Math 6, 4ed — Lesson Plan Overview

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 1: Number Systems |
| 1 | 1 | 1–3 | 1–3b | Additional Materials* Bible
 | Topic: Whole Number Place ValueSkills: expressing numbers in multiple forms, rounding numbers, comparing numbersBWS: Knowledge |
| 2 | 2 | 4–5 | 4–5b |  | Topic: Adding Whole NumbersSkills: applying addition strategies, adding whole numbers, estimating a sum |
| 3 | 3 | 6–8 | 6–8a | Assessments* Chapter 1 Quiz 1
 | Topic: Subtracting Whole NumbersSkills: subtracting whole numbers, estimating a difference by rounding |
| 4 | 4 | 9–11 | 9–11a | Teacher Resources* 1 Decimal Number Lines

Additional Materials* Bible
 | Topic: Decimal Place ValueSkills: expressing decimals in multiple forms, comparing and ordering decimals, rounding decimalsBWS: Knowledge |
| 5 | 5 | 12–13 | 12–13b |  | Topic: Adding & Subtracting DecimalsSkills: applying addition properties to decimals, adding and subtracting decimals, estimating sums and differences |
| 6 | 6 | 14–15 | 14–15b | Teacher Resources* 2 Part-Whole Models

Assessments* Chapter 1 Quiz 2
 | Topic: Solving ProblemsSkills: using a part-whole model to solve word problems, solving multistep word problems |
| 7 | 7 | 16–17 | 16–17b | Teacher Resources* 3 Positive & Negative Number Line
 | Topic: Positive & Negative NumbersSkills: comparing and ordering positive and negative numbers, adding positive and negative numbers using a number lineBWS: Knowledge |
| 8 | 8 | 18–19 | 18–19b | Teacher Resources* 4 Roman Numerals
* 5 Roman Numeral Sequences
 | Topic: Roman NumeralsSkills: reading and writing Roman numerals, completing a sequence of Roman numerals |
| 9 | 9 | 20–21 | 20–21b | Teacher Resources* 6 Number Patterns
* 7 Patterns
 | Topic: PatternsSkills: using logic to identify number patterns, using a pattern to solve a problemBWS: Knowledge |
| 10 | 10 | 22–23 | 22–23b | Teacher Resources* 2 Part-Whole Models
 | Topic: Chapter Review |
| 11 | 11 | 24–26 | 24–26 | Teacher Resources* 8 Cumulative Review Answer Sheet
 | Topic: Test & Cumulative Review |
| Chapter 2: Multiplying by a Whole Number |
| 12 | 12 | 27–29 | 27–29b | Teacher Resources* 9 Applying Properties

Additional Materials* colored pencils: red and green
 | Topic: MultiplicationSkills: identifying the greatest common factor and the least common multiple, applying properties of multiplication to numbers and variablesBWS: Modeling |
| 13 | 13 | 30–31 | 30–31b |  | Topic: Multiples of 10Skills: multiplying multiples of 10, applying the Distributive Property of Multiplication over Addition |
| 14 | 14 | 32–33 | 32–33b | Teacher Resources* 10 Powers of 10

Additional Materials* graph paper

Assessments* Chapter 2 Quiz 1
 | Topic: ExponentsSkills: writing the values for 1² to 12², writing the expanded form of a number using exponentsBWS: Modeling |
| 15 | 15 | 34–35 | 34–35b |  | Topic: 1- & 2-Digit MultipliersSkills: multiplying a whole number by a 1- or 2-digit multiplier, estimating a product by rounding |
| 16 | 16 | 36–37 | 36–37b |  | Topic: Multiplying DecimalsSkills: multiplying a decimal by a 1- or 2-digit multiplier, solving decimal word problemsBWS: Modeling |
| 17 | 17 | 38–39 | 38–39b | Assessments* Chapter 2 Quiz 2
 | Topic: 3-Digit MultipliersSkills: multiplying by a 3-digit multiplier, applying strategies to multiply mentally |
| 18 | 18 | 40–41 | 40–41b | Teacher Resources* 11 Graph Paper
* 12 Perfect Squares & Square Roots

