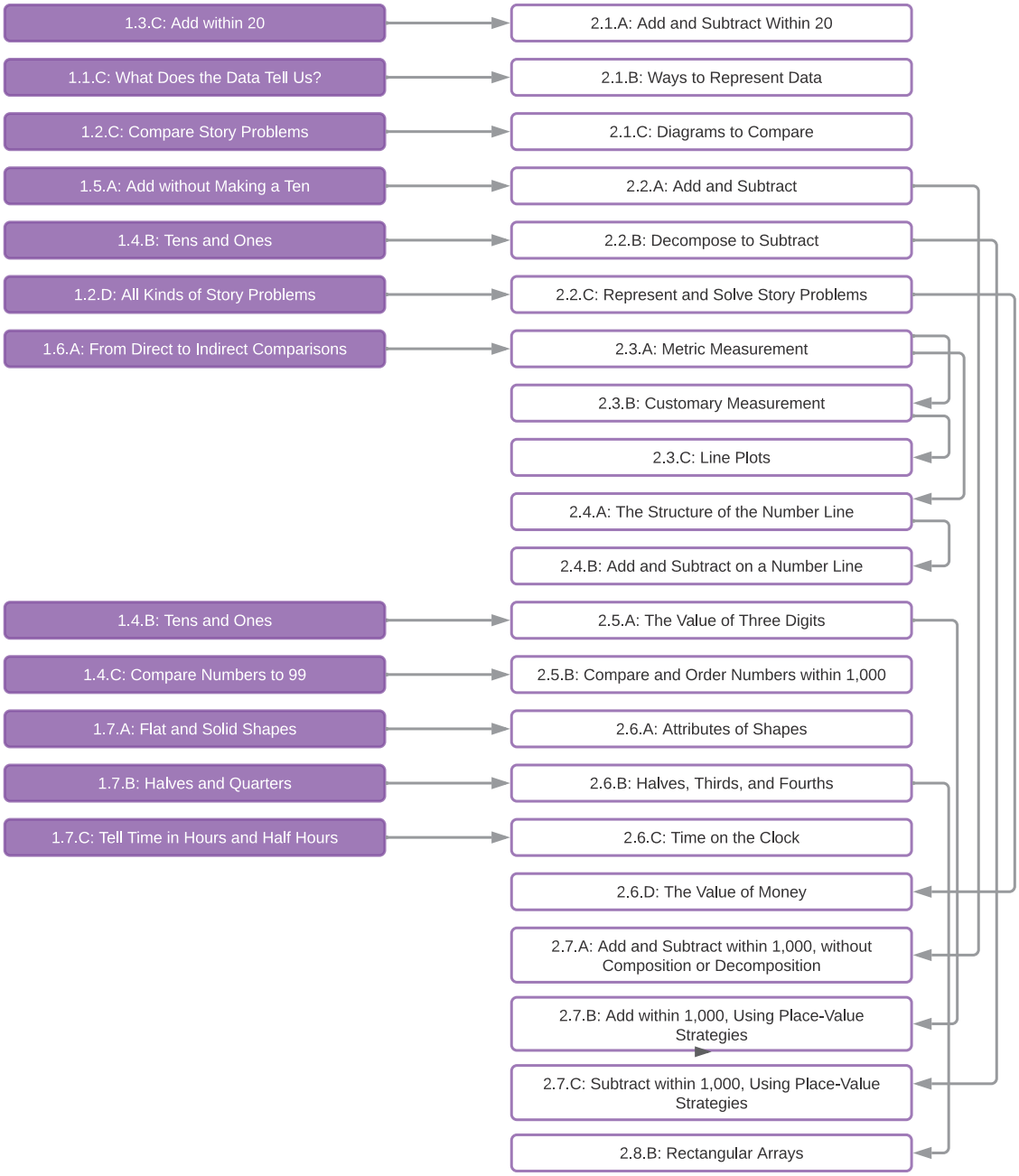


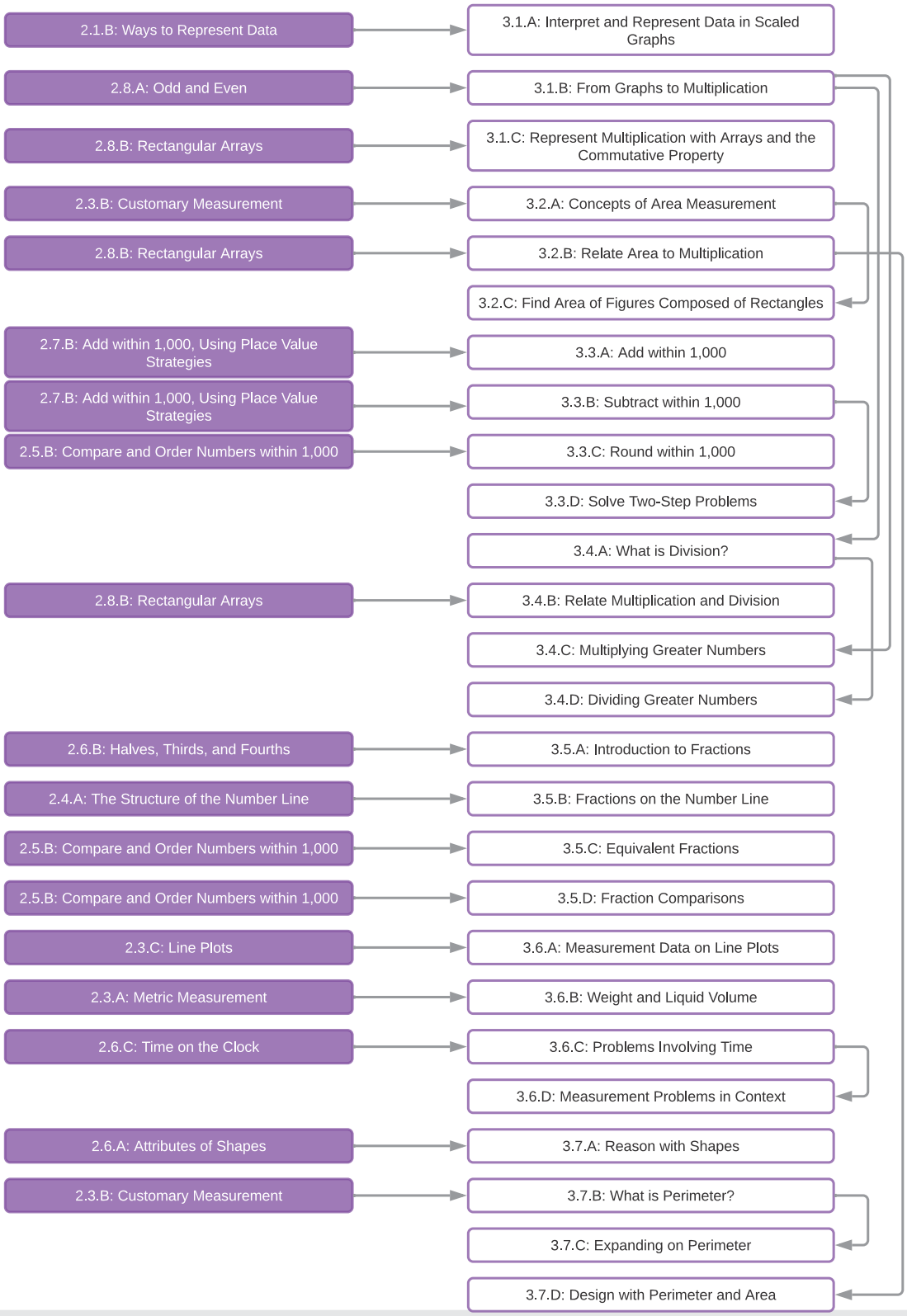
Section Dependency Diagrams

