



# **Table of Contents**

# **Scope and Sequence Matrix**

Counting and Cardinality2
Number and Operations in Base Ten 2-3
Number and Operations—Fractions 4–5
Ratios and Proportional Relationships 5-6
The Number System 6–7
Operations and Algebraic Thinking 7–9
Expressions and Equations 10
Measurement and Data11–13
Geometry
Statistics and Probability 16

## **Counting and Cardinality**

	K	1	2	3	4	5	6	
Counting and Cardinality (CC)								
Compare numbers	•							
Count by ones	•							
Count by tens	•							
Count objects	•							
Count sets of objects	•							
Find how many in all	•							
Use one-to-one correspondence to count	•							
Write numbers	•							

### **Number and Operations in Base Ten**

		• In	vestigate	e and Ana	lyze 🔷	Apply ar	nd Exten
	К	1	2	3	4	5	6
Number and Operations in Base Ten (NBT)	,			•		•	
Addition							
Add decimals						•	•
Add whole numbers		•	•	•	•		
Addition strategies		•	•	•			
Estimate decimal sums						•	
Estimation in 3-digit addition			•				
Properties of addition		•	•	+	•	•	•
Real-word problems						•	
Counting Sequence		_					
Count backward			•				
Count forward	•	•	•				
Model whole numbers	•	•	•				
Read whole numbers	•	•	•				
Skip count			•				
Write whole numbers	•	•	•				
Division							
Divide decimals						•	•
Divide whole numbers			•			•	•
Division strategies			•				
Remainders			•				

# **Number and Operations in Base Ten**

Continued		<ul> <li>Investigate and Analyze</li> </ul>				♦ Apply and Extend		
	К	1	2	3	4	5	6	
Multiplication				,				
Area and array models					•			
Equations					•	•	<b>*</b>	
Multiples of ten				•				
Multiplication strategies					•			
Multiply decimals						•	<b>*</b>	
Multiply whole numbers					•	•		
Properties of multiplication					•	+	<b>♦</b>	
Place Value of Decimals								
Compare and order decimals						•		
Decimal notation						•		
Read decimals						•		
Round decimals					•	•		
Write decimals in different forms						•		
Place Value of Whole Numbers		'	'					
Compare whole numbers		•	•	•	•			
Decompose into tens and ones	•	•						
Expanded form				•	•			
Exponents						•	<b>*</b>	
Make a ten		•						
Model whole numbers	•	•	•					
Order whole numbers					•			
Place-value models	•	•	•					
Powers of ten						•	<b>*</b>	
Subtraction								
Estimate decimal differences						•		
Estimation in 3-digit subtraction			•					
Real-world problems						•		
Subtract decimals						•		
Subtract whole numbers		•	•	•	•			
Subtraction strategies		•	•	•				

# **Number and Operations—Fractions**

		<ul> <li>Investigate and Analyze</li> </ul>					nd Extend
	К	1	2	3	4	5	6
Number and Operations—Fractions (NF)		'					
Addition with Fractions							
Add fractions					•	•	
Add mixed numbers					•	•	
Benchmark fractions						•	
Rename fractions and mixed numbers to add					•	•	
Visual fraction models					•	•	
Word problems					•	•	
Decimal Fractions		'			•		
Compare decimal fractions					•	•	
Decimal notation					•	•	
Equivalent fractions and decimals					•		
Money and decimals					•		
Place value of decimals					•	•	
Write decimals					•	•	
Division with Fractions		'			•		
Divide unit fractions						•	
Fractions as division						•	
Interpret division with fractions						•	
Real-world problems						•	<b>*</b>
Visual fraction models						•	<b>*</b>
Fraction Equivalence		'			•		
Common denominators					•	•	
Compare and order fractions				•	•	•	
Equivalent fractions				•	•	•	
Simplest form					•	•	
On the number line				•	•	•	
Use regions				•			
Multiplication with Fractions							
Distributive Property						•	
Find area of a rectangle with fractional measurements						•	
Multiples of unit fractions					•	•	
Multiply fractions					•	•	
Multiply mixed numbers					•	•	

### **Number and Operations—Fractions**

#### ... Continued

Continued		Investigate and Analyze				♦ Apply and Extend		
	K	1	2	3	4	5	6	
Scale and multiplication of fractions						•		
Visual fraction models					•	•		
Word problems					•	•		
Read and Write Fractions								
Fractions				•				
Whole numbers as fractions				•				
<b>Subtraction of Fractions</b>				•				
Estimate differences						•		
Subtract fractions					•	•		
Subtract mixed numbers					•	•		
Subtraction with renaming					•	•		
Visual fraction models					•	•		
Word problems					•	•		
Understand Fractions			'	•				
Part of a group				•				
Part of a partitioned whole				•				
On the number line				•				
Unit fractions				•				
Whole numbers and fractions				•				