Additional Materials* calculators (optional)
 | Topic: Squares & Square RootsSkills: writing the first 20 perfect squares, writing the first 20 square roots, using the Pythagorean theoremBWS: Modeling |
| 19 | 19 | 42–43 | 42–43b | Teacher Resources* 13 Pictures of Multiplication
 | Topic: Chapter Review |
| 20 | 20 | 44–46 | 44–46 | Teacher Resources* 8 Cumulative Review Answer Sheet
 | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 3: Dividing by a Whole Number |
| 21 | 21 | 47–49 | 47–49b | Additional Materials* Bible
 | Topic: DivisionSkills: writing related equations, dividing to find a 2- or 3-digit quotientBWS: Service  |
| 22 | 22 | 50–51 | 50–51b | Teacher Resources* 14 Short Form of Division
 | Topic: Multiples of 10Skills: divisibility rules, dividing multiples of 10 by using mental math, dividing by a 2-digit multiple of 10, estimating a quotient |
| 23 | 23 | 52–53 | 52–53b | Assessments* Chapter 3 Quiz 1
 | Topic: 2-Digit DivisorsSkills: estimating a quotient, dividing by a 2-digit divisorBWS: Service |
| 24 | 24 | 54–55 | 54–55b |  | Topic: Dividing a Decimal by a Whole NumberSkills: dividing a decimal by a 1-digit whole number, annexing a 0 to rename a decimal, estimating a quotient, expressing a fraction as an equivalent decimal |
| 25 | 25 | 56–57 | 56–57b |  | Topic: Dividing a Decimal by 2-Digit DivisorsSkills: determining an average or a unit rate, dividing a decimal by a 2-digit whole number, expressing a fraction as an equivalent decimalBWS: Service |
| 26 | 26 | 58–59 | 58–59b |  | Topic: Dividing by a Power of 10Skills: dividing by a power of 10, estimating and solving division word problems, dividing a whole number or decimal by a 3-digit divisor |
| 27 | 27 | 60–61 | 60–61b | Assessments* Chapter 3 Quiz 2
 | Topic: Order of OperationsSkills: using the order of operations to simplify an expression, completing an expression to make an equation true |
| 28 | 28 | 62–63 | 62–63b | Teacher Resources* 15 Ticket in the Door
* 16 Multistep Problems

Additional Materials* Bible
 | Topic: Multistep ProblemsSkills: solving multistep problems using the order of operationsBWS: Service |
| 29 | 29 | 64–65 | 64–65b |  | Topic: Chapter Review |
| 30 | 30 | 66–68 | 66–68 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
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| Chapter 4: Fraction Theory |
| 31 | 31 | 69–71 | 69–71b |  | Topic: Greatest Common FactorSkills: determining the greatest common factor, applying the GCF to problem-solving situationsBWS: Design  |
| 32 | 32 | 72–73 | 72–73b |  | Topic: Least Common MultipleSkills: determining the least common multiple, applying the LCM to problem-solving situations |
| 33 | 33 | 74–75 | 74–75b | Additional Materials* inch ruler (eighths)
 | Topic: Proper FractionsSkills: writing a fraction, completing a fraction model |
| 34 | 34 | 76–77 | 76–77b | Assessments* Chapter 4 Quiz 1
 | Topic: Improper Fractions & Mixed NumbersSkills: renaming improper fractions and mixed numbers |
| 35 | 35 | 78–79 | 78–79b | Additional Materials* blank sheets of paper
 | Topic: Equivalent FractionsSkills: renaming fractions to higher or lower termsBWS: Design |
| 36 | 36 | 80–81 | 80–81b |  | Topic: Comparing & Ordering FractionsSkills: comparing and ordering fractions and mixed numbers |
| 37 | 37 | 82–83 | 82–83b | Assessments* Chapter 4 Quiz 2
 | Topic: More Comparing FractionsSkills: using strategies to compare and order fractions |
| 38 | 38 | 84–85 | 84–85b | Teacher Resources* 17 Percent Circle

Additional Materials* blank sheets of paper
 | Topic: Fractions & PercentsSkills: writing a percent as a fraction and a fraction as a percent |
| 39 | 39 | 86–87 | 86–87b |  | Topic: Chapter ReviewBWS: Design |
| 40 | 40 | 88–89 | 88–89 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
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| Chapter 5: Adding & Subtracting Fractions |
| 41 | 41 | 90,92–93 | 90–93b | Teacher Resources* 18 Fraction Number Lines
 | Topic: Estimating Sums & DifferencesSkills: identifying fractions equivalent to 1 and to ½, estimating sums and differences of mixed numbers and fractions by rounding |
| 42 | 42 | 91,94–95 | 94–95b |  | Topic: Adding & Subtracting Like FractionsSkills: adding and subtracting fractions, applying addition properties to fractionsBWS: Knowledge |
| 43 | 43 | 96–97 | 96–97b |  | Topic: Adding & Subtracting Related FractionsSkills: performing operations with unlike but related denominators, solving fraction word problems |
| 44 | 44 | 98–99 | 98–99b | Teacher Resources* 19 Trees
* 20 Unlike Denominators

