Adventist Education
A JOURNEY TO EXCELLENCE

Elementary Mathematics

2012

ELEMENTARY MATHEMATICS STANDARDS
IN SEVENTH-DAY ADVENTIST SCHOOLS

OFFICE OF EDUCATION | North American Division Seventh-day Adventist Church

Common Core State Standards for Mathematical Practice

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.

STANDARDS CODING

The standards have been coded so that educators can easily refer to them in their curriculum, instruction, and assessment practices. The coding system that precedes each standard begins with the content area abbreviation in letters; all are identified with M—Math (M.K.NO.1). The second part of the code refers to the grade level (M.K.NO.1). The third part of the code refers to the particular math domain (M.K.NO.1), with NO standing for Numbers and Operations. The fourth part of the code refers to a particular skill within the math domain (M.K.NO.1). The coding system that follows each standard is the Common Core State Standards for Mathematics (CCSSM) that aligns with the NAD standard. Where no CCSSM is noted, there is no corresponding CCSSM.

CREDITS

The following resources were referenced in developing *Elementary Mathematics Standards for Seventh-day Adventist Schools*: a sampling of state standards, the National Council of Teachers of Mathematics (NCTM), NAD Curriculum Guide for Mathematics, Common Core State Standards for Mathematics (CCSSM), and The Core of Adventist Education Curriculum.

