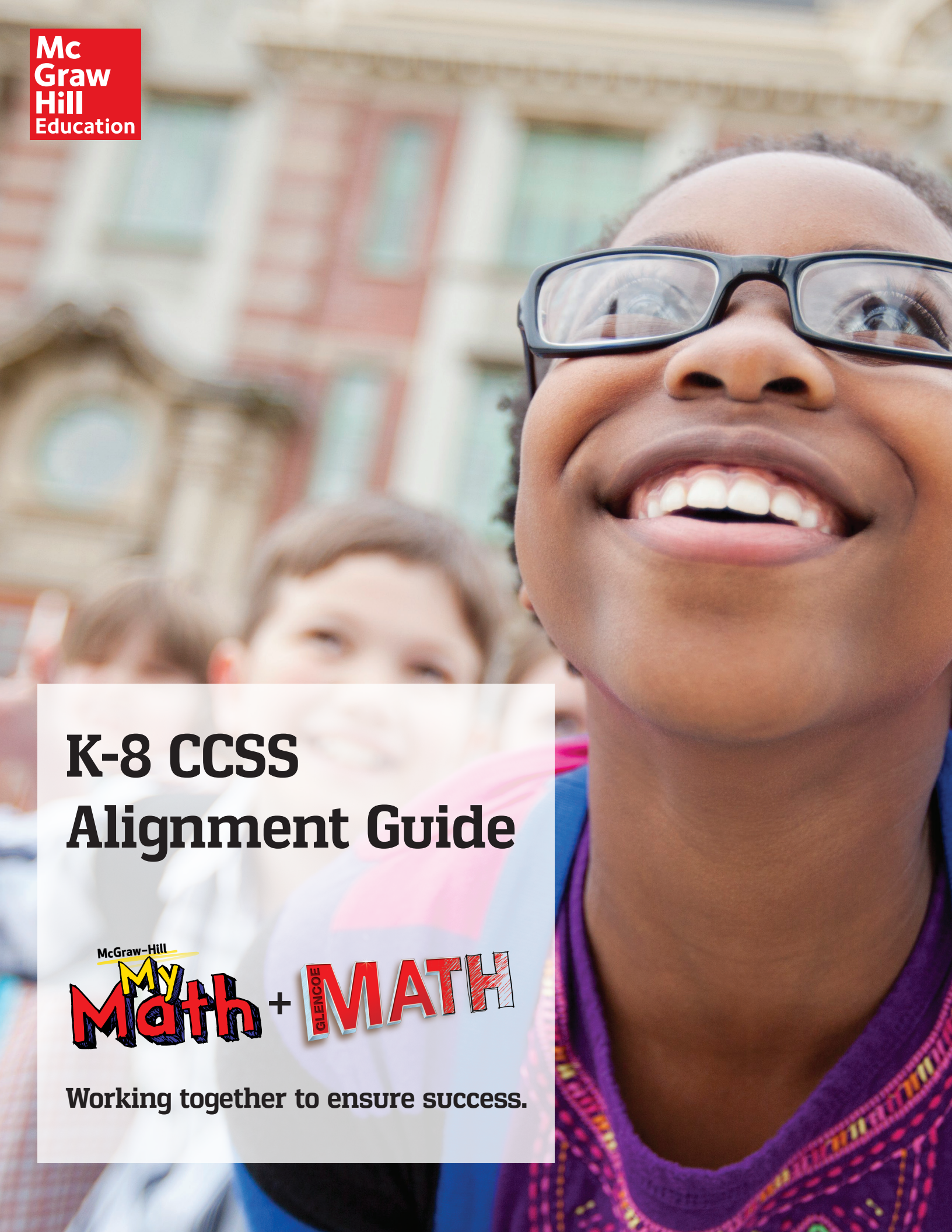

K-8 CCSS Alignment Guide

McGraw-Hill My Math + Glencoe Math

Working together to ensure success.

Contents

Two Programs. One Goal.

To ensure every student's transition from elementary to middle school is a smooth one, turn to McGraw-Hill Education. Our core math programs work together to ensure students' continued success while giving teachers robust resources to provide a comprehensive math education.

Together ***McGraw-Hill My Math*** and ***Glencoe Math*** form a comprehensive K-8 math solution for your students. Built to the rigorous Common Core State Standards, ***McGraw-Hill My Math*** and ***Glencoe Math*** show educators a clear path to guide every student through a learning experience grounded in a logical evolution of mathematical content.

Built on the same principles and philosophy, these *two* McGraw-Hill Education math programs create *one* continuous learning experience that places all students on the path to math success.

Consistent to the Core

Use ***McGraw-Hill My Math*** and ***Glencoe Math*** core math curricula to give teachers the resources they need to create a seamless transition and continuous math development for every student. The skills and conceptual understanding provided by ***McGraw-Hill My Math*** and ***Glencoe Math*** prepare students for future success on Common Core assessments.

Teach with confidence knowing ***McGraw-Hill My Math*** and ***Glencoe Math*** share an authorship team unified by a common goal: to bridge the math gap that frequently emerges between elementary and middle school.

The K-8 authorship and consultant team created ***McGraw-Hill My Math*** and ***Glencoe Math*** in tandem. Both programs are grounded in Understanding by Design pedagogy. This instructional design for learning first identifies the desired learning outcome, then customizes learning strategies to meet that objective.

Using this methodology, the authorship team ensures students' progression of knowledge creates a sound foundation, providing key areas of focus, strong connections to prior concepts and skills, and the conceptual understanding required for Common Core success.

The following shared program features ensure a solid math foundation for students:

- **Differentiated Instructional resources** help teachers motivate students to interact with math on their own level by providing support for struggling learners and new challenges for advanced students.
- **Common Core-aligned curriculum** equips students with the knowledge, skills, and confidence needed to meet rigorous assessments.
- **Embedded English Language support** makes it possible for teachers to provide guidance and engage this group daily.
- **Flexible all-digital, print/digital** program implementation options help teachers deliver engaging learning experiences with ready-made lesson plans, customizable assessments, and diverse supplemental resources.

Count on Continuous Achievement

Digital program features common to ***McGraw-Hill My Math*** and ***Glencoe Math*** equip educators with valuable data on students' demonstrated math performance to make informed instructional decisions for continuous improvement.

As an adaptive learning resource, ***ALEKS***® provides a personalized learning path for every student. Teachers use ***ALEKS*** to:

- Focus students' attention on standards-based math content they are most ready to learn identified through ongoing adaptive assessments.
- Build students' Procedural Skill and Fluency at their own pace.
- Generate robust reports at the student, class, or district level to make important instructional decisions.
- Schedule auto-graded assignments, tests, and quizzes.

Teachers create assessments they can count on. ***eAssessment*** features adaptable online assessments directly tied to specific lessons and chapter objectives.

With ***eAssessment***, teachers access:

- Technology-enhanced questions to provide CCSS question types for student practice.
- Powerful reporting tools to review data-driven insights about each student's progress.

McGraw-Hill eAssessment

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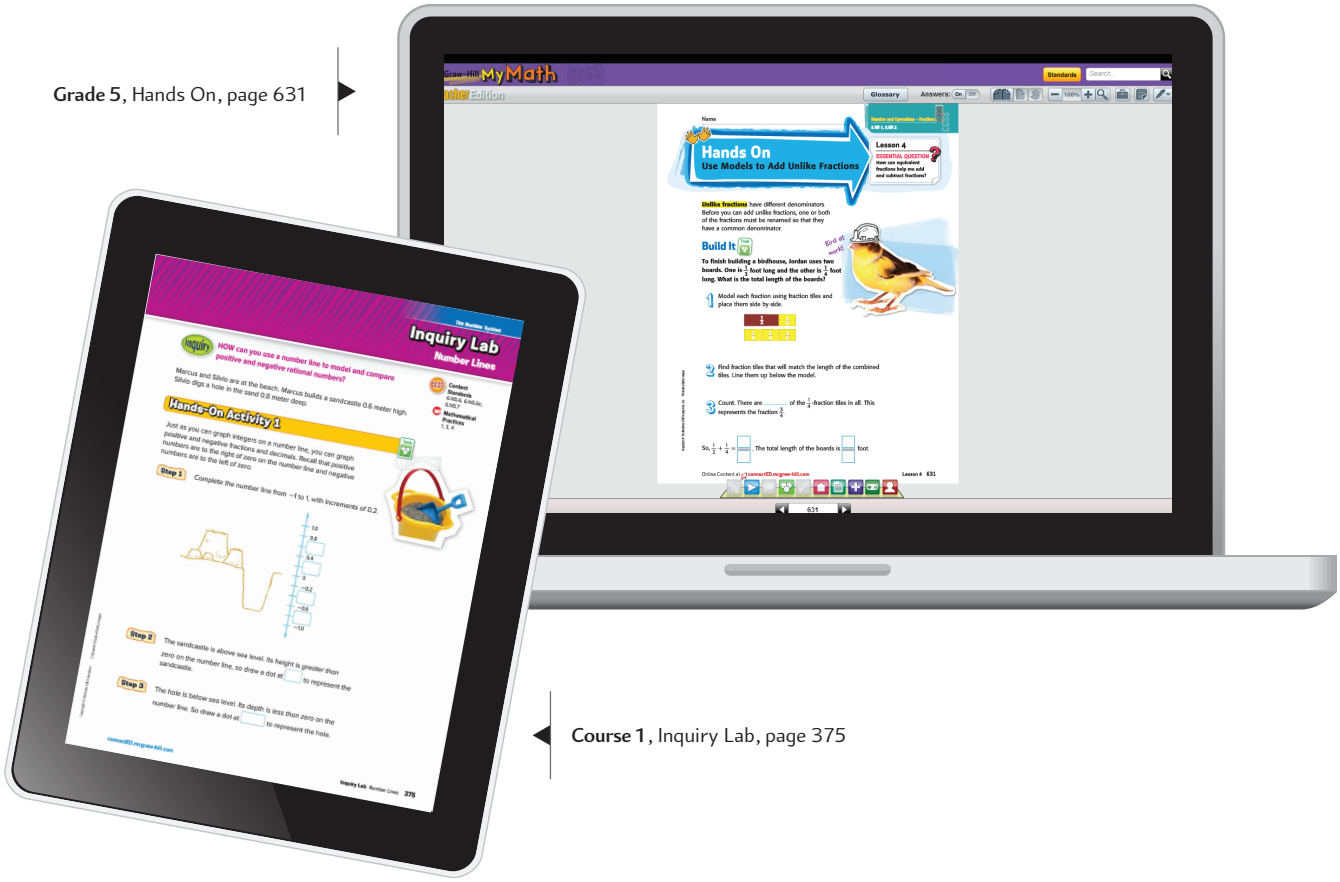
Mc Graw Hill Education | ALEKS®

Integrated Content Standards

The ***McGraw-Hill My Math*** and ***Glencoe Math*** authorship and consultant team articulated a scope and sequence for concepts and skills reflecting CCSS goals to accelerate student achievement. This foundation creates a cohesive K-8 path for student success.

Use this scope and sequence to identify how the Standards for Mathematical Content are organized and presented in ***McGraw-Hill My Math*** and ***Glencoe Math***. Specifically, this scope and sequence includes:

- CCSS standards and how they are distributed across grades.
- Concepts and skills covered in each grade.
- Progression of concepts presented from year to year, showing coherence.
- Clusters of related concepts across grade levels.
- Specific prerequisite concepts from which skills are developed further.



Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Counting and Cardinality									
Number Sense									
Know number names and the count sequence	K.CC.1, K.CC.2, K.CC.3								
Count to tell the number of objects	K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5								
Compare numbers	K.CC.6, K.CC.7								
Number and Operations in Base Ten									
Place Value									
Understand foundations of and generalize about place value	K.NBT.1	1.NBT.2, 1.NBT.3, 1.NBT.4, 1.NBT.5, 1.NBT.6	2.NBT.1, 2.NBT.1a, 2.NBT.1b, 2.NBT.2, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9	3.NBT.1, 3.NBT.2, 3.NBT.3	4.NBT.1, 4.NF.6, 4.NF7	5.NBT.1, 5.NBT.3			
Extend counting sequence and read and write whole numbers		1.NBT.1	2.NBT.1, 2.NBT.1a, 2.NBT.1b, 2.NBT.2, 2.NBT.3	3.NBT.1, 3.NBT.2, 3.NBT.3	4.NBT.1, 4.NBT.2, 4.NF.6	5.NBT.1			
Compare/order numbers		1.NBT.3	2.NBT.4	3.NBT.1, 3.NBT.2, 3.NBT.3	4.NBT.2, 2.NF.2, 4.NF.7	5.NBT.3			
Round numbers				3.NBT.1	4.NBT.3	5.NBT.4			
Compose and decompose numbers			2.NBT.1, 2.NBT.3	3.NBT.3	4.NBT.5	5.NBT.1			
Addition and Subtraction									
Fluently add and subtract basic facts	K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5	1.NBT.4, 1.NBT.6, 1.OA.5, 1.OA6	2.NBT.5, 2.NBT.6, 2.OA.2						
Fluently add and subtract within 100			2.NBT.5						
Add and subtract multiples of 10			2.NBT.8, 2.NBT.9						
Fluently add and subtract multi-digit numbers				3.NBT.2	4.NBT.4				
Compose and decompose numbers	K.NBT.1, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5	1.NBT.2, 1.OA.1,1.OA.2, 1.OA.3, 1.OA,4, 1.OA.6, 1.OA.8	2.NBT.1, 2.NBT.3, 2.NBT.7, 2.NBT.8	3.NBT.2	4.NBT.2				
Use mental arithmetic		1.OA.6, 1.NBT.5	2.NBT.8, 2.OA.2	3.OA.8	4.NBT.4				
Use estimation				3.OA.8	4.NBT.3, 4.OA.3				
Use algorithms to add and subtract		1.NBT.4, 1.NBT.6	2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9	3.NBT.2	4.NBT.4				
Use and explain strategies based on the relationship between addition and subtraction		1.NBT.4, 1.NBT.6, 1.OA.3	2.NBT.5, 2.NBT.7, 2.OA.1, 2.OA.2, 2.NBT.9	3.NBT.2	4.NBT.4				

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Number and Operations in Base Ten — *continued*									
Multiplication and Division									
Use and explain strategies based on place value and properties of operations		1.NBT.4, 1.NBT.5 1.NBT.6, 1.OA.3, 1.OA.4	2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9	3.NBT.2	4.NBT.4, 4.NF.3c	5.NBT.7			
Use odd and even numbers and arrays to gain foundations for multiplication			2.OA.3, 2.OA.4	3.OA.3					
Fluently multiply and divide basic facts				3.OA.7					
Compose and decompose numbers				3.NBT.3	4.NBT.5, 4.NBT.6, 4.OA.4	5.NBT.5			
Use and explain strategies based on the relationship between multiplication and division				3.OA.6, 3.OA.7	4.NBT.5, 4.NBT.6	5.NBT.6, 5.NBT.7			
Use and explain strategies based on place value and properties of operations				3.NBT.3, 3.OA.5, 3.OA.7, 3.OA.9	4.NBT.5, 4.NBT.6	5.NBT.6, 5.NBT.7			
Use multiplication to find combinations				3.OA.3					
Interpret multiplication equations as comparisons					4.OA.1, 4.OA.2				
Interpret remainders					4.NBT.6, 4.OA.3	5.NBT.6			
Estimation					4.NBT.3, 4.NBT.6	5.NBT.5, 5.NBT.6			
Divide and fluently multiply multi-digit numbers using standard algorithm					4.NBT.5, 4.NBT.6	5.NBT.5, 5.NBT.6	6.NS.2		
Prime factorization						5.NBT.2			
Whole Numbers									
Greatest Common Factor (GCF)					4.NF.1	5.NF.2	6.NS.4		
Least Common Multiple (LCM)					4.NF.1	5.NF.2	6.NS.4		
Apply Distributive Property				3.OA.5, 3.OA.7, 3.OA.9, 3.MD.7c	4.NBT.5	5.NBT.5	6.NS.4	7.NS.2a	
Powers and exponents						5.NBT.2	6.EE.1		
Square roots of perfect squares									8.EE.2
Cube roots of perfect cubes									8.EE.2
Integers									
Positive and negative numbers							6.NS.5		
Opposite signs of numbers							6.NS.6a		
Graph integers on a number line							6.NS.6, 6.NS.6a, 6.NS.6c		
Graph integers on a coordinate plane							6.NS.6, 6.NS.6b, 6.NS.6c, 6.NS.8		
Order integers							6.NS.7, 6.NS.7a, 6.NS.7b, 6.NS.7d		

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Number and Operations in Base Ten — *continued*									
Integers *continued*									
Absolute value							6.NS.7, 6.NS.7c, 6.NS.7d	7.NS.1c	
Additive inverses								7.NS.1a, 7.NS.1b	
Multiplication of integers								7.NS.2a	
Division of integers								7.NS.2b	
Properties of integer exponents									8.EE.1
Rational Numbers									
Graph rational numbers on a number line							6.NS.6, 6.NS.6a		
Order rational numbers on a number line							6.NS.7, 6.NS.7a		
Write, interpret, and explain order of rational numbers							6.NS.7b		
Graph rational numbers on a coordinate plane							6.NS.6, 6.NS.6c, 6.NS.8		
Solve real-world problems by graphing points in all four quadrants							6.NS.8		
Add and subtract rational numbers								7.NS.1, 7.NS.1b, 7.NS.1c, 7.NS.1d	
Represent addition and subtraction on a number line								7.NS.1, 7.NS.1b	
Interpret sums of rational numbers in real-world contexts								7.NS.1b	
Understand subtraction as adding the additive inverse								7.NS.1c	
Interpret products and quotients of rational numbers in real-world contexts								7.NS.2a, 7.NS.2b	
Distance between two rational numbers on a number line								7.NS.1c	
Multiply and divide rational numbers								7.NS.2, 7.NS.2a, 7.NS.2b, 7.NS.2c	
Concept of rational numbers								7.NS.2b	
Convert rational numbers to decimals								7.NS.2d	
Terminating and repeating decimals								7.NS.2d	8.NS.1
Solve real-world problems using operations with rational numbers								7.NS.3	
Complex fractions								7.RP.1, 7.NS.3	
Solve multi-step problems involving rational numbers								7.EE.3	
Convert a decimal expansion which repeats eventually into a rational number									8.NS.1

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Number and Operations in Base Ten — *continued*									
Real Numbers									
Concept of irrational numbers									8.NS.1
Estimate square roots									8.NS.2
Know √2 is irrational									8.EE.2
Compare the size of irrational numbers									8.NS.2
Approximate location of irrational numbers on a number line									8.NS.2
Number and Operations									
Fractions									
Partition shapes and understand fractions as part of a whole		1.G.3	2.G.3	3.NF.1 , 3.G.2					
Express fractions as a whole number				3.NF.3c					
Represent fractions on a number line				3.NF.2, 3.NF.2a, 3.NF.2b, 3NF.3a	4.NF.6	5.NF.2	6.NS.6c	7.NS.1	
Equivalent fractions				3.NF.3a, 3.NF.3b, 3.NF.3c	4.NF.1, 4.NF.5	5.NF.1			
Unit fractions				3.NF.1, 3.G.2	4.NF.3b, 4.NF.4a, 4.NF.4b	5.NF.7			
Compare and order fractions				3.NF.3d	4.NF.2	5.NF.5a			
Find factor pairs and multiples					4.OA.4	5.NBT.2			
Prime and composite numbers					4.OA.4	5.NBT.2			
Simplest form					4.NF.1, 4.NF.2	5.NF.5b			
Represent mixed numbers and write as improper fractions					4.NF.3b	5.NF.1			
Add, subtract, and multiply fractions and mixed numbers					4.NF.3c, 4.NF.3d, 4.NF.4	5.NF.1, 5.NF.2, 5.NF.4, 5.NF.5, 5.NF.6			
Solve word problems involving addition and subtraction of fractions					4.NF.3d	5.NF.2			
Solve word problems involving multiplication of fractions					4.NF.4c	5.NF.6			
Round fractions						5.NF.2			
Estimate sums and differences of fractions						5.NF.2			
Estimate products of fractions						5.NF.4a, 5.NF.6			
Interpret multiplication with fractions as scaling						5.NF.5			
Interpret fractions as division of numerator by denominator						5.NF.3			
Divide fractions and mixed numbers						5.NF.7	6.NS.1	7.NS.2c	
Solve word problems involving division of fractions						5.NF.7c	6.NS.1	7.NS.2c 7.NS.3 7.EE.3	

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Number and Operations — *continued*									
Decimals									
Understand decimal notation					4.NF.6	5.NBT.3a			
Write fractions as decimals					4.NF.5, 4.NF.6	5.NF.5b, 5.NBT.3a			
Compare and order decimals					4.NF.6, 4.NF.7	5.NF.5b, 5.NBT.3b			
Add decimals					4.NF.5, 4.NF.6	5.NBT.7	6.NS.3		
Subtract/Multiply/Divide decimals to hundredths						5.NBT.7			
Estimate sums and differences of decimals by rounding						5.NBT.4			
Represent decimals on a number line					4.NF.6, 4.NF.7	5.NBT.3b	6.NS.6c		
Subtract/Multiply/Divide multi-digit decimals							6.NS.2, 6.NS.3		
Convert rational numbers to decimals								7.NS.2d	
Terminating and repeating decimals								7.NS.2d	8.NS.1
Convert a decimal expansion which repeats eventually into a rational number									8.NS.1
Non-repeating decimals/irrational numbers									8.NS.1
Percent									
Percent as rate per 100							6.RP.3c		
Find a percent of a quantity							6.RP.3c		
Solve percent problems for the whole							6.RP.3c		
Percent proportion								7.RP.3	
Percent equation								7.RP.3	
Simple interest								7.RP.3	
Sales tax and gratuities								7.RP.3	
Markups and markdowns								7.RP.3	
Commissions and fees								7.RP.3	
Percent increase and decrease								7.RP.3	
Percent error								7.RP.3	
Ratios and Proportional Relationships									
Ratios and Rates									
Understand the concept of a ratio							6.RP.1		
Use ratio and rate language							6.RP.1, 6.RP.2		
Understand the concept of a unit rate							6.RP.2		
Solve real-world problems using ratios and rates							6.RP.3	7.RP.3	
Tables of equivalent ratios							6.RP.3a	7.RP.2a	
Graph ratio tables							6.RP.3a	7.RP.2a	
Unit pricing							6.RP.3b		

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Ratios and Proportional Relationships — *continued*									
Ratios and Rates *continued*									
Constant speed							6.RP.3b		
Use ratios to convert measurements							6.RP.3d	7.RP.3	
Unit rates involving fractions (complex fractions)								7.RP.1	
Ratio and probability								7.SP.8a	
Interpret unit rate as the slope									8.EE.5
Rate of change of a linear function									8.F.4
Proportional Relationships									
Recognize and represent proportional relationships								7.RP.2	
Identify proportional relationships using tables or graphs								7.RP.2a	
Constant of proportionality (unit rate)								7.RP.2b, 7.RP.2d	
Represent proportional relationships by equations								7.RP.2c	
Explain what a point on the graph of a proportional relationship means								7.RP.2d	
Solve proportions								7.RP.3	
Use proportional relationships to solve multi-step ratio problems								7.RP.3	
Graph proportional relationships								7.RP.2a	8.EE.5
Compare two different proportional relationships									8.EE.5
Scale drawings								7.G.1	
Algebra and Functions									
Algebraic Representation									
Compose and decompose numbers	K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5	1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.8	2.OA.1	3.OA.5, 3.OA.7	4.NBT.5, 4.NBT.6, 4.NF.3b	5.NBT.6			
Identify/Generate/Explain patterns	K.CC.4, K.CC.4a	1.NBT.5	2.NBT.2	3.OA.9, 3.NBT.3	4.NBT.1, 4.NBT.4, 4.OA.5	5.OA.3, 5.NBT.1, 5.NBT.2			
Solve addition and subtraction word problems	K. OA.2, K. NBT.1	1.OA.1, 1.OA.2	2.OA.1	3.OA.8, 3.MD.1	4.OA.3, 4.MD.2, 4.NF.3d	5.NF.2			
Assess the reasonableness of answers by rounding and estimating				3.OA.8	4.OA.3, 4.NBT.3, 4.NBT.6	5.NBT.5, 5.NBT.6			
Determine the unknown/variable		1.OA.1, 1.OA.2, 1.OA.4, 1.OA.8	2.OA.1	3.OA.3, 3.OA.4, 3.OA.6, 3.OA.8	4.OA.2, 4.OA.3	5.NBT.6	6.EE.6		
Write and solve number sentences/ equations	K.OA.1, K.OA.3, K.OA.4, K.NBT.1	1.OA.1, 1.OA.2, 1.OA.7, 1.OA.8	2.OA.1, 2.OA.3, 2.OA.4	3.OA.3, 3.OA.4, 3.OA.5, 3.OA.7, 3.OA.8	4.OA.1, 4.OA.2, 4.OA.3, 4.NF.3d, 4.NF.4c, 4.NBT.5, 4.NBT.6	5.NBT.6			