Assessments* Chapter 5 Quiz 1
 | Topic: Adding & Subtracting Unlike FractionsSkills: performing operations with unlike and unrelated denominators, multiplying unlike denominators to find a common denominatorBWS: Knowledge |
| 45 | 45 | 100–101 | 100–101b |  | Topic: More Fractions & Mixed NumbersSkills: solving problems with 3 addends, solving problems by using the least common denominator |
| 46 | 46 | 102–3 | 102–3b | Teacher Resources* 21 Guess & Check
 | Topic: Guess & CheckSkills: using the guess-and-check strategyBWS: Knowledge |
| 47 | 47 | 104–5 | 104–5b |  | Topic: Chapter ReviewBWS: Knowledge |
| 48 | 48 | 106–8 | 106–8 |  | Topic: Test & Cumulative Review |
| 49 | 49 | 91,109–10 | 109–10a | Teacher Resources* 22 UV Skin Damage
* 23 Electromagnetic Spectrum, UV Rays & SPF
* 24 UV and Me Basics
* 25 Engineering Design Process

Additional Materials* See Lesson 49 list.
 | Topic: STEM: UV and MeSkills: defining a problem, creating a model, calculating UV rays based on UPF |
| 50 | 50 | 109–10 | 110b–c | Teacher Resources* 25 Engineering Design Process

Additional Materials* See Lesson 50 list.
 | Topic: STEM: UV and MeSkills: devising a scale, collecting dataBWS: Knowledge |
| 51 | 51 | 109–10 | 110d–e | Teacher Resources* 26 STEM Rubric: UV and Me

Additional Materials* See Lesson 51 list.
 | Topic: STEM: UV and MeSkills: designing, constructing, presenting, and assessing a UV-protective clothing prototype; improving a designBWS: Knowledge |
| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| Chapter 6: Plane Figure Geometry |
| 52 | 52 | 111–13 | 111–13b | Teacher Resources* 27 Coordinate Plane
* 28 Coordinate Planes

Additional Materials* string
* card stock
 | Topic: Basic Geometric FiguresSkills: identifying and naming points, lines, and planes; graphing and identifying points on a coordinate planeBWS: Design |
| 53 | 53 | 114–15 | 114–15b | Teacher Resources* 28 Coordinate Planes

Additional Materials* rulers
* small rectangular poster
 | Topic: Types of LinesSkills: graphing points of a coordinate plane to form intersecting or parallel lines, using variables to represent coordinates on a coordinate plane |
| 54 | 54 | 116–17 | 116–17b | Teacher Resources* 29 Angles

Additional Materials* chalk or markers
* blank sheets of paper
* protractors
 | Topic: Classifying & Measuring AnglesSkills: naming angles and rays, classifying and measuring angles |
| 55 | 55 | 118–19 | 118–19b | Teacher Resources * 30 Supplementary Angles
* 31 Complementary Angles
* 32 Complementary & Supplementary Angles

Additional Materials* protractors

Assessments* Chapter 6 Quiz 1
 | Topic: Angle RelationshipsSkills: finding the unknown measure of an angle in a pair of supplementary or complementary angles |
| 56 | 56 | 120–21 | 120–21b | Teacher Resources* 27 Coordinate Plane
* 28 Coordinate Planes

Additional Materials* toothpicks or craft sticks
* rulers
 | Topic: PolygonsSkills: identifying and naming line segments, distinguishing regular and irregular polygons, graphing points on a coordinate plane |
| 57 | 57 | 122–23 | 122–23b | Teacher Resources* 33 Triangles

Additional Materials* scissors
* protractors
* rulers
 | Topic: TrianglesSkills: finding the unknown measure of an angle in a triangle, classifying triangles by their angles and by their sides |
| 58 | 58 | 124–25 | 124–25b | Teacher Resources* 34 Hierarchy of Quadrilaterals
* 35 Quadrilaterals
* 36 Polygon Angle Measure

Additional Materials* protractors
* rulers
 | Topic: QuadrilateralsSkills: classifying quadrilaterals and stating the sum of their angles, finding the unknown measure of an angle in a quadrilateralBWS: Design |

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| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| 59 | 59 | 126–27 | 126–27b | Teacher Resources* 37 Congruent & Similar Polygons

Additional Materials* construction paper
* protractors
* rulers
* tracing paper
* graph paper
 | Topic: Congruent & Similar FiguresSkills: identifying and drawing congruent and similar polygons, writing a ratio for corresponding sides in a pair of polygons |
| 60 | 60 | 128–29 | 128–29b | Teacher Resources* 38 Transformations
* 39 Block Letters

Additional Materials* construction paper
* notebook paper
 | Topic: Transformations & SymmetrySkills: demonstrating a translation, reflection, and rotationBWS: Design |
| 61 | 61 | 130–31 | 130–31b | Additional Materials* protractors
* rulers
* blank sheets of paper