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2012 ELEMENTARY MATHEMATICS — NUMBERS AND OPERATIONS

GRADE	CONTENT	SKILLS	GO MATH!/BIG IDEAS MATH LESSON CORRELATION
Essential Question: What do numbers represent and how do they help us order and compare things in God's world?		**Big Idea:** Numbers represent an amount that helps us order and compare things in God's world.	
K	**Numbers**	**K.NO.1** Know number names and count up to 100 by ones and tens (K.CC.1,2) **K.NO.2** Read and write numbers 0 to 20 (K.CC.3) **K.NO.3** Count to tell the number of objects and be able to represent as a written numeral (K.CC.3,4,5) **K.NO.4** Compare number of objects between groups; compare written numerals between 1 and 10 (K.CC.6,7)	
	Place Value	**K.NO.5** Begin to organize objects up to 19 into groups of tens and ones (K.NBT.1)	
1	**Numbers**	**1.NO.1** Count, read, write, and understand numbers up to 120 (1.NBT.1) **1.NO.2** Count by twos, fives, and twenty-fives up to 100	**Chapter** 6.1, 6.2, 6.9, 6.10
	Place Value	**1.NO.3** Understand and compare two-digit numbers organized as groups of tens and ones (1.NBT.2,3) **1.NO.4** Understand and mentally find ten more or ten less than a given two-digit number (1.NBT.5) **1.NO.5** Add and subtract multiples of ten within 100 using models or drawings (1.NBT.4,6)	**Chapter** 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 7.1, 7.2, 7.3, 7.4 **Chapter** 7.5 **Chapter** 8.2, 8.3, 8.4, 8.5 8.6, 8.7, 8.8, 8.9
2	**Numbers**	**2.NO.1** Read, write, and understand numbers up to 1000 using standard, number name, and expanded forms (2.NBT.3) **2.NO.2** Count by ones, fives, tens, and hundreds up to 1000 (2.NBT.2)	**Chapter** 1.3, 1.4, 1.5, 1.6, 1.7, 2.6, 2.7, 2.8 **Chapter** 1.8, 1.9
	Place Value	**2.NO.3** Understand and compare three-digit numbers organized as groups of hundreds, tens, and ones; use place value to understand addition and subtraction (2.NBT.1,4,9) **2.NO.4** Mentally add and subtract multiples of ten and multiples of a hundred within 1000 (2.NBT.8) **2.NO.5** Add and subtract within 1000 with regrouping using models or drawings (2.NBT.7)	**Chapter** 2.1, 2.2, 2.3, 2.4, 2.5, 2.11, 2.12, 4.4, 5.3 **Chapter** 2.9, 2.10 **Chapter** 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10
Assessments		Math Interviews; Checklists; Written Assessments; Student Demonstrations; Models and Drawings	
Essential Question: What does numerical reasoning involve and what does it demonstrate about God's world?		**Big Idea:** Numerical reasoning with whole numbers and fractions demonstrates dependability and order in God's world.	
3	**Place Value**	**3.NO.1** Use place value understanding of up to five-digit whole numbers to round to the nearest 10, 100, and 1,000 (3.NBT.1)	**Chapter** 1.2, 1.3, 1.8
	Addition/ Subtraction	**3.NO.2** Add and subtract up to four digits with and without regrouping (3.NBT.2)	**Chapter** 1.4, 1.5, 1.6, 1.7, 1.9, 1.10, 1.11
	Fractions	**3.NO.3** Understand, express, and order fractions between zero and one, simple mixed numbers, and whole numbers as fractions (3.NF.1,2) **3.NO.4** Understand and create equivalent fractions with denominators 2,3,4,6,8 using fraction models (3.NF.3)	**Chapter** 8.1, 8.2, 8.3, 8.4, 8.5, 8.7, 8.8, 8.9 **Chapter** 8.6, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7
4	**Place Value**	**4.NO.1** Use place value understanding of multi-digit whole numbers to round to any place up to millions (4.NBT.1,3) **4.NO.2** Read, write, compare, and understand whole numbers using standard, number name, and expanded forms (4.NBT.2)	**Chapter** 1.1, 1.5, 1.4 **Chapter** 1.2, 1.3
	Basic Operations	**4.NO.3** Add and subtract multi-digit whole numbers; multiply up to 4 digits X 1 digit and 2 digits X 2 digits; divide using a one-digit divisor and up to a four-digit dividend with and without a remainder (4.NBT.4,5,6)	**Chapter** 1.6, 1.7, 1.8, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.10, 2.11, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11
	Fractions/ Decimals	**4.NO.4** Understand, express, and order fractions with different numerators and denominators; numerically express equivalent fractions (4.NF.1,2) **4.NO.5** Add and subtract fractions and mixed numbers with common denominators; multiply fractions by whole numbers (4.NF.3,4) **4.NO.6** Understand, compare, and use decimal notation for fractions with denominators of 10 or 100 (4.NF.5,6,7)	**Chapter** 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8 **Chapter** 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9 7.10, 8. 1, 8.2, 8.3, 8.4, 8.5 **Chapter** 9.1, 9.2, 9.3, 9.4, 9.6, 9.7
5	**Place Value**	**5.NO.1** Read, write, and compare decimals to the thousandths place using standard, number name, and expanded forms; round decimals to any place (5.NBT.3,4) **5.NO.2** Explain patterns in relation to the powers of 10 (5.NBT.1,2)	**Chapter** 3.2, 3.3, 3.4, **Chapter** 1.1, 1.2, 1.4, 1.5, 3.1, 4.1, 4.3, 4.4, 4.7, 4.8, 5.1, 5.4, 5.6,
	Basic Operations	**5.NO.3** Multiply multi-digit whole numbers; divide using a two-digit divisor and up to a four-digit dividend; add, subtract, multiply, and divide decimals up to the hundredths place (5.NBT.5,6,7)	**Chapter** 1.3, 1.6, 1.7, 1.8, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8, 2.9, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8
	Fractions	**5.NO.4** Add and subtract fractions and mixed numbers with unlike denominators; multiply a fraction or a whole number by a fraction; divide fractions by whole numbers (5.NF.1,2,3,4,5,6,7) **5.NO.5** Simplify fractions to lowest terms	**Chapter** 2.7, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 8.3, 8.1, 8.2, 8.4, 8.5
Assessments		Journal Entries; Class Discussions; Written Assessments; Open-ended Projects and Problems; Oral Reports; Virtual Models	

2012 ELEMENTARY MATHEMATICS — NUMBERS AND OPERATIONS CONTINUED

Essential Question: How can we use God's gift of the number system to understand the world and all created things?	**Big Idea:** The use of the number system to help us understand the world and all created things is a gift from God.