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Algebra and Functions — *continued*									
Algebraic Representation *continued*									
Determine if addition or subtraction equations are true or false.		1.OA.7							
Solve word problems that call for addition of three numbers		1.OA.2							
Order of operations				3.OA.8	4.OA.3	5.OA.1	6.EE.2c		
Write and solve multiplication and division word problems				3.OA.3, 3.OA.8	4.OA.2, 4.OA.3, 4.NF.4c, 4.MD.2, 4.MD.3	5.NBT.5, 5.NF.6, 5.NF.7c			
Write and evaluate expressions involving variables				3.OA.5, 3.OA.8	4.OA.3	5.OA.1, 5.OA.2	6.EE.2, 6.EE.2a, 6.EE.2c, 6.EE.6		
Identify and generate non-numeric patterns					4.OA.5				
Apply properties of operations		1.OA.3, 1.NBT.2	2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9	3.NBT.3, 3.OA.5, 3.OA.7, 3.OA.9	4.OA.5, 4.NBT.5	5.NBT.5	6.EE.3	7.EE.1, 7.EE.2	
Parts of an expression							6.EE.2b		
Identify equivalent expressions							6.EE.4		
Properties of integer exponents									8.EE.1
Use scientific notation to estimate quantities									8.EE.3
Perform operations using scientific notation									8.EE.4
Choose units of appropriate size for very large or very small quantities									8.EE.4
Scientific notation and technology									8.EE.4
Equations and Inequalities									
Identify values that make an equation or inequality true							6.EE.5		
Use variables and expressions to solve real-world problems							6.EE.6	7.EE.4	
Write and solve equations of the form $x + p = q$ and $px = q$							6.EE.7		
Inequalities of the form $x > c$ or $x < c$							6.EE.8		
Graph inequalities on a number line							6.EE.8	7.EE.4b	
Solve equations of the form $px + q = r$ and $p(x + q) = r$								7.EE.4, 7.EE.4a	
Compare an algebraic solution to an arithmetic solution								7.EE.4a	
Solve multi-step problems involving rational numbers								7.EE.3	8.EE.7.8
Solve inequalities of the form $px + q < r$ or $px + q < r$								7.EE.4, 7.EE.4b	
Solve linear equations with one, infinitely many, or no solutions									8.EE.7, 8.EE.7a
Solve linear equations with rational coefficients								7.EE.4a	8.EE.7, 8.EE.7b

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Algebra and Functions — *continued*									
Equations and Inequalities *continued*									
Solve equations of the form $x^2 = p$ and $x^3 = p$									8.EE.2
Equations in Two Variables									
Dependent and independent variables							6.EE.9		
Write equations using two variables							6.EE.9		
Form ordered pairs						5.OA.3, 5.G.1, 5.G.2			
Tables of ordered pairs						5.OA.3, 5.G.1, 5.G.2	6.EE.9		
Graphs of ordered pairs						5.OA.3, 5.G.1, 5.G.2	6.EE.9		
Analyze patterns and relationships						5.OA.3, 5.NBT.2	6.EE.9		
Represent proportional relationships by equations								7.RP.2c	
Use similar triangles to explain slope of a line									8.EE.6
Derive the equations $y = mx$ and $y = mx + b$									8.EE.6
Solve systems of linear equations by graphing									8.EE.8, 8.EE.8a
Solve systems of linear equations algebraically									8.EE.8, 8.EE.8b
Solve problems leading to two linear equations in two variables									8.EE.8, 8.EE.8c
Functions									
Relations and functions									8.F.1
Understand functions									8.F.1
Graph of a function									8.F.1
Compare properties of functions									8.F.2
Identify non-linear functions									8.F.3
Linear functions in $y = mx + b$ form									8.F.3
Construct a function									8.F.4
Rate of change and initial value of a function									8.F.4
Qualitative graphs									8.F.5
Measurement									
Measurement									
Describe and compare measurable attributes of objects	K.MD.1, K.MD.2								

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Measurement — *continued*									
Linear Measurement									
Measure and order by comparing indirectly and by iterating using non-standard units of length		1MD.1, 1MD.2							
Measure length using appropriate tools			2.MD.1						
Use customary units of length to estimate, measure, and compare			2.MD.1, 2.MD.2, 2.MD.3, 2.MD.4						
Use addition and subtraction to solve word problems of length			2.MD.5,		4.MD.2, 4.MD.3, 4.MD.4	5.MD.1, 5.MD.2			
Measure to half and quarter of an inch				3.MD.4	4.MD.2	5.MD.2			
Measure to eighth of an inch					4.MD.2	5.MD.2			
Estimate using customary and metric units of length					4.MD.1, 4.MD.2				
Measure metric units of length					4.MD.1	5.MD.1			
Know measurement equivalencies within a measurement system					4.MD.1	5.MD.1			
Convert customary and metric units of length					4.MD.1, 4.MD.2	5.MD.1			
Perimeter and Area									
Measure perimeter				3.MD.8	4.MD.3				
Apply the formula for perimeter					4.MD.3				
Use concepts of area to measure area				3.MD.5, 3.MD.5a, 3.MD.5b 3.MD.6, 3.MD.7, 3.MD.7a, 3.MD.7b, 3.MD.7c, 3.MD.7d, 3.MD.8	4.MD.3	5.NF.4b			
Apply the formula for area				3.MD. 7, 3.MD.7b	4.MD.3	5.NF.4b			
Relate area and perimeter				3.MD.5, 3.MD.7, 3.MD.8	4.MD.3				
Find area of composite figures by decomposing				3.MD.5, 3.MD.7, 3.MD.7b, 3.MD.7d			6.G.1	7.G.6	
Relate area to multiplication and addition				3.MD. 7, 3.MD.7a, 3.MD.7b, 3.MD.7c, 3.MD.7d	4.MD.3	5.NF.4b			
Solve problems involving same perimeter but different area and vice versa				3.MD.8	4.MD.3				
Liquid Volume									
Estimate metric units of capacity				3.MD.2	4.MD.1, 4.MD.2	5.MD.1			
Measure metric units of capacity				3.MD.2		5.MD.1			

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Measurement — *continued*									
Liquid Volume *continued*									
Solve word problems involving liquid volumes				3.MD.2	4.MD.1, 4.MD.2, 4.MD.4	5.MD.1, 5.MD.2			
Convert metric units of capacity					4.MD.1, 4.MD.2	5.MD.1			
Estimate customary units of capacity					4.MD.1, 4.MD.2	5.MD.1			
Measure customary units of capacity						5.MD.1			
Convert customary units of capacity					4.MD.1, 4.MD.2	5.MD.1			
Weight and Mass									
Estimate metric units of mass				3.MD.2	4.MD.1, 4.MD.2	5.MD.1			
Measure metric units of mass				3.MD.2		5.MD.1			
Solve word problems involving mass				3.MD.2	4.MD.1, 4.MD.2	5.MD.1			
Estimate customary units of weight					4.MD.1, 4.MD.2	5.MD.1			
Measure customary units of weight						5.MD.1			
Convert customary units of weight					4.MD.1, 4.MD.2	5.MD.1			
Convert metric units of mass					4.MD.1, 4.MD.2	5.MD.1			
Time									
Tell and write time to the hour and half hour		1.MD.3	2.MD.7						
Tell and write time to the quarter hour and 5-minute intervals			2.MD.7						
A.M./P.M.			2.MD.7						
Tell and write time to the minute				3.MD.1					
Measure time intervals in minutes				3.MD.1	4.MD.1, 4.MD.2				
Solve word problems involving time in minutes				3.MD.1	4.MD.1, 4.MD.2				
Convert units of time					4.MD.1, 4.MD.2	5.MD.1			
Solve measurement word problems using the four operations					4.MD.2, 4.MD.3	5.MD.1			
Money									
Recognize and count using coins		1.NBT.1	2.MD.8						
Sort and compare using coins and bills			2.MD.8						
Solve word problems involving money			2.MD.8						
Statistics and Probablity									
Data Sets and Populations									
Classify objects by size, shape, and count	K.MD.3								

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Statistics and Probablity — *continued*									
Data Sets and Populations *continued*									
Organize, represent, and interpret data		1.MD.4	2.MD.9, 2.MD.10	3.MD.3, 3.MD.4	4.MD.4	5.MD.2			
Generate data in whole units of linear measurement			2.MD.9						
Generate data in fractions of an inch				3.MD.4	4.MD.4	5.MD.2			
Recognize statistical questions							6.SP.1		
Distribution of a set of data							6.SP.2		
Statistics and population samples								7.SP.1	
Random sampling of populations								7.SP.1	
Draw inferences from random samples								7.SP.2	
Multiple samples of data								7.SP.2	
Visual overlap of data distributions								7.SP.3	
Comparative inferences between two populations								7.SP.4	
Measures of Center and Variability									
Measures of center							6.SP.3	7.SP.3, 7.SP.4	
Median							6.SP.5c		
Mean							6.SP.5c		
Measures of variation							6.SP.3	7.SP.3, 7.SP.4	
Range							6.SP.2, 6.SP.3		
Outliers							6.SP.5c		
Mean absolute deviation							6.SP.5c		
Shape of the data distribution							6.SP.5d		
Summarize and describe numerical data sets							6.SP.5, 6.SP.5a, 6.SP.5b, 6.SP.5c		
Represent Data, Statistical Displays									
Draw scaled picture graphs and scaled bar graphs				3.MD 3					
Solve problems involving bar graph analysis			2.MD.10	3.MD.3					
Make line plots using generated linear measurement data			2.MD.9	3.MD.4	4.MD.4	5.MD.2			
Solve addition and subtraction of fractions problems involving line plot analysis					4.MD.4	5.MD.2			
Solve multiplication and division of fractions problems involving line plot analysis						5.MD.2			
Dot plots							6.SP.4	7.SP.3, 7.SP.4	
Histograms							6.SP.4		
Box plots							6.SP.4	7.SP.4	
Scatter plots									8.SP.1
Clustering and outliers									8.SP.1
Positive and negative association									8.SP.1