Assessments* Chapter 6 Quiz 2
 | Topic: CirclesSkills: identifying the parts of a circle, measuring central angles; making a circle graph to represent given data |
| 62 | 62 | 132–33 | 132–33b | Teacher Resources* 40 Polyhedrons

Additional Materials* set of 3-dimensional figures
* 3 × 5 cards
* transparent tape
 | Topic: 3-Dimensional FiguresSkills: constructing and classifying 3-dimensional figures |
| 63 | 63 | 134–35 | 134–35b | Teacher Resources* 28 Coordinate Planes
* 32 Complementary & Supplementary Angles
* 33 Triangles
* 35 Quadrilaterals
* 38 Transformations

Additional Materials* protractors
* rulers
 | Topic: Chapter Review |
| 64 | 64 | 136–38 | 136–38 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
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| Chapter 7: Multiplying Fractions & Decimals |
| 65 | 65 | 139–41 | 139–41b | Teacher Resources* 41 Fraction Paper Folding

Additional Materials* counters
* blank sheets of paper
 | Topic: Multiplying FractionsSkills: multiplying a whole number and a fraction, multiplying to find a fraction of a whole number or of a fractionBWS: Modeling |
| 66 | 66 | 142–43 | 142–43b |  | Topic: SimplifyingSkills: multiplying fractions by using cancellation, identifying the reciprocal of a fraction |
| 67 | 67 | 144–45 | 144–45b |  | Topic: Multiplying Mixed NumbersSkills: applying the Distributive Property of Multiplication to mixed numbers |
| 68 | 68 | 146–47 | 146–47b | Assessments* Chapter 7 Quiz 1
 | Topic: Multiplying DecimalsSkills: estimating a decimal product by rounding, applying the Distributive Property of Multiplication to decimalsBWS: Modeling |
| 69 | 69 | 148–49 | 148–49b | Additional Materials* graph paper
* colored markers: red and blue
 | Topic: More Multiplying DecimalsSkills: multiplying a decimal by a decimal, multiplying money by a decimal |
| 70 | 70 | 150–51 | 150–51b | Teacher Resources* 42 In-between Numbers
 | Topic: Finding In-between NumbersSkills: identifying fractions and decimals that come between two numbers, solving a multistep word problemBWS: Modeling |
| 71 | 71 | 152–53 | 152–53b |  | Topic: Chapter Review |
| 72 | 72 | 154–56 | 154–56 |  | Topic: Test & Cumulative Review |

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| Chapter 8: Dividing Fractions |
| 73 | 73 | 157–59 | 157–59b |  | Topic: Dividing by a FractionSkills: dividing whole numbers, fractions, and mixed numbers by fractions  |
| 74 | 74 | 160–61 | 160–61b | Additional Materials* Bible
* colored markers or chalk: 2 colors
* colored pencils: 2 colors
 | Topic: More Dividing FractionsSkills: dividing a fraction to find a quotient with a remainder, dividing by using a modelBWS: Service |
| 75 | 75 | 162–63 | 162–63b | Additional Materials* colored markers or chalk: 3 colors
 | Topic: Multiplying by the ReciprocalSkills: dividing a fraction by a fraction or a whole number by multiplying by the reciprocal |
| 76 | 76 | 164–65 | 164–65b | Additional Materials* Bible

Assessments* Chapter 8 Quiz 1
 | Topic: Mixed Numbers & ReciprocalsSkills: dividing a mixed number by multiplying by the reciprocal, solving fraction word problemsBWS: Service |
| 77 | 77 | 166–67 | 166–67b |  | Topic: Multistep EquationsSkills: using the order of operations to write an equation and solve a multistep word problem |
| 78 | 78 | 168–69 | 168–69b |  | Topic: Applying Mathematical PropertiesSkills: using mathematical properties and the order of operations to evaluate an expression, substituting a given value for a variable in an expression |
| 79 | 79 | 170–71 | 170–71b | Teacher Resources* 43 Multistep Word Problems
 | Topic: More Multistep Word ProblemsSkills: solving a multistep equation for a multistep word problemBWS: Service |
| 80 | 80 | 172–73 | 172–73b |  | Topic: Chapter ReviewBWS: Service |
| 81 | 81 | 174–77 | 174–77 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher EditionPages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
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| Chapter 9: Dividing Decimals |
| 82 | 82 | 178,180–81 | 178, 180–81b | Teacher Resources* 11 Graph Paper
* 44 Birthday Party Plans