6	**Rational Numbers**	**6.NO.1** Add, subtract, multiply, and divide multi-digit whole numbers and decimals (6.NS.2,3) **6.NO.2** Find common factors and multiples (6.NS.4); understand and apply prime factorization and exponents (6.EE.1) **6.NO.3** Understand, compare, and order integers; apply integer principles within the four basic operations; graph ordered pairs on a coordinate plane (6.NS.5,6,7,8) **6.NO.4** Divide fractions by fractions; express a remainder as a fraction or decimal; convert within fractions, decimals, and percents; convert fractions to terminating, repeating, or rounded decimals (6.NS.1)	**Chapter** 1.1, 1.6, 1.7, 1.8, 1.9/**Section** 2.8, 3.1, 3.2, 3.3, 3.4, 3.5 **Chapter** 1.2, 1.3, 1.4, 1.5, 2.3, 2.4, 7.1, 7.2/**Section** 1.1, 1.4 **Chapter** 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10/**Topic** 1, 2, 3, 4, **Section** 4.3 **Chapter** 2.5, 2.6, 2.7, 2.8, 2.9, 2.10/ **Section** 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7
	Ratios/Proportions/ Percentages	**6.NO.5** Understand and apply ratio concepts and use ratio reasoning to solve problems (6.RP.1,2,3)	**Chapter** 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6/ **Section** 4.1, 4.2, 4.4, 4.5, 5.1, 5.2, 5.3
7	**Rational Numbers**	**7.NO.1** Apply and extend the four basic operations to rational numbers (7.NS.1,2,3) **7.NO.2** Understand and apply properties of operations (7.NS.2) **7.NO.3** Perform operations with numbers expressed in scientific notation, exponents, and square root	**Section** 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.3b **Section** 1.4, 1.5, 2.1, 2.3 2.3b
	Ratios/Proportions/ Percentages	**7.NO.4** Analyze and apply proportional relationships (7.RP.1,2,3)	**Section** 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.7b, 3.8, 4.1, 4.2, 4.3, 4.4
8	**Rational/Irrational Numbers**	**8.NO.1** Informally understand and use number sense for irrational numbers (8.NS.1,2)	**Section** 6.3, 6.3b, 6.4
Assessments		Journal Entries; Class Discussions; Written Assessments; Open-ended Projects and Problems; Oral Reports; Virtual Models	

2012 MATHEMATICS — OPERATIONS AND ALGEBRAIC THINKING

GRADE	CONTENT	SKILLS	GO MATH!/BIG IDEAS MATH LESSON CORRELATION
Essential Question: How can objects be represented to help us understand the variety of God's creation?		**Big Idea:** A single collection of objects can always be represented in more than one way to help us understand the variety of God's creation.	
K	**Addition**	**K.OAT.1** Understand addition as putting together and adding to (K.OA.1,2) **K.OAT.2** Represent and solve addition word problems within 10; fluently add within 5 (K.OA.3,4,5)	
	Subtraction	**K.OAT.3** Understand subtraction as taking apart and taking from (K.OA.1,2) **K.OAT.4** Represent and solve subtraction word problems within 10; fluently subtract within 5 (K.OA.3,4,5)	
1	**Addition/ Subtraction**	**1.OAT.1** Understand, represent, compare, and apply addition and subtraction properties to word problems within 20; fluently add and subtract within 10 (1.OA.1,2,3,4,5,6); add up to three whole numbers within 20 (1.OA.2); add two-digit and one-digit numbers with regrouping within 100 using models or drawings (1.NBT.4) **1.OAT.2** Work with addition and subtraction equations including unknowns (1.OA.7,8)	**Chapter** 1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.6, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.7, 5.8, 5.10, 8.1, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9 **Chapter** 5.5, 5.6, 5.9
2	**Addition/ Subtraction**	**2.OAT.1** Understand, represent, compare, and apply addition and subtraction properties within 100 to solve one- and two- step word problems (2.OA.1) (2.NBT.5); add up to four 2-digit numbers (2.NBT.6) **2.OAT.2** Memorize and fluently add and subtract within 20 (2.OA.2)	**Chapter** 3.8, 3.9, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11 **Chapter** 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
	Multiplication	**2.OAT.3** Determine if a group of objects within 20 represents an odd or even number (2.OA.3) **2.OAT.4** Write an equation to represent the total as a sum of equal addends with up to 5 groups of 5 objects (2.OA.3,4)	**Chapter** 1.1, 1.2 **Chapter** 1.1, 1.2 , 3.10, 3.11
Assessments		Math Interviews; Checklists; Models and Drawings; Written Assessments	