## **Ratios and Proportional Relationships**

		<ul> <li>Investigate and Analyze</li> </ul>				♦ Apply and Extend		
	K	1	2	3	4	5	6	
Ratios and Proportional Relationships (RP)								
Concept of Ratio								
Fractions and ratio							•	
Model ratios							•	
Notation for ratio							•	
Rate language							•	
Write ratios							•	
Rate and Ratio Reasoning								
Convert measurements							•	
Distance, rate, time formula							•	

## **Ratios and Proportional Relationships**

#### ... Continued

		• In	vestigate	and Anal	yze ▼	Apply an	d Extend
	K	1	2	3	4	5	6
Equivalent ratios							•
Percent							•
Real-world problems							•
Unit rate							•

# **The Number System**

		• Ir	lyze ♦	Apply and Exter			
	К	1	2	3	4	5	6
The Number System (NS)							
Addition and Subtraction of Decimals							
Add decimals							•
Subtract decimals							•
Common Factors and Multiples						•	
Greatest common factor							•
Least common multiple							•
Prime factorization							•
Division with Fractions						•	
Divide fractions							•
Divide mixed numbers							•
Reciprocal and inverse operations							•
Visual fraction models							•
Division with Whole Numbers and Decimals							
Divide decimals							•
Divide whole numbers							•
Multiplication							
Multiply decimals							•
Rational Numbers							
Absolute value							•
Compare and order rational numbers							•
Find distance							•
Graph on the coordinate plane							•
Negative and positive numbers							•
Opposites							•

### **The Number System**

#### ... Continued

Continued		• In	vestigate	and Ana	lyze 🔷	Apply ar	nd Extend
	K	1	2	3	4	5	6
Plot on the number line							•
Real-world problems							•
Reflection on the axes							•

### **Operations and Algebraic Thinking**

		• In	vestigate	and Ana	lyze 🔷	Apply ar	nd Extend
	K	1	2	3	4	5	6
Operations and Algebraic Thinking (OA)							
Addition							
Add whole numbers	•	•	•	•			
Addition strategies		•	•				
Additive comparison					•		
Basic facts		•	•	<b>*</b>			
Decompose numbers	•	•					
Equal symbol	•	•					
Equations		•	•	•	•		
Estimate sums			•	•	<b>*</b>		
Expressions	•						
Inverse of subtraction	•	•	<b>*</b>				
Missing addend	•	•	<b>*</b>				
Model addition	•	•	<b>*</b>				
Multi-step word problems				•	•		
Plus symbol	•	•					
Real-world problems	•	•	•				
Three addends		•	•				
Word problems		•	•	•			
Write number sentences		•	•				
Division							
Basic facts			•	•			
Division strategies			•	<b>*</b>			
Equations			•	•			
Measurement quantities				•			
Model division				•			

# **Operations and Algebraic Thinking**

Continued		<ul> <li>Investigate and Analyze</li> </ul>				Apply and Extend			
	К	1	2	3	4	5	6		
Multi-step word problems					•	•			
Relationship with multiplication				•	<b>*</b>				
Remainders					•				
Strategies to divide				•	<b>*</b>				
Understand division				•	•				
Factors and Multiples		•							
Common factors					•		•		
Common multiples					•		<b>*</b>		
Divisibility rules					•				
Even and odd numbers					•				
Factors					•				
Multiples					•				
Prime numbers					•				
Multiplication		'		'	<u>'</u>	'	<u>'</u>		
Arrays			•	<b>*</b>					
Basic facts				•	•				
Equal groups			•	•					
Equations				•	•				
Even and odd numbers			•		<b>*</b>				
Measurement quantities				•					
Model multiplication				•					
Multiplication strategies				•					
Multiplicative comparison					•				
Real-world problems				•	•				
Relationship with division				•					
Strategies to multiply				•					
Understand multiplication			•	•	•				
Number and Shape Patterns		•				•			
Even and odd numbers				•	•				
Function tables				•	•	•			
Generate two numerical patterns						•			
Graph two numerical patterns on the coordinate plane						•			
Identify, generate, explain number patterns				•	•				
Patterns on facts tables				•					