Additional Materials* scissors
* calculators (optional)
 | Topic: Dividing DecimalsSkills: dividing a decimal by a 1-digit whole number, renaming a decimal by annexing a 0, using mental math to divide a decimal by a power of 10BWS: Knowledge |
| 83 | 83 | 179, 182–83 | 179, 182–83b |  | Topic: Estimating QuotientsSkills: dividing a decimal by a 2-digit whole number, dividing to find a decimal fraction |
| 84 | 84 | 184–85 | 184–85b | Assessments* Chapter 9 Quiz 1
 | Topic: Repeating Decimals & Rounding QuotientsSkills: indicating a repeating decimal, solving money word problemsBWS: Knowledge |
| 85 | 85 | 186–87 | 186–87b | Teacher Resources* 11 Graph Paper
 | Topic: Renaming Fractions as DecimalsSkills: identifying a quotient as a repeating decimal or a non-repeating, non-terminating decimal |
| 86 | 86 | 188–90 | 188–90a |  | Topic: Dividing a Decimal by a DecimalSkills: dividing a whole number by a decimal, solving a word problem involving decimal divisionBWS: Knowledge |
| 87 | 87 | 191–92 | 191–92b | Teacher Resources* 11 Graph Paper
* 45 Input/Output Tables

Assessments* Chapter 9 Quiz 2
 | Topic: More Dividing DecimalsSkills: dividing a decimal by a decimal, completing a division input/output table including decimals |
| 88 | 88 | 193–95 | 193–95a | Additional Materials* calculators
 | Topic: Real NumbersSkills: classifying real numbers, applying addition and multiplication properties to real numbers BWS: Knowledge |
| 89 | 89 | 196–97 | 196–97 | Teacher Resources* 46 Dividing Decimals
 | Topic: Chapter Review |
| 90 | 90 | 198–200 | 198–200 |  | Topic: Test & Cumulative Review |
| 91 | 91 | 179,201–2 | 179, 201–2a | Teacher Resources* 25 Engineering Design Process
* 47 Classroom Layout Graph Paper
* 48 Sample Classroom Layout

Additional Materials* See Lesson 91 list.
 | Topic: STEM: What’s Your Plan?Skills: identifying a problem, collaborating on a solution, preparing a model |
| 92 | 92 | 201–2 | 202b–c | Teacher Resources* 49 Sample Evacuation Plan Model
* 50 Sample Evacuation Plan Algorithms

Additional Materials* See Lesson 92 list.
 | Topic: STEM: What’s Your Plan?Skills: mapping, testing, & revising a route; writing an algorithm using coding terms; debugging an algorithm |
| 93 | 93 | 179,201–2 | 179, 202d | Teacher Resources* 51 STEM Rubric: What’s Your Plan?

Additional Materials* See Lesson 93 list.
 | Topic: STEM: What’s Your Plan?Skills: debugging and running a programBWS: Modeling |

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| Day | Lesson | Student Edition Pages | Teacher EditionPages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| Chapter 10: Equations |
| 94 | 94 | 203–5 | 203–5b |  | Topic: ExpressionsSkills: writing numerical or algebraic expressions, evaluating expressions using substitution |
| 95 | 95 | 206–7 | 206–7b |  | Topic: EquationsSkills: writing an equation with two equal expressions, determining the unknown in a word problem and writing it as a variableBWS: Modeling |
| 96 | 96 | 208–9 | 208–9b | Teacher Resources* 52 Variable Cards N
* 53 Variable Cards X

Additional Materials* 18 round counters
 | Topic: Simplifying ExpressionsSkills: computing sums and products that are multiples of 10, simplifying algebraic expressions by applying the Commutative and Associative Properties |
| 97 | 97 | 210–11 | 210–11b | Additional Materials* 1 n card and 1 x card from the patterns provided on the Variable Cards pages
* 30 round counters
 | Topic: Addition & Subtraction EquationsSkills: solving addition and subtraction equations using inverse operations, checking addition and subtraction equations using substitutionBWS: Modeling |
| 98 | 98 | 212–13 | 212–13b | Additional Materials* 5 n cards from the pattern pro­vided on the Variable Cards N page
* 15 round counters
 | Topic: Multiplication EquationsSkills: solving multiplication equations using division (inverse operation) |
| 99–100 | 99 | 214–15 | 214–15b |  | Topic: Multiplication & Division EquationsSkills: solving multiplication and division equations using inverse operations, plotting an inequality on a number line, determining whether a given number is a solution to an inequality |
| 101 | 100 | 216–17 | 216–17b | Additional Materials* geographic compass or picture of one

Assessments* Chapter 10 Quiz 1
 | Topic: Equivalent ExpressionsSkills: finding equivalent expressions by applying the Distributive Property, solving equations using inverse operationsBWS: Modeling |
| 102 | 101 | 218–19 | 218–19b | Teacher Resources* 54 Graphing an Equation
 | Topic: Distance = Rate × TimeSkills: solving problems using the d = rt formula, completing a table using the d = rt formulaBWS: Modeling |
| 103 | 102 | 220–21 | 220–21b |  | Topic: Chapter Review |
| 104 | 103 | 222–24 | 222–24 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 11: Perimeter & Area |
| 105 | 104 | 225–27 | 225–27b | Additional Materials* ruler
 | Topic: PerimeterSkills: calculating the unknown length of a side of a polygon, solving an algebraic expression to find the perimeter of a rectangle |
| 106 | 105 | 228–30 | 228–30a | Teacher Resources* 55 Finding the Circumference