2012 MATHEMATICS — OPERATIONS AND ALGEBRAIC THINKING CONTINUED

Essential Question: How do numerical patterns link us to an infinite God?		**Big Idea:** Exploring numerical patterns through problem solving links us to an infinite God by demonstrating His order and constancy.	
3	**Multiplication/ Division**	**3.OAT.1** Understand the meaning and relationship of multiplication and division (3.OA.1,2,6) **3.OAT.2** Memorize and fluently multiply and divide using the multiplication facts through 10 (3.OA.3,7); mentally multiply by 10 and 100 (3.NBT.3) **3.OAT.3** Represent and determine the unknown whole number in an equation (3.OA.4) **3.OAT.4** Apply properties of operations (commutative, associative, distributive) to multiply and divide (3.OA.5)	**Chapter** 3.1, 3.2, 6.2, 6.3, 6.4, 6.7 **Chapter** 3.3, 3.5, 4.1, 4.2, 4.3, 4.5, 4.8, 4.9, 6.1, 6.5, 6.6, 6.8, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9; 5.3, 5.4, 5.5 **Chapter** 5.2, 7.8 **Chapter** 3.6, 3.7, 4.4, 4.6, 6.9
	Problem Solving	**3.OAT.5** Solve two-step word problems using the four basic operations and estimate to check (3.OA.8) **3.OAT.6** Begin to understand and apply the standard order of operations (3.OA.8)	**Chapter** 1.12, 3.4, 4.10, 7.10, 7.11 **Chapter** 1.12, 3.4, 4.10, 7.10, 7.11
	Patterns	**3.OAT.7** Identify arithmetic patterns using properties of operations (3.OA.9)	**Chapter** 1.1, 4.7, 5.1
4	**Multiplication**	**4.OAT.1** Memorize and fluently multiply using the multiplication facts through 12	
	Problem Solving	**4.OAT.2** Solve multi-step word problems including remainder interpretation and estimate to check; create equations with a letter for the unknown (4.OA.1,2,3)	**Chapter** 2.1, 2.2, 2.9, 2.12, 3.7, 4.3, 4.12
	Factors	**4.OAT.3** Find all factor pairs for a whole number within 100; identify whole numbers as prime or composite (4.OA.4) **4.OAT.4** Understand the basic concepts of least common multiple (LCM) and greatest common factor (GCF)	**Chapter** 5.1, 5.2, 5.3, 5.4, 5.5
	Patterns	**4.OAT.5** Generate and analyze number and shape patterns (4.OA.5)	**Chapter** 5.6, 10.7
5	**Numerical Expressions**	**5.OAT.1** Write and interpret simple numerical expressions using parentheses, brackets, and braces (5.OA.1,2)	**Chapter** 1.10, 1.11, 1.12
	Factors	**5.OAT.2** Determine the least common multiple (LCM) and greatest common factor (GCF) of two numbers	
	Patterns	**5.OAT.3** Generate, identify the relationship, and graph ordered pairs using numerical patterns with two given rules (5.OA.3)	**Chapter** 9.5, 9.6, 9.7
Assessments		Written Assessments; Journal Entries; Class Discussions; Oral Reports; Visual and Virtual Models	
Essential Question: What do mathematical principles demonstrate about God?		**Big Idea:** The consistency of mathematical principles continues to demonstrate the orderliness and precision of God.	
6	**Expressions and Equations**	**6.OAT.1** Apply basic operations to algebraic expressions; solve and explain one-variable equations and inequalities; identify parts of an expression using mathematical terms (6.EE.1,2,3,4,5,6,7,8) **6.OAT.2** Represent, graph, and analyze quantitative relationships between dependent and independent variables (6.EE.9)	**Chapter** 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 10.1, 10.3, 10.5, 10.6, 10.7, 11.3, 11.4, 11.6/**Section** 1.1, 1.2, 1.3, 1.4, 1.5, 6.1, 6.2, 6.3, 6.4, 7.1, 7.2, 7.3, 7.4, 8.1, 8.2, 8.3, 8.4 **Chapter** 9.1, 9.2, 9.3, 9.4, 9.5/ **Section** 9.1, 9.2, 9.3, 9.4, 9.5
7	**Expressions/ Equations/ Inequalities**	**7.OAT.1** Use properties of operations to generate equivalent expressions (7.EE.1,2) **7.OAT.2** Solve real-life and mathematical problems using numerical and algebraic expressions and equations (7.EE.3,4) **7.OAT.3** Represent, graph, analyze, and generalize patterns, ratios, and inequalities using symbolic rules	**Section** 2.5b, 4.3 **Section** 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.6b, 4.1, 4.2, 4.3, 4.4
8	**Expressions/ Equations/ Inequalities**	**8.OAT.1** Work with radicals and integer exponents (8.E.E.1,2,3,4) **28.OAT.2** Understand and graph the connections between proportional relationships, lines, slope, and linear equations (8.EE.5,6) **8.OAT.3** Analyze and solve linear equations and pairs of simultaneous linear equations (8.EE.7,8)	**Section** 6.1, 6.2, 6.3, 6.3b, 6.5, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.6b **Section** 1.5, 2.2, 2.2b, 2.3, 2.4, 3.1, 3.2, 3.4, 4.4b **Section** 1.1, 1.2, 1.3, 1.3b, 1.4, 2.1, 2.5, 2.6, 2.7, 3.5, 8.1, 8.2, 8.3, 8.4
	Functions	**8.OAT.4** Define, evaluate, compare, and use functions to model relationships between quantities (8.F.1,2,3,4,5)	**Section** 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.4b
Assessments		Open-ended Projects and Problems; Written Assessments; Journal Entries; Class Discussions; Oral Reports; Visual and Virtual Models	