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Statistics and Probablity — *continued*									
Represent Data, Statistical Displays *continued*									
Linear and nonlinear association									8.SP.1
Line of best fit									8.SP.2
Use the equation of a linear model to solve problems									8.SP.3
Two-way tables									8.SP.4
Probability									
Probability and chance events								7.SP.5	
Likely and unlikely events								7.SP.5	
Relative frequency								7.SP.6	
Develop a probability model								7.SP.7, 7.SP.7a, 7.SP.7b	
Compare theoretical and experimental probability								7.SP.7	
Compound events								7.SP.8, 7.SP.8a	
Sample spaces								7.SP.8, 7.SP.8b	
Number of outcomes								7.SP.8a	
Permutations								7.SP.8a	
Simulations								7.SP.6, 7.SP.7, 7.SP.8, 7.SP.8c	
Fair and unfair games								7.SP.7b	
Geometry									
Two- and Three-Dimensional Shapes and Figures									
Describe shapes in the environment	K.G.1								
Position of shapes	K.G.1								
Compose two-dimensional shapes	K.G.6	1.G.2							
Decompose two-dimensional shapes		1.G.2	2.G.2, 2.G.3	3.G.2					
Analyze and compare two-dimensional shapes	K.G.4	1.G.1	2.G.1	3.G.1					
Model, build, and draw two-dimensional shapes	K.G.5	1.G.1	2.G.1	3.G.1					
Identify, name, and describe two-dimensional shapes	K.G.1, K.G.2, K.G.3, K.G.4	1.G.1	2.G.1	3.G.1	4.G.1, 4.G.2				
Partition two-dimensional shapes into equal shares/areas		1.G.3	2.G.2, 2.G.3	3.G2					
Identify equal shares of two-dimensional shapes		1.G.3	2.G.3	3.G.2					
Identify, name, and describe three-dimensional shapes	K.G.1, K.G.2, K.G.3, K.G.4	1.G.1	2.G.1						
Analyze and compare three-dimensional shapes	K.G.4	1.G.1	2.G.1						
Classify two-dimensional figures by their properties					4.G.1, 4.G.2	5.G.4			
Describe properties of three-dimensional figures						5.MD.3			

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Geometry — *continued*									
Two- and Three-Dimensional Shapes and Figures *continued*									
Describe and classify polygons by their attributes				3.G.1					
Identify, describe, and classify triangles and quadrilaterals by their attributes				3.G.1	4.G.1, 4.G.2	5.G.3, 5.G.4			
Measure sides and angles of triangles and quadrilaterals					4.MD.6, 4.G.2	5.G.3, 5.G.4			
Draw and identify points, lines, line segments, rays, and angles in two-dimensional figures					4.G.1				
Identify lines of symmetry/symmetric figures					4.G.3				
Draw polygons on the coordinate plane							6.G.3		
Use coordinates to find the length of sides of polygons							6.G.3		
Construct triangles from three measures of angles or sides								7.G.2	
Plane sections of three-dimensional figures								7.G.3	
Circles and circumference								7.G.4	
Angle Measure and Relationship									
Explore angles of two-dimensional shapes				3.G.1	4.G.1, 4.MD.5				
Classify angles by their attributes					4.G.1, 4.MD.5				
Measure and draw angles					4.G.1, 4.MD.5, 4MD. 6				
Recognize angle measures as additive					4.MD.7				
Solve addition and subtraction problems to determine measures of unknown angles					4.G.1, 4.MD.7				
Supplementary angles								7.G.5	
Complementary angles								7.G.5	
Vertical angles								7.G.5	
Adjacent angles								7.G.5	
Sum of angles in a triangle									8.G.5
Exterior angle of a triangle									8.G.5
Parallel lines cut by a transversal									8.G.5
Angle-angle criterion for similar triangles									8.G.5
Area and Surface Area									
Area of triangles							6.G.1		
Area of parallelograms							6.G.1		
Area of trapezoids							6.G.1		
Area of composite figures							6.G.1	7.G.6	
Area of a circle								7.G.4	

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Geometry — *continued*									
Area and Surface Area *continued*									
Informal derivation of area of circle from circumference								7.G.4	
Represent three-dimensional figures using nets							6.G.4		
Use nets to find surface area							6.G.4		
Surface area of rectangular prisms							6.G.4	7.G.6	
Surface area of triangular prisms							6.G.4	7.G.6	
Surface area of pyramids							6.G.4	7.G.6	
Surface area of composite figures								7.G.6	
Surface area of cylinders								7.G.4	
Volume									
Understand concepts of volume						5.MD.3			
Measure volume by counting cubes						5.MD.3, 5.MD.4	6.G.2		
Relate volume to addition and multiplication						5.MD.5			
Apply the formula for volume						5.MD.5b	6.G.2		
Build composite figures and find the volume						5.MD.5c			
Volume of right rectangular prisms						5.MD.5a	6.G.2	7.G.6	
Volume of triangular prisms								7.G.6	
Volume of pyramids								7.G.6	
Volume of composite figures								7.G.6	
Volume of cones									8.G.9
Volume of cylinders									8.G.9
Volume of spheres									8.G.9
Scale Drawings									
Compute lengths and areas of figures from scale drawings								7.G.1	
Reproduce scale drawings with a different scale								7.G.1	
Transformations, Congruence, and Similarity									
Properties of rotations									8.G.1
Properties of reflections									8.G.1
Properties of translations									8.G.1
Line segments, angles, and parallel lines in transformations									8.G.1a, 8.G.1b, 8.G.1c
Congruent figures based on transformations									8.G.2
Effect of transformations using coordinates									8.G.3
Similar figures based on transformations									8.G.4

Concept/Skill	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Course 1	Course 2	Course 3
Geometry — *continued*									
Pythagorean Theorem									
Proof of the Pythagorean Theorem									8.G.6
Converse of the Pythagorean Theorem									8.G.6
Apply the Pythagorean Theorem to solve real-world and mathematical problems									8.G.7
Distance between two points in the coordinate plane									8.G.8

Approaching the Math Practices

The Standards for Mathematical Practices describe how students should approach math, while the Standards for Mathematical Content identify content students should learn.

Use ***McGraw-Hill My Math*** and ***Glencoe Math*** to provide a consistent instructional approach to the Mathematical Practices. These two programs share a common foundation, language, and format to facilitate students' math development and academic progress.

8 Mathematical Practices

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

When these two sets of standards are fully integrated into a core curriculum, students more effectively build the "habits of mind," needed to succeed in college and career.

1 Make sense of problems and persevere in solving them

What does it mean?

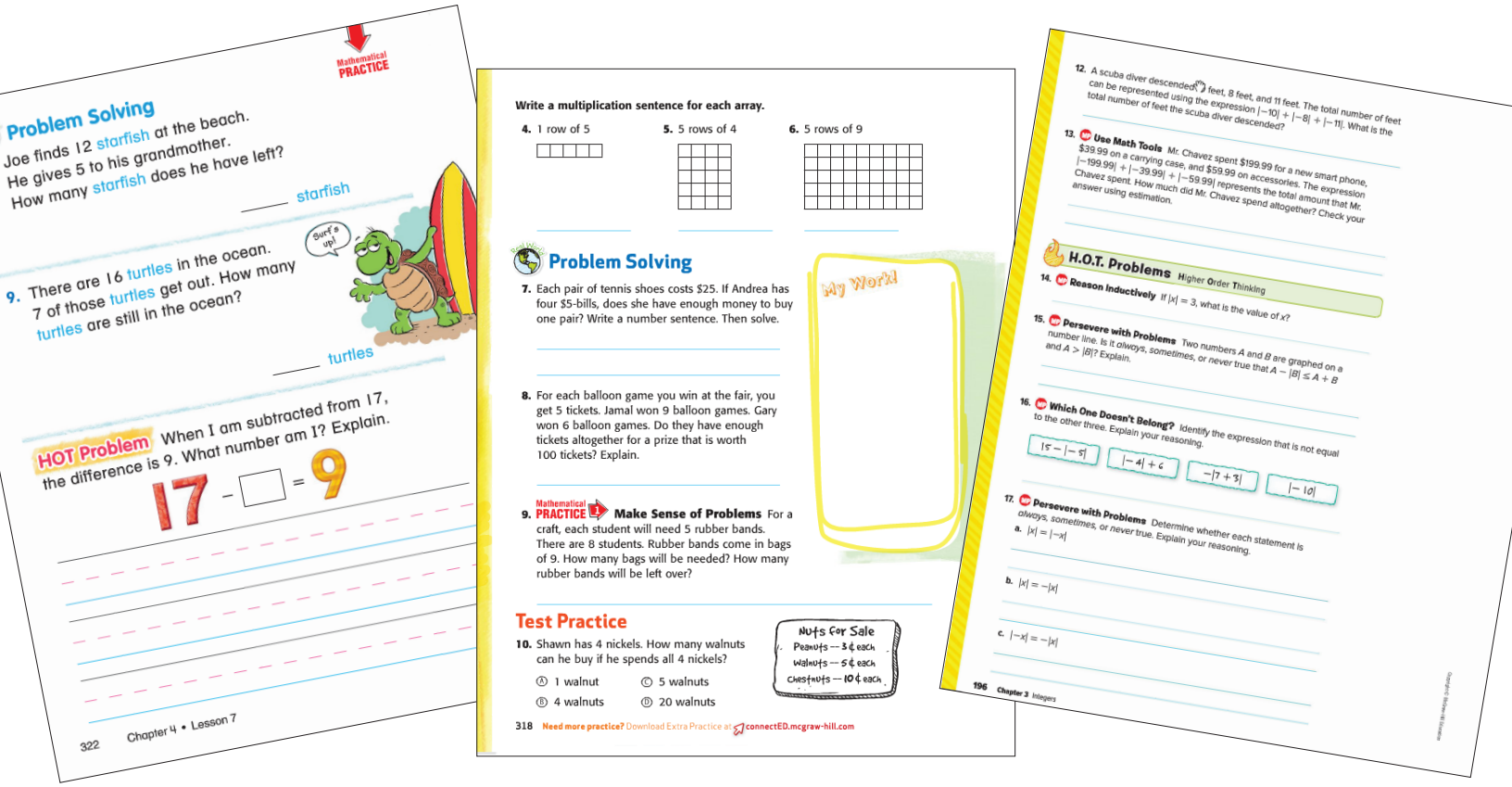
Solving a mathematical problem takes time. Mathematically proficient students use a logical process to make sense of problems, understand that there may be more than one way to solve a problem, and alter the process if needed.

What does it look like?

Students are working in small groups, investigating cases from the Problem-Solving lessons and solving problems that require higher-order thinking. They are using a process that will guide them through each problem and lead them towards a solution. A four-step plan—Understand, Plan, Solve, Check—tracks their progress toward a solution.

What questions do I ask?

- What is the problem? What facts do you know?
- How do the facts relate to each other? Does a picture help describe the problem?
- Is this problem similar to any others you have solved?
- What is your plan for solving the problem?
- What should you do if you get "stuck?"
- Does the answer make sense?
- Is there another way to solve the problem?



Grade 1 H.O.T. Problems, page 322

Grade 3 Make Sense of Problems, page 318

Course 2 H.O.T. Problems, page 196

1 Make sense of problems and persevere in solving them

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons	TE: 29-30, 49-50, 263-264, 383-384	TE: 109-110, 147-148, 529-532	35-40, 261-266, 419-424
Core Lessons: Problem Solving exercises	38, 102, 140, 214, 392, 644	78, 176, 350, 530	90, 264, 276, 628
Problem-Solving Strategy lessons	TE: 283-284, 457-458, 603-604, 669-670	TE: 43-48, TE: 243-248, TE: 379-384, TE: 465-470	41-46, 395-400
H.O.T. Problems	N/A	58, 78, ***322**, 394, 512	78, 194, 360, 532, 668

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Core Lessons	TE: 139-144, 251-256, 339-344	113-118, 153-158, 305-310, 451-456, 831-836	TE: 93-98, 263-268, 429-434, TE: 563-568
Problem-Solving Investigation lessons	41-46, 113-118, 397-402, 735-740, 865-870	179-184, 531-536, 675-680, 831-836	61-66, 233-238, 283-288, 569-574, 813-818
Check for Reasonableness Exercises	148, 162, 548	156, TE: 223-224, 258, 702	254, 662, TE: 809, 860
Keep Trying Exercises	136, 208, 344, 464, 586, 673	250, 308, 454, 602, 677	218, 571, 574
Make a Plan Exercises	268, 374, 452, 554, 714, 768	164, 176, 230, 338, 382,454	180, 414, 518, 572, 680
Make Sense of Problems Exercises	26, 66, ***318**, 400, 610	76, 308, 706, 752	58, 178, 230, 318, 495, 528, 816
Plan Your Solution Exercises	44, 254, 670, 770, 774, 802	102, 332, 370, 454, 732, 784	394, 490, 534, 692

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Core Lessons	71-78	167-173	423-430
Problem-Solving Investigation lessons	55-57, 297-299, 543-545	41-42, 307-309, 753-755	39-41, 217-219, 531-533
H.O.T. Problems			
Persevere with Problems	190, 228, 666	108, ***196**, 474	29, 428, 694

* Shown on previous page.