Additional Materials* cylindrical objects
* rulers
* calculators
* 12 in. lengths of string
 | Topic: CircumferenceSkills: calculating the circumference of a circle using a formula, calculating the diameter of a circle given the circumferenceBWS: Design |
| 107 | 106 | 231–33 | 231–33a | Teacher Resources* 56 Area: Rectangles, Squares & Parallelograms

Additional Materials* scissors

Assessments* Chapter 11 Quiz 1
 | Topic: Area of ParallelogramsSkills: calculating the areas of parallelograms using a formula, calculating the area of a complex figure |
| 108 | 107 | 234–35 | 234–35b | Teacher Resources* 57 Area: Triangles

Additional Materials* rulers
* calculators
 | Topic: Area of TrianglesSkills: calculating the area of triangles using a formula, calculating the unknown height or base of a triangleBWS: Design |
| 109 | 108 | 236–37 | 236–37b | Teacher Resources* 58 Area: Circles

Additional Materials* rulers
* calculators
 | Topic: Area of CirclesSkills: calculating the area of a circle using a formula, estimating the area of a circle |
| 110 | 109 | 238–39 | 238–39b | Teacher Resources* 59 Surface Area: Triangular Prism

Additional Materials* classroom set of 3-dimensional figures or real-world objects
* cereal boxes
* rulers
* transparent tape

Assessments* Chapter 11 Quiz 2
 | Topic: Surface Area of PrismsSkills: calculating the surface area of prisms using formulas, constructing a triangular prismBWS: Design |
| 111 | 110 | 240–41 | 240–41b | Teacher Resources* 60 Surface Area

Additional Materials* small oatmeal container
* 2 sheets of 12" × 18" construction paper
* rulers
* transparent tape
* cylinders
* sheets of construction paper
* calculators
 | Topic: Surface Area of CylindersSkills: calculating the surface area of a cylinder using formulas, constructing a cylinder net |
| 112 | 111 | 242–43 | 242–43b | Teacher Resources* 11 Graph Paper
* 61 Floor Plan Activity
* 62 Floor Plan Grid

Additional Materials* samples of floor plans
* rulers
* calculators
* scissors
* sheets of 9" × 12" construction paper
* glue sticks
 | Topic: Fixed AreasSkills: calculating the area and perimeter of a rectangle, calculating the area of a complex figure, relating geometry to real-world situationsBWS: Design |
| 113 | 112 | 244–45 | 244–45b | Teacher Resources* 60 Surface Area
* 63 Geometry Review I
* 64 Geometry Review II
* 65 Nets

Additional Materials* calculators
 | Topic: Chapter Review |
| 114 | 113 | 246–48 | 246–48 |  | Topic: Test & Cumulative Review |

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| Chapter 12: Volume |
| 115 | 114 | 249–51 | 249–51b | Teacher Resources* 66 Shipping Volume

Additional Materials* blank sheets of 8 ½" × 11" paper
* a clear storage container with lid
* cube-shaped blocks
* a rectangular prism-shaped block
* a ruler
 | Topic: Volume of Rectangular PrismsSkills: finding the volume of a rectangular prism by using a model or a formulaBWS: Service |
| 116 | 115 | 252–53 | 252–53b | Additional Materials* blank sheets of 8 ½" × 11" paper
* cube-shaped blocks
 | Topic: Volume of CubesSkills: finding the volume of a cube by using a model or a formula, calculating an unknown meas­urement, solving a word problem |
| 117 | 116 | 254–55 | 254–55b | Teacher Resources* 67 Triangular Prisms & Cylinders

Additional Materials* blank sheets of 8 ½" × 11" paper
* cube-shaped blocks
* calculators

Assessments* Chapter 12 Quiz 1
 | Topic: Volume of Other 3D FiguresSkills: finding the volume of an irregular prism by using a model, calculating the volume of a triangular prism or a cylinderBWS: Service |
| 118–19 | 117 | 256–57 | 256–57b | Teacher Resources* 68 Fixed Volume

Additional Materials* cube-shaped blocks
* sheets of 9" × 12" construction paper
* rulers
* transparent tape
* box lids or rectangular pans
* 1 c measuring cups
* rice, unpopped popcorn, or dried beans
* calculators
 | Topic: Fixed Volumes & Fixed Lateral SurfacesSkills: constructing prisms with the same volume but different surface areas, constructing cylindrical figures with the same lateral surface area but different volumes |
| 120 | 118 | 258–59 | 258–59b | Teacher Resources* 69 Volume Review
* 70 Volume Word Problems