# **Operations and Algebraic Thinking**

Continued		• In	vestigate	yze <b>4</b>	♦ Apply and Extend		
	К	1	2	3	4	5	6
Skip-counting patterns				•			
Write a rule					•	•	
Numerical Expressions							
Evaluate numerical expressions						•	
Interpret numerical expressions						•	
Write numerical expressions						•	
Properties of Operations							
Additive Identity Property		•	•	•	•	•	•
Associative Property of Addition		•	•	•	•	•	•
Associative Property of Multiplication				•	•	•	•
Commutative Property of Addition		•	•	•	•	•	•
Commutative Property of Multiplication				•	•	•	<b>*</b>
Distributive Property				•	•	•	<b>*</b>
Identity Property of Multiplication				•	•	•	•
Zero Property of Multiplication				•	•	•	<b>*</b>
Subtraction							
Basic facts		•	•	<b>*</b>			
Decompose numbers	•	•					
Equal symbol	•	•					
Equations		•	•	•	•		
Estimate differences				•	•		
Expressions	•	•					
Inverse of addition	•	•					
Minus symbol	•	•					
Missing numbers in subtraction	•	•					
Model subtraction	•	•					
Multi-step word problems				•	•		
Real-world problems	•	•	•	•	•		
Subtract whole numbers	•	•	•	•			
Subtract zero		•					
Subtraction strategies		•	•				
Word problems		•	•	•			
Write number sentences		•	•				

### **Expressions and Equations**

• Investigate and Analyze **♦** Apply and Extend K 2 5 6 1 3 4 **Expressions and Equations (EE) Algebraic Expressions** Equivalent algebraic expressions Evaluate algebraic expressions Identify parts of expressions Model algebraic expressions Write algebraic expressions **Dependent and Independent Variables** Analyze relationships between variables Express relationships between variables . Graph relationships Linear equations . Translate between equations and table values • **Equations** Linear equations on the coordinate plane Meaning of equality Model equations • Solve one-variable equations Symbols showing relations . **Inequalities** Graph inequalities with one variable Identify solutions • Solutions of inequalities on a number line • Solutions of inequalities using substitution Symbols showing relations Write inequalities **Numerical Expressions** Write numerical expressions • Evaluate numerical expressions

#### **Measurement and Data**

♦ Apply and Extend • Investigate and Analyze K 2 3 4 5 6 **Measurement and Data (MD) MEASUREMENT Length and Distance** 

Length and Distance							
Add lengths			•				
Benchmarks and relative size					•		
Choose appropriate tool and unit		•	•				
Compare lengths	•	•	•				
Convert units			•			•	
Customary system			•		•		
Estimate length			•		•		
Measure length		•	•				
Measurements on a line plot			•				
Metric system			•		•		
Order lengths		•	•				
Real-world problems	•	•			•		
Subtract lengths			•				
Transitive property		•					
Liquid Volume and Capacity							
Benchmarks and relative size					•		
Convert units						•	
Estimate liquid volume				•	•		
Measure liquid volume				•			
Word problems				•	•	•	
Mass and Weight							
Benchmarks and relative size					•		
Compare weights	•						
Choose the appropriate unit				•			
Convert units						•	
Estimate mass				•	•		
Measure mass				•			
Order weights	•						
Word problems				•	•	•	
Money							
Count coins and bills			•				

#### **Measurement and Data**

Continued		<ul> <li>Investigate and Analyze</li> </ul>			lyze ♦	Apply and Extend			
	K	1	2	3	4	5	6		
Decimal point in money amounts			•						
Decimals and money					•				
Fractions and money					•				
Identify coins and bills			•						
Operations with money					•				
Real-world problems			•		•				
Symbolic notation			•						
Time									
A.M. and P.M.			•	•					
Clocks		•	•	•					
Convert units						•			
Elapsed time					•	•			
Equivalent units			•						
Fractions and time					•				
Real-world problems		•	•	•	•	•			
Tell time		•	•	•					
Units of time			•		•				
DATA									
Classify and count objects	•								
Interpret data									
Bar graph		•	•	•					
Compare data				•	•	•	<b>*</b>		
Draw conclusions			•	•	•				
Frequency table				•	•	•	<b>*</b>		
Line plot			•	•	•	•	<b>*</b>		
Measurement data on a line plot			•	•	•	•			
Picture graph		•	•	•					
Real-world problems		•	•	•	•	•	<b>*</b>		
Tally chart		•	•	•					
Represent data									
Bar graph		•	•	•					
Frequency table				•	<b>*</b>	•	<b>*</b>		
Line plot			•	•	•	•			
Measurement data on a line plot			•	•	•	•			