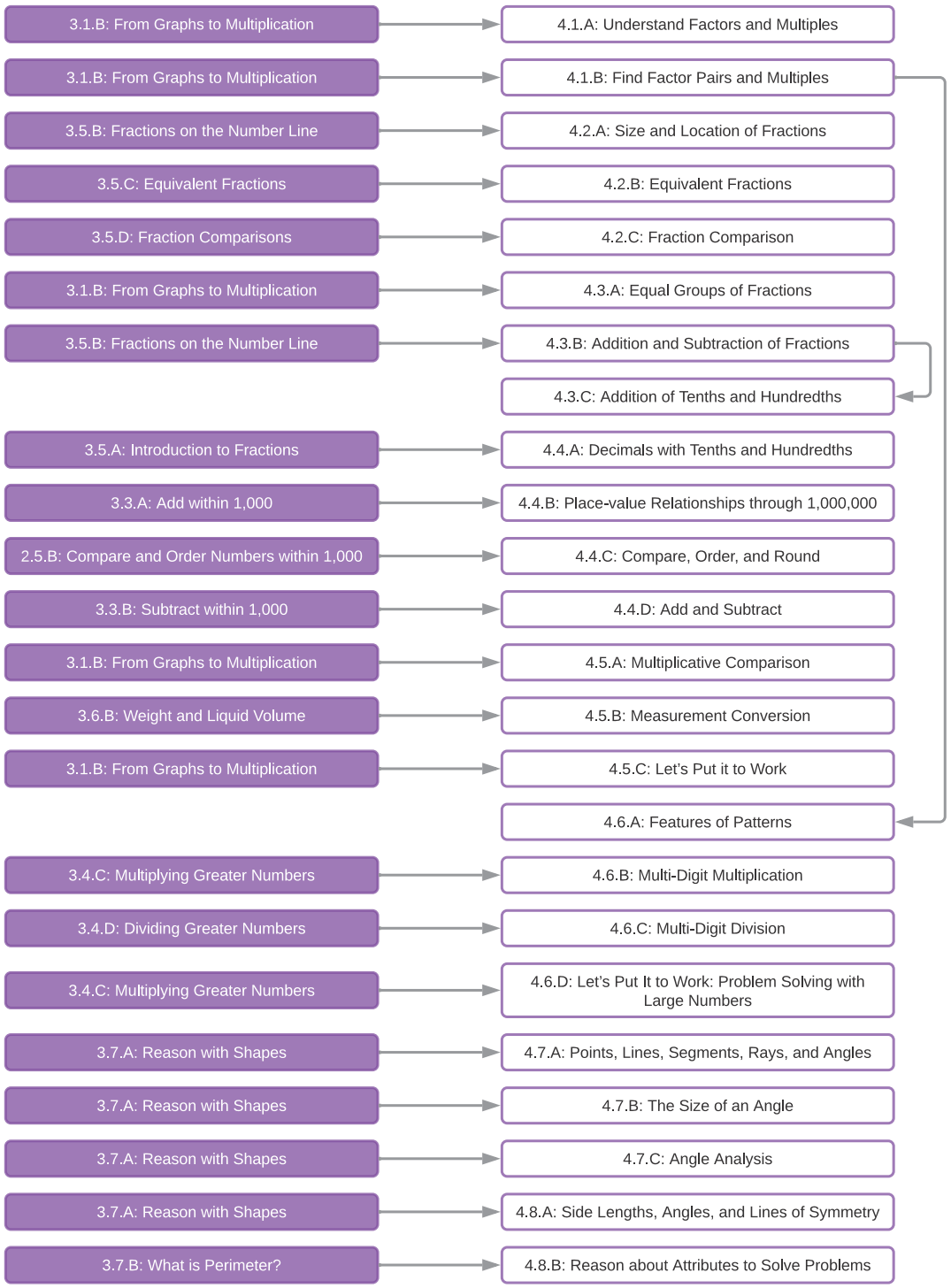
In the section dependency charts, an arrow indicates the prior section that contains content most directly designed to support or build toward the content in the current section.