Additional Materials* copies of area drawings
* cube-shaped blocks
* calculators
 | Topic: Chapter ReviewBWS: Service |
| 121 | 119 | 260–63 | 260–63 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
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| Chapter 13: Ratios, Proportions & Percents |
| 122 | 120 | 264, 266–67 | 264, 266–67b | Additional Materials* pennies, nickels, dimes, and quarters
 | Topic: Ratios & RatesSkills: writing a ratio in three forms, finding equivalent ratios, determining the unit rateBWS: Design |
| 123 | 121 | 265, 268–69 | 265, 268–69b | Teacher Resources* 72 Pictured Ratios
* 73 Ratio Tables
 | Topic: Ratio TablesSkills: completing a ratio table, solving problems using ratio tables |
| 124 | 122 | 270–71 | 270–71b | Additional Materials* black and red counters
 | Topic: Solving ProportionsSkills: determining whether two ratios are proportional, solving for a missing term in a proportionBWS: Design |
| 125 | 123 | 272–74 | 272–74a | Teacher Resources* 11 Graph Paper
* 74 Missing Measurements

Additional Materials* rulers or straight edges
 | Topic: Similar FiguresSkills: finding the unknown measure in similar figures, using indirect measurement to find the unknown measure |
| 126 | 124 | 275–77 | 275–77a | Additional Materials* modeling clay
* a map
* rulers
* calculators

Assessments* Chapter 13 Quiz 1
 | Topic: ScaleSkills: finding actual measurements using a scale and a scale drawing, map, or model; determining the unknown measure on a scale drawingBWS: Design |
| 127 | 125 | 278–79 | 278–79b | Teacher Resources* 11 Graph Paper
* 75 Percent

Additional Materials* calculators
 | Topic: PercentSkills: expressing percents as ratios, decimals, and fractions; expressing decimals and fractions as percents |
| 128 | 126 | 280–81 | 280–81b | Teacher Resources* 76 Percent Models: Finding the Part

Additional Materials* calculators
 | Topic: Finding the Percent of a NumberSkills: finding the percent of a number by using an equation, a model, and a proportion; solving percent word problems |
| 129 | 127 | 282–84 | 282–84a | Teacher Resources* 77 Percent Models: Finding the Whole

Additional Materials* calculators

Assessments* Chapter 13 Quiz 2
 | Topic: Finding the Unknown WholeSkills: finding the unknown whole in a percent problem by using a model, an equation, and a proportion; solving percent word problems |
| 130 | 128 | 285–87 | 285–87a | Additional Materials* calculators
 | Topic: Speed, Distance & TimeSkills: calculating the distance, the rate of speed, and the time; finding an equivalent rate by using a proportionBWS: Design |
| 131 | 129 | 288–89 | 288–89b | Teacher Resources* 78 Circle Graph: Elements in the Earth’s Crust

Additional Materials* calculators
 | Topic: Chapter 13 Review |
| 132 | 130 | 290–92 | 290–92 |  | Topic: Test & Cumulative Review |
| 133 | 131 | 265,293–94 | 265, 293–94a | Teacher Resources* 11 Graph Paper
* 25 Engineering Design Process
* 79 Bridge & Truss Designs

Additional Materials* See Lesson 131 list.
 | Topic: STEM: Building a BridgeSkills: identifying and researching a problem, suggesting solutions, collaborating on a design |
| 134 | 132 | 293–94 | 294b | Teacher Resources* 80 STEM Rubric: Building a Bridge

Additional Materials* See Lesson 132 list.
 | Topic: STEM: Building a BridgeSkills: building a bridge prototype according to specifications |
| 135 | 133 | 293–94 | 294c–d | Additional Materials* See Lesson 133 list.
 | Topic: STEM: Building a BridgeSkills: testing a design, analyzing a design with math, solving a problem by using a ratioBWS: Design |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 14: Measurement |
| 136 | 134 | 295–97 | 295–97b | Teacher Resources* 11 Graph Paper
* 81 Measurement Flashcards

Additional Materials* rulers
* a yardstick
* a measuring tape (customary)
* colored pencils
 | Topic: Linear MeasurementSkills: estimating, measuring, and converting linear measurements; finding a fraction of a measurement unit; adding and subtracting linear measurements BWS: Knowledge |
| 137 | 135 | 298–99 | 298–99b | Teacher Resources* 82 Customary Measurement Craze