2012 ELEMENTARY MATHEMATICS — MEASUREMENT

GRADE	CONTENT	SKILLS	GO MATH!/BIG IDEAS MATH LESSON CORRELATION
Essential Question: How does measurement help us fulfill God's plan?		**Big Idea:** Measurement allows us to be accurate and orderly as God planned.	
K	**Measurement**	**K.M.1** Describe and compare measurable attributes of objects, such as length or weight (K.MD.1,2) **K.M.2** Understand that thermometers are used to measure temperature	
	Time	**K.M.3** Order a sequence of events by time (e.g., before, after, morning, night, seasons) **K.M.4** Understand that clocks and calendars are used to measure time	
1	**Length**	**1.M.1** Measure, order, compare, and express lengths of objects by counting non-standard units (1.MD.1,2)	**Chapter** 9.1, 9.2, 9.3, 9.4, 9.5
	Time	**1.M.2** Tell and write time in hours and half-hours using analog and digital clocks (1.MD.3)	**Chapter** 9.6, 9.7, 9.8, 9.9
	Money	**1.M.3** Identify pennies, nickels, dimes, quarters, half-dollars, and dollar bills	
2	**Length**	**2.M.1** Measure and estimate lengths in standard units (e.g., inches, feet, centimeters, meters) using appropriate tools (e.g., rulers, yardsticks, meter sticks) (2.MD.1,3) **2.M.2** Measure, compare, and describe the length of an object using two units of measurement (e.g, inches and yards, centimeters and meters) (2.MD.2) **2.M.3** Measure to compare the length of two objects using a standard length unit (2.MD.4) **2.M.4** Use addition and subtraction equations within 100 to solve word problems involving lengths of the same unit (2.MD.5) **2.M.5** Represent whole numbers as equally spaced lengths from 0 on a number line; represent sums and differences within 100 on a number line (2.MD.6)	**Chapter** 8.1, 8.2, 8.3, 8.4, 8.7, 8.8, 9.1, 9.2, 9.3, 9.6 **Chapter** 8.6, 9.5 **Chapter** 9.7 **Chapter** 8.5, 9.4 **Chapter** 8.5, 9.4
	Time	**2.M.6** Tell and write time to the nearest five minutes from analog and digital clocks using a.m. and p.m. (2.MD.7)	**Chapter** 7.8, 7.9,7.10, 7.11
	Money	**2.M.7** Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ (2.MD.8)	**Chapter** 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
Assessments		Math Interviews; Checklists; Graphs; Measurement Tools, Clocks, Money; Written Assessments	
Essential Question: What do the attributes of measurement reveal about God?		**Big Idea:** The attributes of measurement reveal God's accuracy, dependability, and precision.	
3	**Measurement**	**3.M.1** Solve problems involving measurement and estimation of intervals of time (nearest minute), liquid volume (liter), and masses of objects (gram, kilogram) (3.MD.1,2) **3.M.2** Read and understand a calendar using day, week, month, and year **3.M.3** Explain and measure temperature using Celsius and Fahrenheit scales	**Chapter** 10.1, 10.2, 10.3, 10.4, 10.5, 10.7, 10.8, 10.9
	Geometric Measurement	**3.M.4** Understand concepts of area and its measurement by counting unit squares (cm^2, m^2, in^2, ft^2); apply multiplication and addition to area (3.MD.5,6,7) **3.M.5** Solve real-world and mathematical problems recognizing area and perimeter of plane figures; distinguish between linear and area measurements (3.MD.8)	**Chapter** 11.4, 11.5, 11.6, 11.7, 11.8 **Chapter** 11.1, 11.2, 11.3, 11.9, 11.10
	Money	**3.M.6** Construct various equivalent combinations of money; add and subtract money amounts	