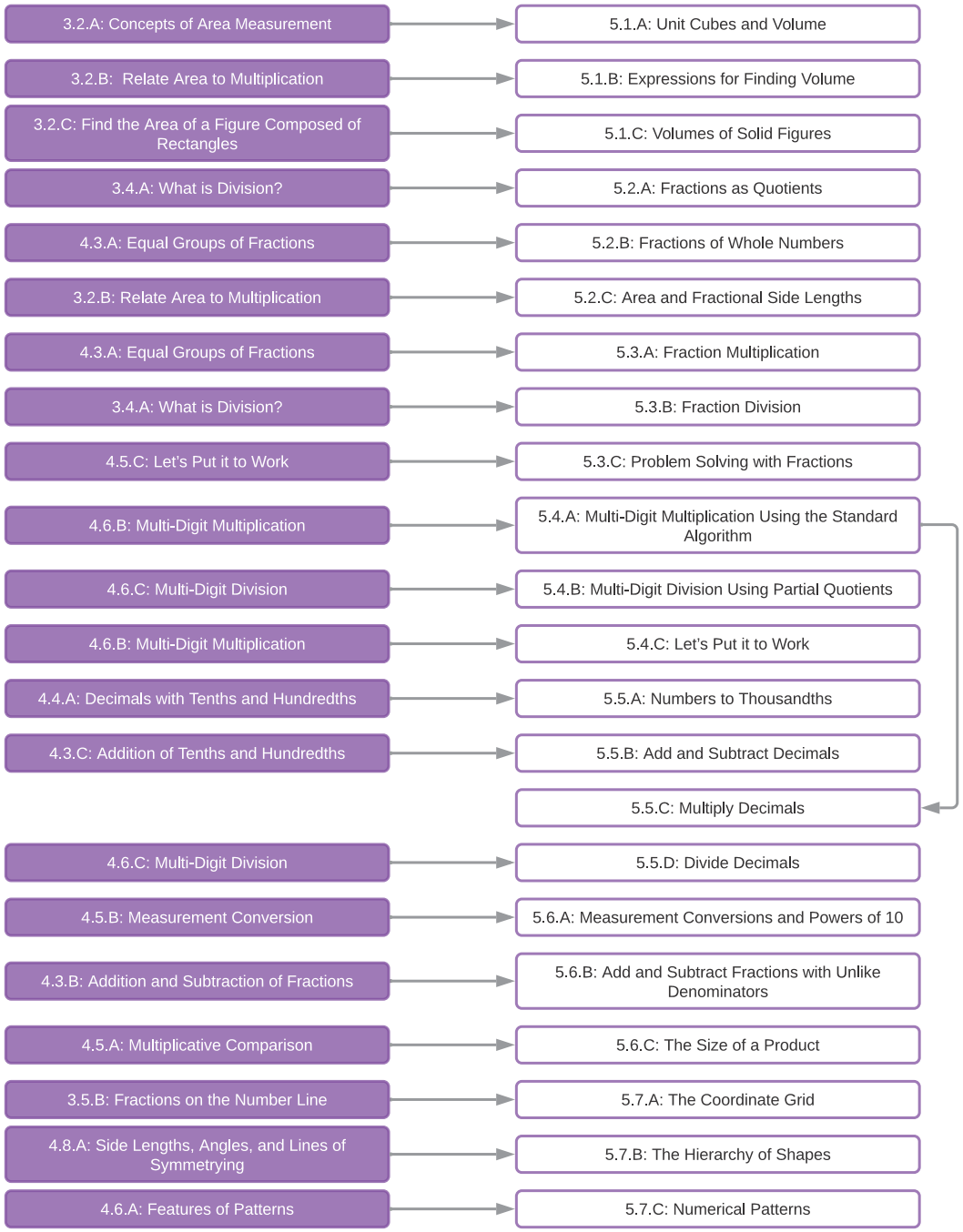

K.1.A: Explore Our Math Tools
K.1.B: Recognize Quantities
K.1.C: Are There Enough?
K.1.D: Counting Collections
K.2.A: Count and Compare Groups of Objects
K.2.B: Count and Compare Groups of Images
K.2.C: Connect Quantities and Numbers
K.2.D: Compare Numbers
K.3.A: Exploring Shapes in Our Environment
K.3.B: 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