2 Reason abstractly and quantitatively

What does it mean?

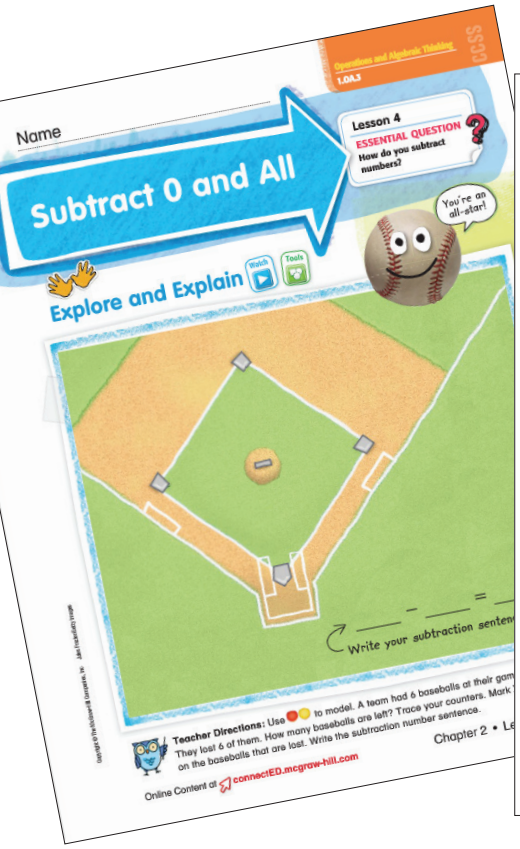
In mathematics, the concrete and abstract complement each other. Students can start with a concrete or real-world context and then represent it with abstract numbers or symbols (decontextualize), find a solution, then refer back to the context to check that the solution makes sense (contextualize).

What does it look like?

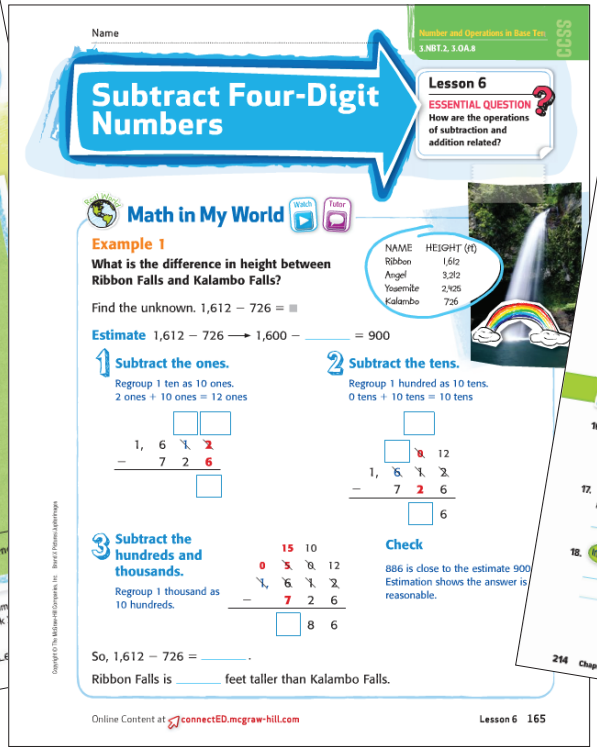
Students are using numbers and writing mathematical number sentences, which evolves into writing expressions, equations, and inequalities in middle grades, to describe real-world contexts and to solve problems. They begin with concrete models to represent numbers and develop an awareness of number sense to determine unknowns.

What questions do I ask?

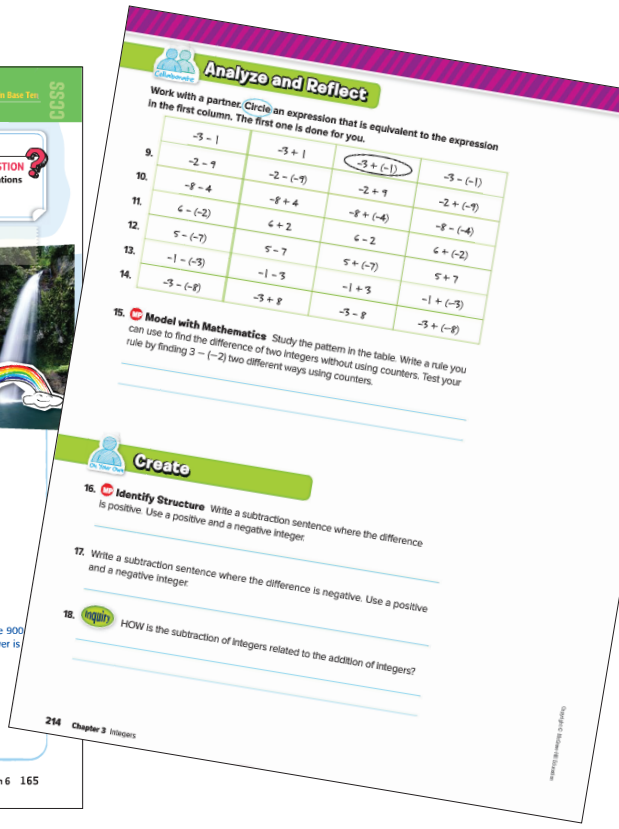
- What math words describe the situation?
- Can you describe the situation using fewer words?
- What operations are suggested?
- What symbols can you use?
- What does the unknown, or variable, represent?
- Does your answer make sense in this problem?
- Does your answer fit the facts given in the problem?



Grade 1 Explore and Explain, page 127



Grade 3 Math in My World, page 165



Course 2 Inquiry Labs, page 214

2 Reason abstractly and quantitatively

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons	TE: 11-12, 29-30, 105-106, 157-158, 623-624	TE: 11-12, 37-38, 69-70, 121-122, ***127**-128, 409-410	127, 129, 145, 296, 413, 510, 615, 645
Core Lessons: Problem-Solving exercises	58, 64, 72, 96, 128, 194, 342	112, 124, 220, 482, 664	138, 498, 548, 674
Foldables™	TE: 7-10, 91-92, 175-178, 255-256, 439-442		411, 481-482, 643-644

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Throughout the text	TE: ***165**-168, 333-336, 519-520, 523-524	118, 229-234, 341-346, TE: 543-548, 720	23-28, 37-42,157-160
Reason Exercises	168, 214, 316, 432, 712	448, 520, 540, 646, 790, 848, 854, TE: 928	230, 364, 692, 720, 838
Stop and Reflect Exercises	154, 206, 322, 514, 580	14, 264, 536, 570, 882, 934	268, 398, 646, 734
Understand/Use Symbols Exercises	176, 260, 454, 700, 702	26, 264, 302, 434, 810, 914	83, 212, 588, 762, 809
Use Algebra Exercises	102, 112, 342, 434, 764	214, 232, 610, 666	204, 218, 276, 282, 592, 750
Use Number Sense Exercises	76, 102, 280, 336, 452	70, 150, 244, 428, 546, 672	102, 128, 306, 414, 496, 586, 628, 828

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Core Lessons	527, 528, 553	132, 472, 642	130-131, 147
Inquiry Labs	210, 660	232,***214**, 366, 434	120
H.O.T. Problems Reason Abstractly	206, 360, 566	354, 15, 101	157, 293, 384

* Shown on previous page.

3 Construct viable arguments and critique the reasoning of others

What does it mean?

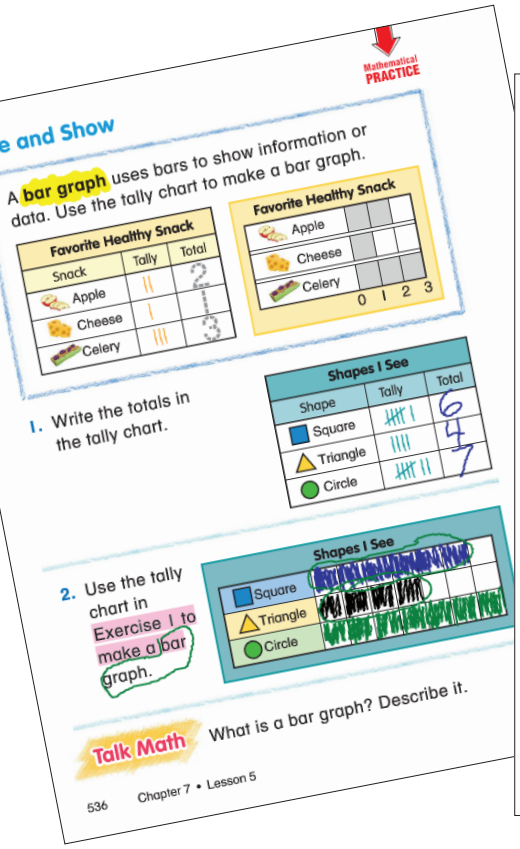
Sound mathematical arguments require a logical progression of statements and reasons. Students can clearly communicate their thoughts and defend them.

What does it look like?

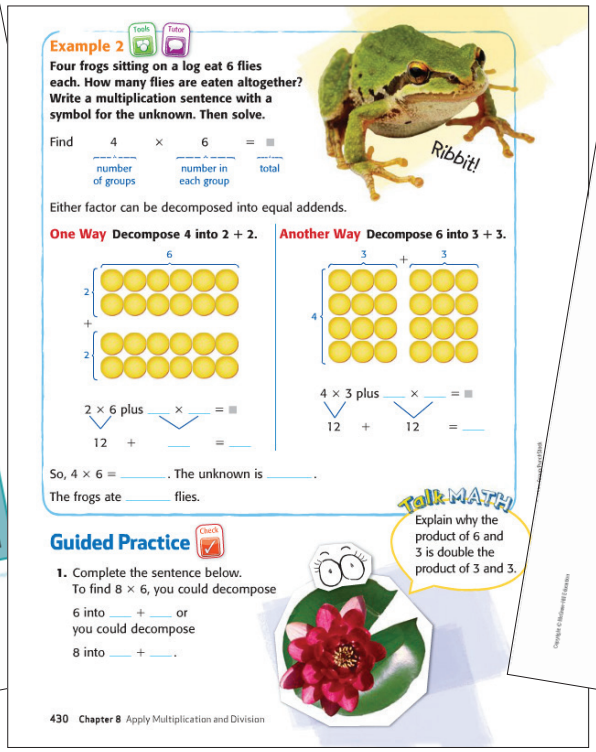
Students are talking and writing about mathematics and sharing their thoughts with others. They are drawing conclusions, making conjectures, explaining their reasoning, justifying their conclusions, and challenging other students' conclusions. In the primary grades, students may refer to concrete or real-world examples to help explain their thinking to others.

What questions do I ask?

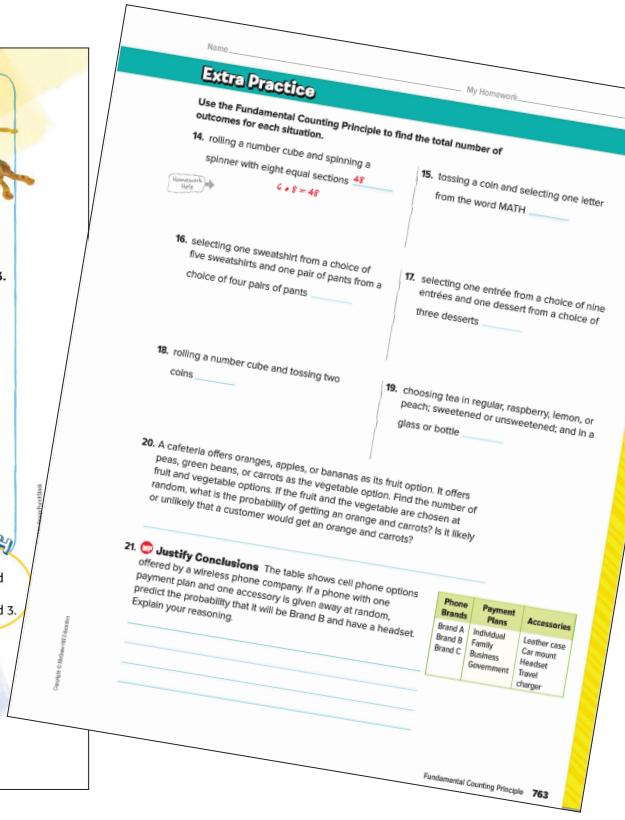
- How did you get that answer?
- Is that always true?
- Why does that work?
- Can you use objects in the classroom to show that your answer is correct?
- Can you give me a "non-example" or a counter-example?
- What conclusion can you draw? What conjecture can you make?
- Does your answer make sense in this problem?
- Is there anything wrong with that argument?