2012 ELEMENTARY MATHEMATICS — MEASUREMENT CONTINUED

GRADE	CONTENT	SKILLS	GO MATH!/BIG IDEAS MATH LESSON CORRELATION
4	Measurement/ Conversion	**4.M.1** Solve problems involving measurement (time, volume, mass, money, simple fractions, decimals, distance) (4.MD.2) **4.M.2** Convert measurement from a larger unit to a smaller unit (km, m, cm; kg, g; lb, oz; L, mL; hr, min, sec) (4.MD.1) **4.M.3** Apply area and perimeter formulas (4.MD.3) **4.M.4** Read a Fahrenheit and Celsius thermometer knowing the significance of 32°F, 212°F, 0°C, and 100°C	**Chapter** 9.5, 12.7, 12.9, 12.10 **Chapter** 12.1, 12.2, 12.3, 12.4, 12.6, 12.7, 12.8, 12.11 **Chapter** 13.1, 13.2, 13.3, 13.4,13.5
	Angles	**4.M.5** Recognize angles as geometric shapes that are formed wherever two rays share a common end point; understand concepts of angle measurement and measure angles in whole-number degrees (4.MD.5,6,7)	**Chapter** 11.1, 11.2, 11.3, 11.4, 11.5
	Money	**4.M.6** Know how to count up to make change	
5	Conversion	**5.M.1** Convert like units within a given measurement system (e.g., cm to m, m to cm) (5.MD.1)	**Chapter** 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7
	Volume	**5.M.2** Understand concepts of volume measurement in cubic measure (cm^3, in^3, ft^3) and apply to multiplication and addition (5.MD.3,4,5)	**Chapter** 11.5, 11.6, 11.7, 11.8, 11.9, 11.10, 11.11, 11.12
	Geometric Measurement	**5.M.3** Know the relationship between radius and diameter	
Assessments		Written Assessments; Journal Entries; Class Discussions; Open-ended Projects and Problems; Visual and Virtual Models; Diagrams	

Essential Question: How can we show honor to God by being faithful and accurate in our measurements?

Big Idea: God is concerned that we be accurate and orderly in our use of weights, measures, and numbers.

6	Elapsed Time	**6.M.1** Calculate elapsed time	
7	Measurement Systems	**7.M.1** Convert between a variety of standard/metric measures (e.g., in to cm, cm to in)	
8	Mathematical Precision	**8.M.1** Use appropriate significant digits in calculations	
Assessments		Open-ended Projects and Problems; Written Assessments; Journal Entries; Class Discussions; Oral Reports; Visual and Virtual Models	