### **Measurement and Data**

Continueu		• Investigate and Analyze • Apply a					and Extend		
	K	1	2	3	4	5	6		
Picture graph		•	•	•					
Tally chart		•	•	•					
GEOMETRIC MEASUREMENT									
Angles									
Concept of angle					•				
Related to circles					•				
Measure angles with a protractor					•				
Measure angles using an equation					•				
Sketch angles					•				
Area									
Concept of area				•					
Find area of a complex figure				•	•				
Find area of a rectangle				•	•				
Formula for area					•				
Real-world problems				•	•				
Relate area to multiplication and division				•					
Relate area to perimeter				•					
Units of area					•				
Perimeter				,					
Compare area and perimeter				•					
Find perimeter of a polygon				•					
Find perimeter of a rectangle				•	•				
Formula for perimeter					•				
Linear and area measures				•					
Real-world problems				•	•				
Relate area to perimeter				•					
Volume									
Attribute in solid figures						•			
Compare volumes						•			
Estimate volume						•			
Measure volume						•			
Real-world problems						•			
Volume as additive						•			

### **Geometry**

	K	1	2	3	4	5	6
Geometry (G)						'	
Area							
Changing dimensions and area							•
Draw polygons on the coordinate plane							•
Find area of a composite figure							•
Find area of a parallelogram							•
Find area of a polygon							•
Find area of a trapezoid							•
Find area of a triangle							•
Formulas for area							•
Real-world problems							•
Coordinate Plane				,			
Define a coordinate system						•	
Graph in the first quadrant						•	
Ordered pairs						•	
Real-world problems						•	
Surface Area				,			
Find surface area of a cube							•
Find surface area of a prism							•
Find surface area of a pyramid							•
Nets							•
Real-world problems							•
Three-dimensional Shapes				,			
Attributes of three-dimensional shapes	•	•	•				
Classify shapes		•					
Compose and decompose shapes	•	•	•				
Identify and describe shapes	•	•	•				
Identify shapes in the environment	•						
Make and draw shapes		•	•				
Sort shapes	•	•	•				
Two-dimensional Shapes							
Angles				•	•	•	
Attributes of two-dimensional shapes	•	•	•	•			
Classify angles					•		

### **Geometry**

Use cubes to find volume

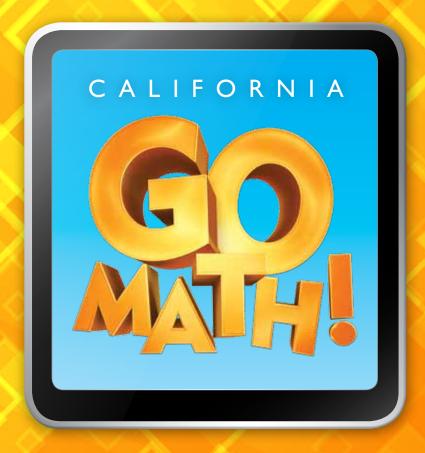
		<ul> <li>Investigate and Analyze</li> </ul>			lyze ♦	Apply and Extend			
	K	1	2	3	4	5	6		
Classify polygons						•			
Classify quadrilaterals					•	•			
Classify shapes		•	•	•					
Classify triangles by angles					•	•			
Classify triangles by sides					•				
Compose and decompose shapes	•	•	•	•					
Congruency						•			
Equal parts			•						
Identify and describe shapes	•	•	•	•					
Identify shapes in the environment	•								
Line symmetry					•				
Lines					•	•			
Model and draw shapes	•	•	•	•					
Partition shapes		•	•	•					
Real-world problems						•			
Sort shapes	•	•	•						
Triangles				•	•				
Volume			•			•			
Formula for volume							•		
Fractional side lengths and volume							•		
Real-world problems							•		
Rectangular prism							•		

# **Statistics and Probability**

•	<b>Investigate and Analyze</b>	Apply and Extend
---	--------------------------------	------------------

	К	1	2	3	4	5	6
Statistics and Probability (SP)							
Display Data							
Box plot							•
Dot plot							•
Frequency table							•
Histogram							•
Statistical Questions							
Describe data collections							•
Distribution of data							•
Measure of center							•
Measure of variation							•
Recognize statistical questions							•
Summarize Data							
Box plot							•
Describe data collections							•
Describe distributions							•
Dot plot							•
Effects of outliers							•
Frequency table							•
Histogram							•
Interpret data displays							•
Mean as fair share and balance point							•
Measures of central tendency							•
Measures of variability							•

# **Notes**

# **Scope and Sequence**

**Grades K-6** 

For More Information,
Contact Customer Service 800.225.5425

Visit Us Online: hmhco.com/ca-math



© Houghton Mifflin Harcourt Publishing Company. All rights reserved. Printed in the U.S.A. 11/13 MS90950