Grade 1 Talk Math, page 536



Grade 3 Talk Math, page 430



Course 2 Justify Conclusions, page 763

3 Construct viable arguments and critique the reasoning of others

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
My Vocabulary Card Activities	TE: 4-10, 88- 90, 252-254, 482-488, 686-692	TE: 4-10, 206-208, 628-634	TE: 104, 478-480, 640-642
Core Lessons	539-501, 629-630	TE: 55-56, 109-110, 191-192, 359-360, 397-398, 459-460, 479-480, 563-564, 667-668	18, 56, 135, 173, 510-11, 531, 653, 740, 772
Problem-Solving Strategy lessons	TE: 501-502, 545-546	43-44, 465-466, 673-674	315-320, 395-400, 677-682
H.O.T. Problems	N/A	170, 356, 362, 572	226, 310, 486, 660, 688, 768
Talk Math	N/A	110, 168, 320, 354, ***536**	36, 172, 230, 658, 704
Write Math	N/A	14, 194, 252, 284	38, 174, 324, 454, 742, 786

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Core Lessons	TE: 29-34, 79-84, 159-164, 429,***430**-434	37-42, TE: 359-364	271-276, TE: 557-562, 713-718
Problem-Solving Investigation lessons	TE: 145-150, 397-402, 469-474	107-112, 255-260, 531-536, TE: 755-760	569-574, 657-662
Draw a Conclusion Exercises	110, 174, 194, 274, 662	28, 313, 494, 652, 746	58, 196, 280, 582, 624
Justify Conclusions Exercises	46, 72, 147, 380, 460, 718	210, 374, 714, 844, 924	124, 222, 258, 562, 622,666
Find the Error Exercises	82, 162, 214, 310, 648	20, 144, 370, 468, 520, 582, 738, 908	32, 122-178, 274, 312
Which One Doesn't Belong? Exercises	444, 530, 668, 808	244, 416, 718, 804	46, 160, 254, 464, 516, 560, 566, 754, 970
Talk About It Exercises	246, 502, 634, 724,792	210, 342, 460, 500, 652, 888	38, 190, 350, 708, 924

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Inquiry Labs	30, 672, 738	64, 101,414	388, 410, 28
H.O.T. Problems			
Find the Error	466, 630, 678	148, 220, 486	86, 186, 416
Which One Doesn't Belong?	530, 556	156, 392	428
Justify Conclusions	262, 350, 630	172, 215-222, 762, ***763**	374, 56, 646

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4 Model with mathematics

What does it mean?

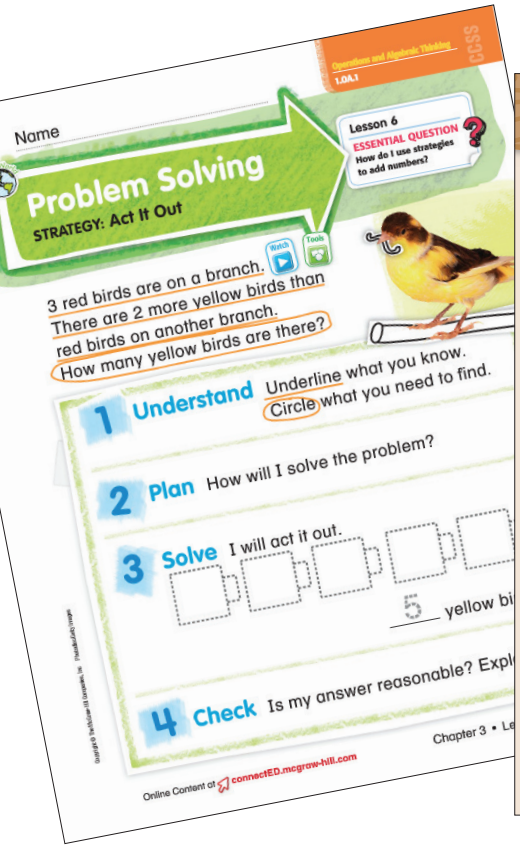
Models link mathematics to problem situations in everyday life. They can be diagrams, drawings, classroom objects, and manipulatives. There are also geometric, graphical, algebraic, tabular, and statistical models. Models can help students explain their thinking or search for patterns.

What does it look like?

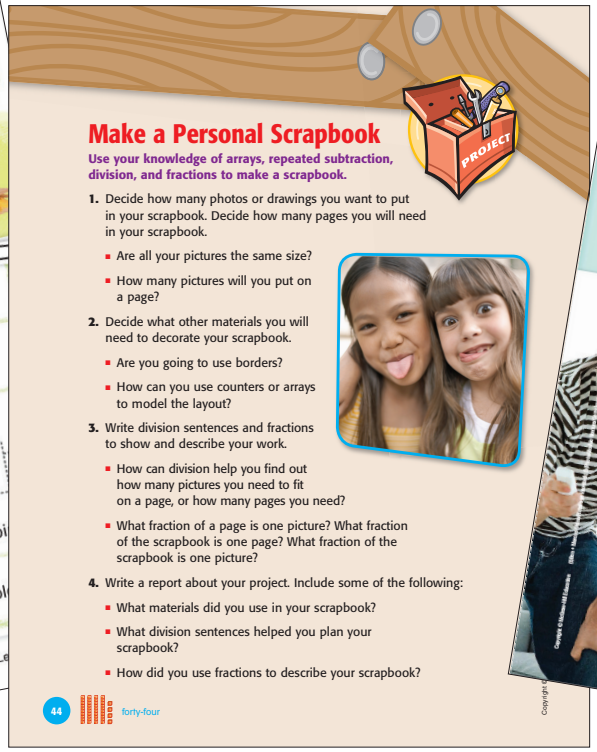
Students are using a variety of models, including physical manipulatives, drawings, charts, tables, graphs, and symbols to solve problems.

What questions do I ask?

- How do you use this math at home?
- When are you going to use this?
- Why is mathematics important in your life?
- How could using another object help you solve this problem in a different way?
- Is it better to use a table or an equation to solve this problem?
- Why might it be better to draw a picture to solve this problem?
- Does your answer make sense?



Grade 1 Problem-Solving Strategy Lessons, page 243



Grade 3 Ch.5 Project-Based Learning, page 44

Course 2 Career Project, page 177

4 Model with mathematics

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons	TE: 35-36, 137-138, 191-192, 257-258	TE: 29-30, 153-154, 217-218, 313-314, 685-686	133B, 223-228, 241-246, 301-306, 463-468
Problem-Solving Strategy lessons	TE: 77-78, 281-282, 713-714	TE: 45-46, ***243**-246, 675-676	41-46, 203-208, 503-508, 561-566, 751-756
Foldables™	TE: 323-324, 381-382	TE: 279-280, 345-346, 507-508	105-106, 293-294, 591-592

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Hands On Lessons	TE: 93-98, 193-198, 765-770, 833-838	209-214, TE: 341-346, TE: 499-504, 887-892	TE:24, 113-118, TE: 481-486, TE: 507-514
Core Lessons: One Way/Another Way	TE: 301-302, 319-320, 365-366, 785-786	167, 261, 543, 613, 669	55, 125, 412, 461, 740
Core Lessons: Real-World Examples	TE: 9-10, 383-384, 449-450, 539-540, 639-640	153, 255, 393, 517, 613, 845	175-176, 178, 227-232, 379-384
Model Math Exercises	90, 98, 198, 380, 440	14, 152, 396, 610, 934	116, 352, 510, 580, 780
Chapter Projects	TE: ***235-236**, 357-358, 421-422	TE: 125-126, TE: 271-272, TE:321-322, TE: 623-624	1-2, 295-296, 471-472, 787-788

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Real-World Links	137, 387, 837	73, 81, 233	15 , 295
Unit Projects	649-650	527-528	103-104
Career Projects	247-248, 791-792	***177**-178, 335-336	161-162, 355-356
Graphic Novels	175, 511, 803	97, 431, 609	169, 503, 585
Model with Mathematics and Multiple Representations Exercises	12, 114, 540, 600	49, 78, 87, 362	120, 249, 428, 706

* Shown on previous page.

5 Use appropriate tools strategically

What does it mean?

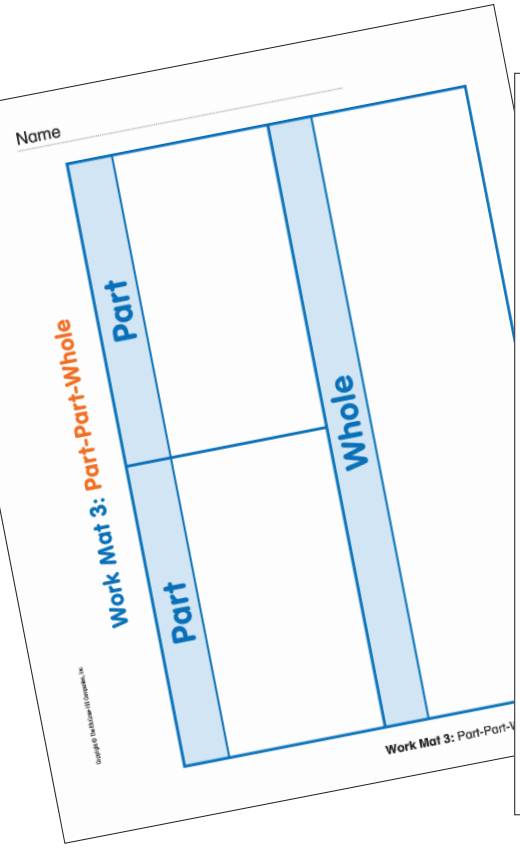
Certain tools, including estimation and virtual tools, are more appropriate than others when solving mathematical problems. Students should understand the benefits and limitations of each tool.

What does it look like?

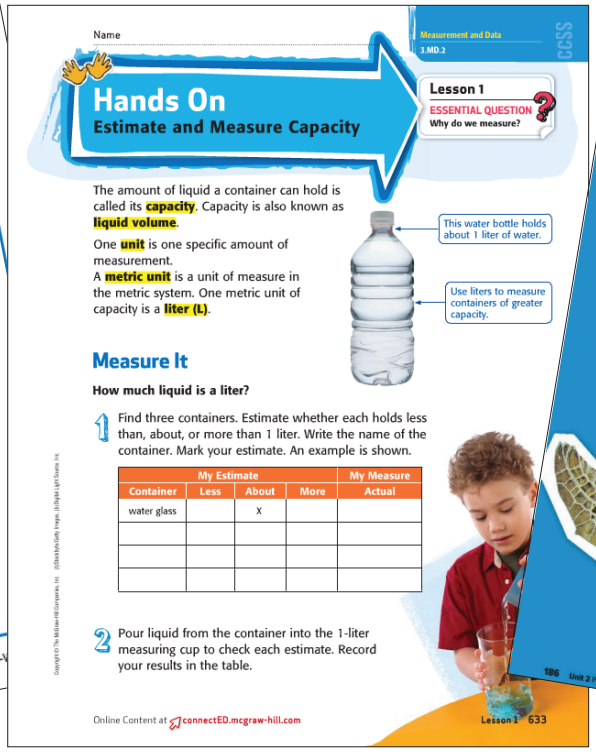
Students are actively making choices in selecting a tool/strategy to solve a problem. Tools should include such items as paper and pencil, physical objects, virtual manipulatives, bar diagrams, and calculators. They should also include such strategies as estimation, mental math, making a spreadsheet, using graphing software, or using the Internet to solve problems.

What questions do I ask?