2012 ELEMENTARY MATHEMATICS — GEOMETRY

GRADE	CONTENT	SKILLS	GO MATH!/BIG IDEAS MATH LESSON CORRELATION
Essential Question: How do shapes and their parts help us appreciate God's creation?		**Big Idea:** Shapes and their parts help us appreciate the beauty and order in everything God has designed.	
K	**Shapes**	**K.GEO.1** Identify, describe, analyze, and compare two- and three-dimensional shapes (regardless of size or orientation) by size, color, and shape; describe relative positions of objects (e.g., above, beside, behind, nearer, farther) (K.G.1,2,3,4) **K.GEO.2** Create two- and three-dimensional shapes by building or drawing; compose simple shapes to form larger shapes (K.G.5,6)	
1	**Shapes**	**1.GEO.1** Describe, build, and draw shapes with defining attributes (1.G.1) **1.GEO.2** Compose two- and three- dimensional shapes to form composite or new shapes (1.G.2)	**Chapter** 11.1, 11.5, 12.1, 12.2 **Chapter**, 11.2, 11.3, 11.4, 12.3, 12.4, 12.5, 12.6, 12.7
	Fractions	**1.GEO.3** Partition circles and rectangles into two and four equal parts; describe the whole and its parts using the words halves, fourths, quarters, half of, quarter of and third of (1.G.3)	**Chapter** 12.8, 12.9, 12.10
2	**Shapes**	**2.GEO.1** Recognize and draw two- and three- dimensional shapes having specified attributes (2.G.1)	**Chapter** 11.1, 11.2, 11.3, 11.4, 11.5
	Area	**2.GEO.2** Partition a rectangle into rows and columns of same-size squares and count to find the total number of squares (2.G.2)	**Chapter** 11.6
	Fractions	**2.GEO.3** Partition circles and rectangles into two, three, and four equal parts; describe the whole and its parts using the words halves, thirds, half of, third of, etc.; understand that equal parts need not have the same shape (2.G.3)	**Chapter** 11.7, 11.8, 11.9, 11.10
Assessments		Math Interviews; Checklists; Models and Drawings; Written Assessments; Art Projects	
Essential Question: What does geometry reveal about God?		**Big Idea:** God is revealed as the Master Designer when geometry is used as a means of describing the attributes of the physical world.	
3	**Shapes**	**3.GEO.1** Sort and classify shapes to compare and contrast attributes (3.G.1,2)	**Chapter** 12.1, 12.2, 12.3, 12.4, 12.5,. 12.6, 12.7, 12.8, 12.9
	Fractions	**3.GEO.2** Partition shapes into equal areas and express as a fraction (3.G.2)	**Chapter** 12.9
4	**Lines/Angles**	**4.GEO.1** Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines (4.G.1) **4.GEO.2** Classify figures with perpendicular and parallel lines, and angles of a specified size (4.G.2) **4.GEO.3** Recognize and draw lines of symmetry with two-dimensional figures (4.G.3)	**Chapter** 10.1, 10.3 **Chapter** 10.2, 10.4 **Chapter** 10.5, 10.6
5	**Graphs**	**5.GEO.1** Graph points in the first quadrant of the coordinate plane to solve real-world and mathematical problems (5.G.1,2)	**Chapter** 9.2, 9.3, 9.4
	Sides/Angles	**5.GEO.2** Classify two-dimensional figures into categories based on their properties of sides and angles (5.G.3,4)	**Chapter** 11.1, 11.2, 11.3, 11.4
Assessments		Written Assessments; Journal Entries; Class Discussions; Open-ended Projects and Problems; Visual and Virtual Models	
Essential Question: How does the study of geometrical principles help us to better understand God's creation?		**Big Idea:** Study of geometrical principles results in a greater understanding of the complexity of God's creation.	
6	**Area/Volume**	**6.GEO.1** Solve real-world and mathematical problems involving area, surface area, and volume (6.G.1,2,3,4)	**Chapter** 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7/**Section** 6.4, 7.5, 7.6, 7.6b, **Topic** 4
7	**Figures**	**7.GEO.1** Draw, construct, and describe geometrical figures and identify the relationships between them (7.G.1,2,3)	**Section** 5.1, 5.2, 5.3, 5.4, 5.4b, 5.5, 5.6, 5.7, 6.1, **Topic** 2
	Geometrical Measurements	**7.GEO.2** Solve real-world and mathematical problems involving angle measure, perimeter, area, surface area, and volume (7.G.4,5,6)	**Section** 6.2, 6.2b, 6.3, 6.4, 6.5, 6.6, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, **Topic** 1
8	**Figures**	**8.GEO.1** Understand congruence and similarity using various mediums including geometric software (8.G.1,2,3,4,5) **8.GEO.2** Understand and apply the Pythagorean Theorem (8.G.6,7,8)	**Topic 1, Section** 5.1, 5.2, 5.3, 5.4, 5.5 **Section** 6.2, 6.5
	Volume	**8.GEO.3** Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres (8.G.9)	**Topic** 2
Assessments		Open-ended Projects and Problems; Written Assessments; Journal Entries; Class Discussions; Oral Reports; Visual and Virtual Models	