- What tool would you like to use to solve this problem?
- What are the limitations of using this tool?
- Do you need an exact answer?
- How can you use estimation as a tool?
- Can you solve this mentally?
- Can you find information on the Internet?
- Can you use solve this problem using another tool?
- Would it be helpful to use a virtual manipulative?



Grade 1 Work Mat, page WM3



Grade 3 Hands On, page 633

Course 2 Unit Project Preview, page 186

5 Use appropriate tools strategically

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons	TE: 23-24, 69-70, 191-192, 277-278, 309-310, 339-340, 641-642, 661-662	TE: 17-18, 129-130, 217-218,221-222, 391-392, 403-404	363-368, 419-425, 425-430, 645-650
Work Mats	WM1,WM2,*WM3-WM8	WM1-WM8	WM1-WM8
Digital Dashboard	1A-1D, 249A-249D, 479A-479B, 683A	1A-1F, 99A-99F, 337A-337F, 623A-623C	TE: 139B, 223B, 357B, 619B, 759

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Hands-On Lessons	TE: 153-158, ***633**-638, 645-650	TE: 43-48, TE: 499-504, TE: 561-566	163-168, 323-328, 519-524, 759-764
Core Lessons	TE: 225-230, 613-618, 691-696,703-708	73-78, 197-202, 279-284, 329-334	TE: 429-434, 671-678, TE: 777-782
Use Math Tools/Mental Math Exercises	136, 156, 222, 330, 471, 478, 572	66, 78, 96, 200, 314, 349, 700, 876	134, 262, 332, 358, 360
Digital Dashboard	TE: 235A-235B, 357A-357D, 623A-623D	TE: 125A-125D, TE: 321A-321D, TE: 405A-405D	TE: 71A-71D, TE: 371A-371F, TE: 787A-787F
Work Mats	WM1-WM8	WM1-WM8	WM1-WM8

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Core Lessons	75, 137-144	14, 111-118	81-89, 215
Inquiry Labs	15-18, 97-100, 209-210	7-8, 175-176, 411-414, 563-566	67-70, 141-144, 179-180
Unit Projects	170, 926	***186**, 704	104, 656

* Shown on previous page.

6 Attend to precision

What does it mean?

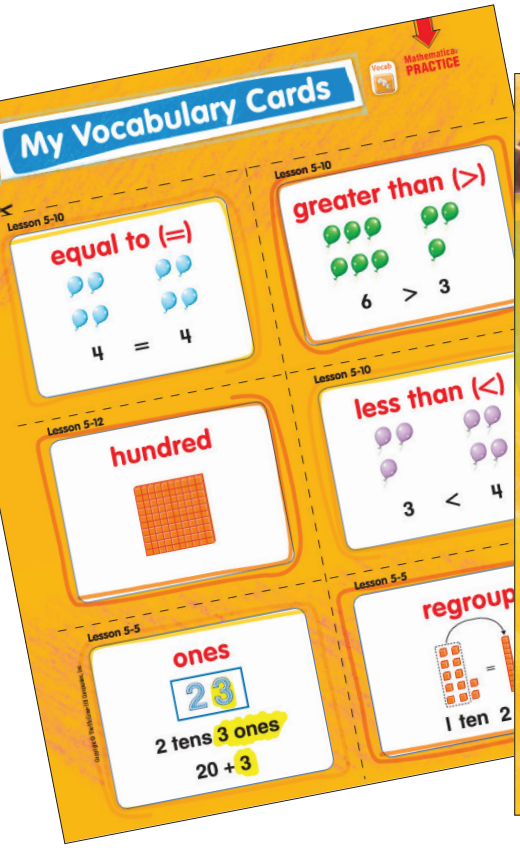
Precision in mathematics is more than calculating efficiently and accurately. It is also the ability to communicate the language of mathematics precisely.

What does it look like?

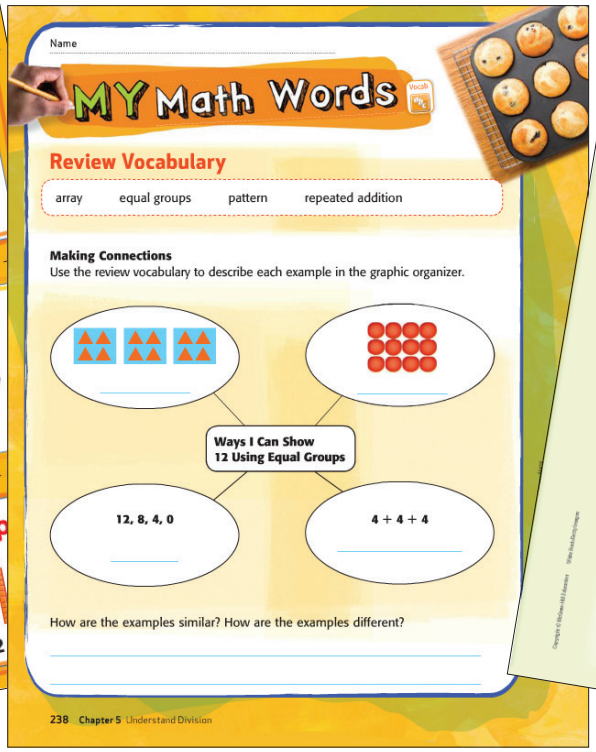
Students are using clear and precise vocabulary in their communications with others. They are identifying the attributes of measurement, labeling answers, specifying units of measure, labeling graphs correctly, defining variables, and using correct math symbols to avoid any miscommunications.

What questions do I ask?

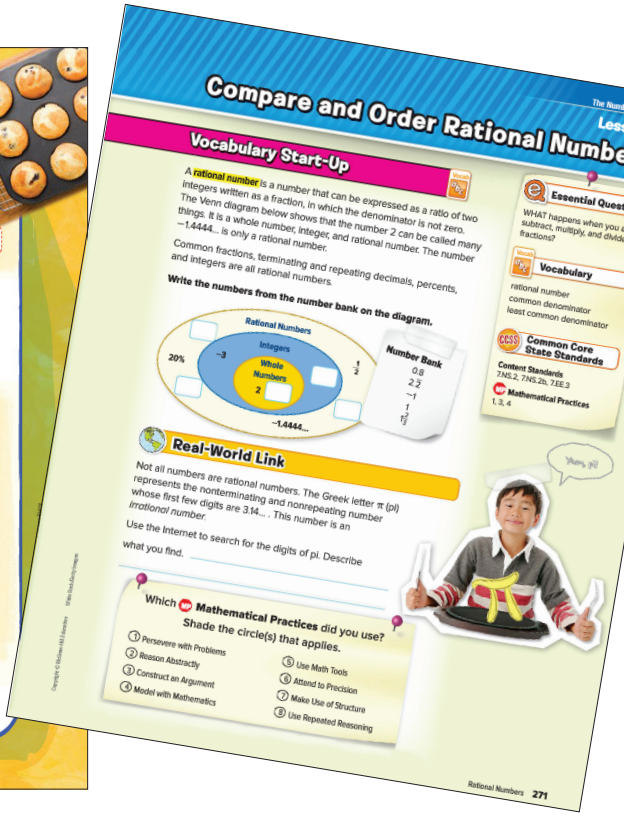
- How can the everyday meaning of a math term help you remember the math meaning?
- Is this term similar to something you already know?
- What does the math symbol mean? How do you know?
- Does your answer make sense? Did you try another method to check you work?
- What does the variable represent?
- Have you checked your answer for the correct labels?
- Have you labeled the graph correctly?
- When should you use that symbol?



Grade 1 My Vocabulary Cards, page 341



Grade 3 My Math Words, page 238



Course 2 Vocabulary Start-Up, page 271

6 Attend to precision

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons	TE: 61-62, 151-152, 403-404, 469-470	23-24, 75-76, 87-88, 153-154, 385-386, 589-590	75-80, 107, 114, 134, 301, 521-582, 637-724
Core Lessons: Fluency Practice	369-370,427-428	93-94, 197-198, 267-268, 331-332	93-94, 151-152, 209-210, 279-280
Core Lessons: Problem Solving Exercises	20, 272, 292, 354, 554	135-136, 183-184, 238, 475-476, 637-638, 683-684	84, 200, 553, 670
My Vocabulary Cards/Vocabulary Check	TE: 88-90, 578-580 / 245 -246, 371-372	TE:102-108, 340,***341**-346, 706-707 / 95-96, 199-200, 333-334	95, 102, 103-104, 153, 218, 522, 587-590, 639-642
Reflect	TE: 167-168, 315-316, 431-432, 573-574, 681-682	TE: 201-202, 437-438, 499-500, 549-550, 621-622	98, 518, 582, 634

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
My Vocabulary Cards	TE: ***238**-244, 564-566, 748-750	57-58, 409-410, 479-482, 865-470	5-8, 75-78, 475-478, 545-548
Building on the Essential Question	214, 432, 788	20, 138, 332, 468, 616	134, 306, 470, 640, 774
Talk About It	94, 266, 596, 754, 766	210, 232, 374, 462, 500, 564	88, 90, 190, 192, 350, 352, 802, 804
Be Precise Exercises	142, 222, 310, 408, 589	284, 522, 648, 726, 892	308, 406, 458, TE: 522, 585-586, 768
Explain to a Friend Exercises	316, 394, 444, 616	48, 376, 422, 616, 746	52, 102, 192, 340, 632

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Vocabulary Start-Up	129, 433, 513	191, ***271**, 613	7, 111, 181
Vocabulary Check	81, 128, 727	179, 253, 603	42, 99, 163
Building on the Essential Question	62, 452, 750	76, 236, 642	132, 600, 644

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7 Look for and make use of structure

What does it mean?

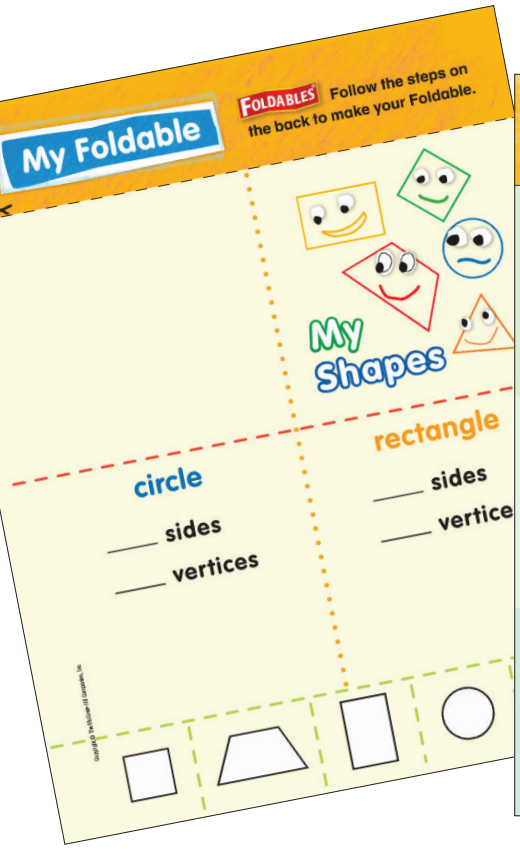
Mathematics is based on a well-defined structure. Mathematically proficient students look for that structure to find easier ways to solve problems.

What does it look like?

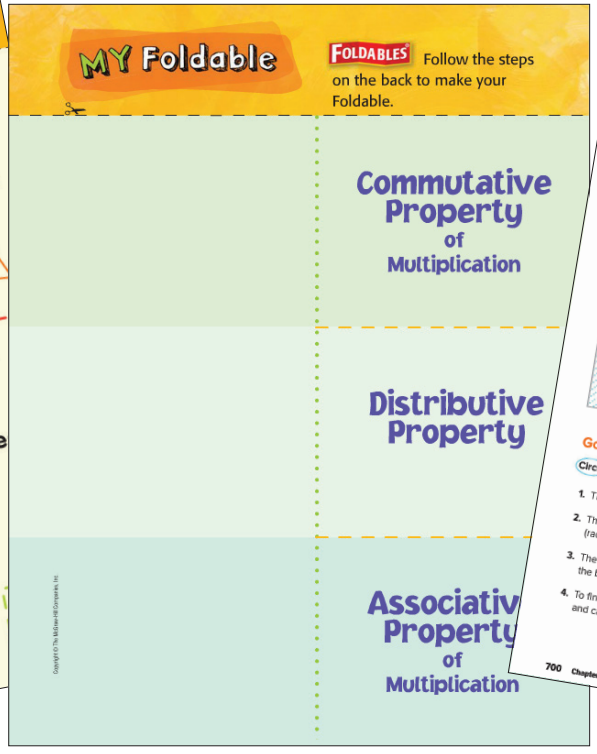
Students are looking for patterns and using properties to help with alternative methods of computing. Students are making use of comparison terms and seeking shortcuts to solutions. They are using graphic organizers and Foldables™ to show examples/non-examples, classify shapes/numbers, and explain the structure of algebraic expressions.

What questions do I ask?

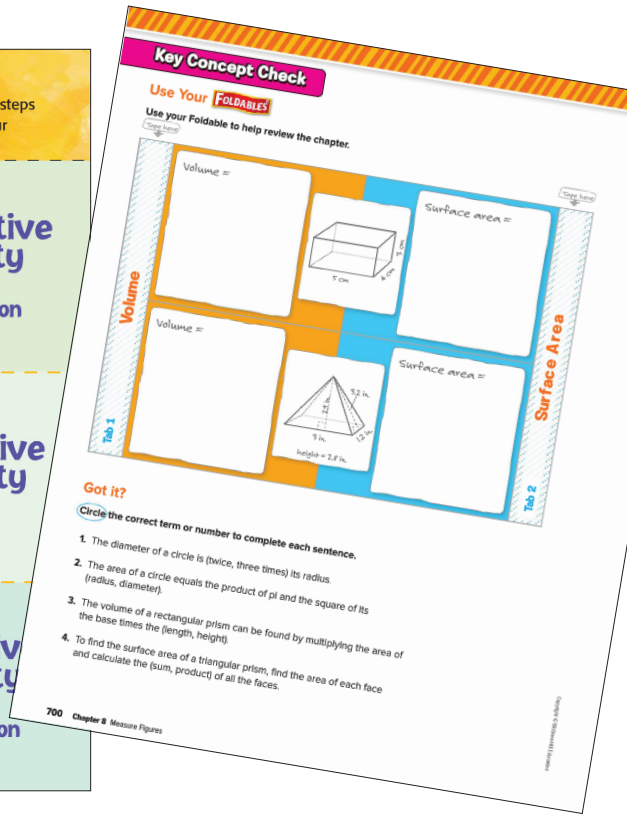
- Can you think of an easier way to find the solution?
- How can using what you already know help you solve this problem?
- How are numerical expressions and algebraic expressions the same? How are they different?
- What do two-dimensional shapes have in common with three-dimensional shapes? How do they differ?
- Why can taking a number apart help you add or subtract?
- How would you use a tally chart to make a bar graph?
- Why does making a table help you solve a problem?



Grade 1 My Foldable, page 633



Grade 3 My Foldable, page 499



Course 2 Foldables, page 700

7 Look for and make use of structure

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons	TE: 119-120, 145-146, 225-226, 331-332, 551-552, 693-694	TE: 115-116, 229-230, 319-320, 447-448, 589-590	69-74, 81-86, 165-170, 177-182, 327-332
Graphic Organizers: My Math Words	88, 172, 436, 686	TE: 102-104, 206-208, 340-342, 442-444, 626-628, 706-708	102, 160, 288, 638, 728
Graphic Organizers: Reflect	TE: 247-248, 529-530, 681-682	TE: 97-98, 271-272, 701-702, 739-740	98, 284, 582, 792
Foldables™	TE: 537-538, 581-582, 619-622	TE: 7-10, 279-280, 343-346, 629-***633**,634	9-10, 527-528, 737-738

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Core Lessons	61-66, 73-78, 295-300, 455-460	61-66, 161-166, 293-298, 405-474	113-118, 119-124, 195-200, 341-346
Graphic Organizers: Reflect	124, 286, 492	188, 270, 320, 764, 860	70, 242, 470, 540, 786
Foldables™	TE: ***499**-500, 827-832	133-134, 411-412, 483-484, 695-696	9-10, 155-156, 479-480, 611-612, 799-800
Identify Structure exercises	298, 374, 504, 796, 838	64, 250, 294-296, 488, 514	84, 266, 340, 496, 770

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Core Lessons	39-46, 485-492, 783-790	215-222, 367, 374, 375-382	277-284
H.O.T. Problems Identify Structure	64, 270, 350	208, 268, 372	12, 226, 542
Graphic Organizers	44, 160, 788	182, 271, 349	94, 116, 580, 636
Foldables™	82, 506, 728, 856	92, 604, ***700**, 850	100, 256, 652

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8 Look for and express regularity in repeated reasoning

What does it mean?

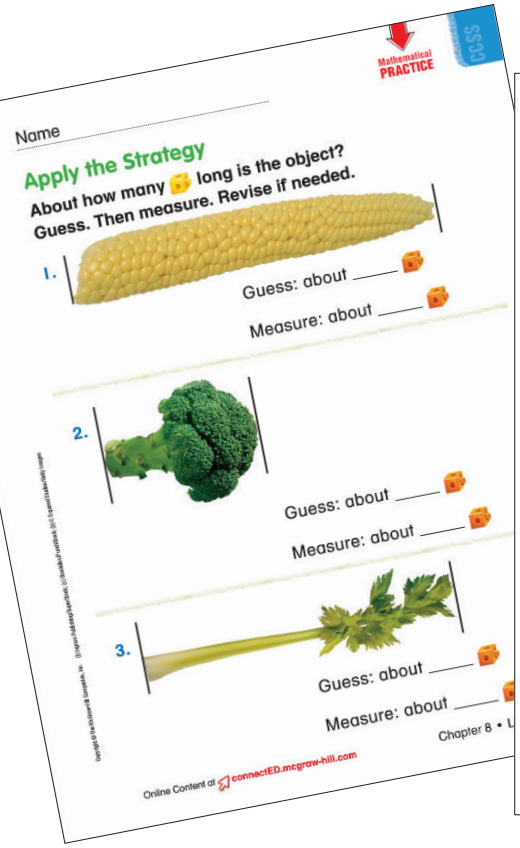
Recognizing a pattern can lead to results more quickly and efficiently.

What does it look like?

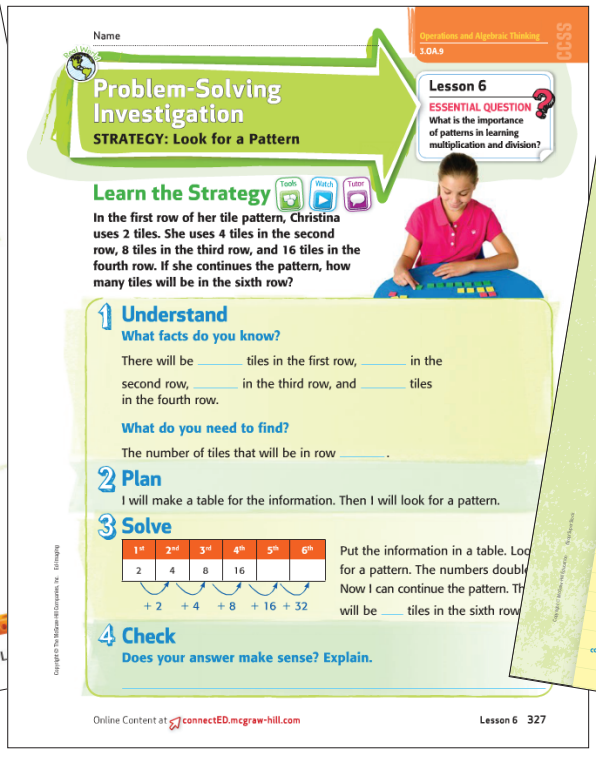
Students are looking for shortcuts or generalizations. They look for patterns when representing and counting numbers. Repetitive experiences in describing their thinking helps students to make connections between what they know and new situations which require similar thinking.

What questions do I ask?

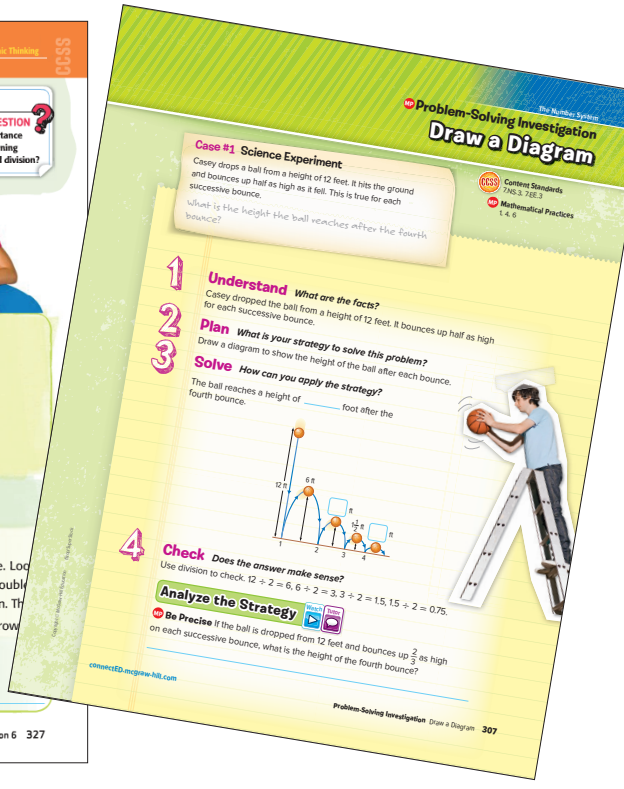
- Do you see a pattern?
- Have you seen this pattern before?
- Is this pattern like one you've seen before? How is it different?
- What does this problem remind you of?
- Is this problem similar to something you already know?
- What would happen if you...?



Grade 1 Apply the Strategy, page 583



Grade 3 Problem-Solving Investigation, page 327



Course 2 Problem-Solving Investigation, page 225

8 Look for and express regularity in repeated reasoning

Where can I find it? (See pages referenced below for samples.)

Primary: *McGraw-Hill My Math*	Grade K	Grade 1	Grade 2
Core Lessons: See and Show/On My Own	TE: 111-112, 363-364, 421-422, 443-444, 521-522, 693-694 / 45-46, 159-160, 309-310, 511-512, 631-632	TE: 29-30, 115-116 / 283-284, 449-450	24-25, 108-109, 698-699
Core Lessons: Modeling the Math	69B, 273B, 521B, 705B	TE: 127B, 347B, 635B	TE: 139B, 229B, 765B
Core Lessons	TE: 185-185, 307-308, 565-566	TE: 185-185, 249-250, 255-256, 319-320, 647-648	23-28, 69-74, 101-156, 327-332, 363-368, 771-776
Problem-Solving Strategy lessons	359-360, 417-418, 545-546, 605-606	TE: 381-382, ***583**-584	119-124, 315-320, 395-400, 605-610
H.O.T. Problems	N/A	182, 432, 684, 690, 696	84, 226, 310, 360, 486
Core Lessons: Fluency Practice	TE: 369-370,427-428	TE: 93-94, 267-268, 331-332	93-94, 209-210, 279-280

Intermediate: *McGraw-Hill My Math*	Grade 3	Grade 4	Grade 5
Core Lessons	TE: 87-92, 257-262, 409-414, 569-574, 665-670	67-72, 197-202, 247-252, 329-334, 407-474	99-104, 175-180, 411-416, 513-518
Problem-Solving Investigation lessons	TE: ***327**-332, 469-474, 671-676	255-260, 431-436, 675-680, 831-836	417-422, 813-818, 973-978
Look for a Pattern exercises	32, 76, 329, 342, 776	72, 144, 316, 416, 500, 834	40, 92, 110, 422, 450, 509, 815

Middle School: *Glencoe Math*	Course 1	Course 2	Course 3
Core Lessons	379-386, 587-594	263-270, 357-364, 613-620	7-14, 181-188
Problem-Solving Investigations	211-213	225-227	405-407
H.O.T. Problems			
Identify Repeated Reasoning	12, 678	***225**, 238, 619	13, 20, 405, 459

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MA14 M 02842 08/16