2012 MATHEMATICS — DATA ANALYSIS, STATISTICS, AND PROBABILITY

GRADE	CONTENT	SKILLS	GO MATH!/BIG IDEAS MATH LESSON CORRELATION
Essential Question: How can we quantify our findings in a way that pleases God?		**Big Idea:** God has at various times commanded men to count, measure, and record their findings.	
K	**Data**	**K.DSP.1** Classify objects into given categories; count the number of objects in each category and sort the categories by count up to 10 (K.MD.3)	
1	**Data**	**1.DSP.1** Organize, represent, compare, and interpret data with up to three categories (1.MD.4)	**Chapter** 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7
2	**Data**	**2.DSP.1** Generate measurement data by measuring lengths of several objects to the nearest whole unit; show the measurements by making a line plot (2.MD.9) **2.DSP.2** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories; solve simple addition, subtraction, and comparison problems using information in a bar graph (2.MD.10)	**Chapter** 8.9 **Chapter** 10.1, 10.2, 10.3, 10.4, 10.5, 10.6
Assessments		Math Interviews; Graphs; Written Assessments	
3	**Data**	**3.DSP.1** Draw and interpret scaled picture and bar graphs to represent a data set (3.MD.3) **3.DSP.2** Measure length using rulers marked with halves and fourths of an inch and the nearest whole centimeter; show data by making a line plot (3.MD.4)	**Chapter** 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 **Chapter** 2.7
4	**Data**	**4.DSP.1** Solve addition and subtraction problems using a line plot to display a data set of measurement in fractions of a unit (halves, fourths, and eighths) (4.MD.4)	**Chapter** 10.6, 12.5
5	**Data**	**5.DSP.1** Use basic operations to solve problems using a line plot to display a data set of measurement in fractions of a unit (halves, fourths, and eighths) (5.MD.2) **5.DSP.2** Find the mean, median, mode, and range of a given set of data	**Chapter** 9.1
Assessments		Written Assessments; Journal Entries; Class Discussions; Diagrams; Virtual Models	
6	**Statistics and Probability**	**6.DSP.1** Develop understanding of statistical variability (6.SP.1,2,3) **6.DSP.2** Summarize and describe distributions (6.SP.4,5)	**Chapter** 12.1, 12.6, 13.1, 13.4, 13.6, 13.7, 13.8/**Section** 5.4, 5.5, 5.6, 5.6b **Chapter** 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 13.1, 13.2, 13.3, 13.4, 13.5/**Section** 5.4, 5.5, 5.6, 5.6b
7	**Statistics and Probability**	**7.DSP.1** Use random sampling to draw inferences about a population (7.SP.1,2) **7.DSP.2** Draw informal comparative inferences about two populations (7.SP.3,4) **7.DSP.3** Investigate chance processes and develop, use, and evaluate probability models (7.SP.5,6,7,8)	**Section** 8.1, 8.2, 8.3, 8.4, 8.4b **Section** 8.4b **Section** 9.1, 9.2, 9.3, 9.4
8	**Statistics and Probability**	**8.DSP.1** Investigate patterns of association in bivariate data (8.SP.1,2,3,4)	**Section** 2.1, 7.1, 7.2, 7.3, 7.3b, 7.4
Assessments		Open-ended Projects and Problems; Written Assessments; Journal Entries; Class Discussions; Oral Reports; Visual and Virtual Models	