Additional Materials* a spring scale
* a 1 lb loaf of bread
* objects to weigh
* customary measurement containers
* waterproof containers
* water (2 gal)
* food coloring (optional)
 | Topic: Weight & CapacitySkills: estimating, weighing, measuring, and converting customary weight and capacity measurements; adding and subtracting customary weight and capacity measurements |
| 138 | 136 | 300–301 | 300–301b | Teacher Resources* 83 Metric Measurement
* 84 Metric Measure Mania

Additional Materials* a meter stick
* a yardstick
* measuring tapes (metric)
* paper clips
 | Topic: Metric Linear MeasurementSkills: estimating, measuring, and converting metric linear measurements; determining the appropriate linear measurement; comparing meas­urements by using > or <; adding and subtracting metric linear measurements |
| 139 | 137 | 302–3 | 302–3b | Teacher Resources* 83 Metric Measurement

Additional Materials* 1 L bottles of water
* a 1 L beaker
* a 5 mL plastic syringe
* water for measuring
* food coloring (optional)
* waterproof containers
* additional containers for measuring
* a balance or metric scale

Assessments* Chapter 14 Quiz 1
 | Topic: Metric Capacity & MassSkills: estimating, measuring, and converting metric capacity and mass measurementsBWS: Knowledge |
| 140 | 138 | 304–5 | 304–5b | Teacher Resources* 81 Measurement Flashcards
* 85 Customary Measurement Word Problems
* 86 Metric Measurement Word Problems
 | Topic: Customary & Metric SystemsSkills: solving measurement word problems |
| 141 | 139 | 306–7 | 306–7b | Teacher Resources* 87 Thermometer
* 88 Temperature Hunt
* 89 Double-Scale Thermometer

Additional Materials* waterproof containers
* water
* waterproof thermometers
* additional thermometers
* rulers
 | Topic: Fahrenheit & CelsiusSkills: identifying standard Celsius and Fahrenheit temperatures, determining a reasonable temperature, reading a thermometer, determining the difference between temperatures, measuring temperatures, converting temperatures between systems |
| 142 | 140 | 308–9 | 308–9b | Teacher Resources* 81 Measurement Flashcards
* 90 Customary & Metric Conversions

Additional Materials* a larger set of measurement flashcards
* measurable objects
* rulers
 | Topic: Relating Customary & Metric UnitsSkills: identifying approximate equivalencies between customary and metric units of measurement, comparing customary and metric measurements, estimating conversions between customary and metric measurementsBWS: Knowledge |
| 143 | 141 | 310–11 | 310–11b | Teacher Resources* 91 Time Measurement

Additional Materials* a demonstration clock
 | Topic: Telling & Renaming TimeSkills: differentiating between a.m. and p.m., converting units of time, finding a fraction of a unit of time, adding and subtracting time |
| 144 | 142 | 312–13 | 312–13b | Teacher Resources* 91 Time Measurement
* 92 Time Zones of the World
* 93 Time Zones

Additional Materials* demonstration clocks

Assessments* Chapter 14 Quiz 2
 | Topic: Elapsed Time & Time ZonesSkills: using a table to determine world time zones, determining elapsed timeBWS: Knowledge |
| 145 | 143 | 314–15 | 314–15b | Teacher Resources* 92 Time Zones of the World
* 94 Map Key
* 95 Blank Thermometer

Additional Materials* labeled measurable objects from Lesson 140
* measuring tools
* rulers
 | Topic: Renaming Units of MeasureSkills: estimating customary and metric measurements, calculating measurements, solving meas­urement word problems, determining mileage by using a map scale |
| 146 | 144 | 316–17 | 316–17b |  | Topic: Unit MultipliersSkills: writing an equivalency as a unit multiplier, converting measurements by using a unit multiplier |
| 147 | 145 | 318–19 | 318–19b | Teacher Resources* 95 Blank Thermometer

Additional Materials* a larger set of measurement flashcards from Lesson 140
* demonstration clocks
 | Topic: Chapter Review |
| 148 | 146 | 320–23 | 320–23 | Additional Materials* demonstration clocks (optional)
 | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 15: Statistics |
| 149 | 147 | 324, 326–27 | 324, 326–27b | Teacher Resources* 96 Frequency Tables

Additional Materials* calculators
 | Topic: StatisticsSkills: completing a frequency table; determining the range, median, and mode for a set of data; calculating the meanBWS: Service |
| 150 | 148 | 325, 328–29 | 325, 328–29b | Teacher Resources* 97 Double Bar Graph
* 98 Double Line Graph
* 99 Types of Graphs
 | Topic: Double Bar & Double Line GraphsSkills: interpreting a double bar and a double line graph |
| 151 | 149 | 330–31 | 330–31b | Teacher Resources* 99 Types of Graphs
* 100 Stem-and-Leaf Plot
 | Topic: Stem-and-Leaf PlotsSkills: interpreting and completing a stem-and-leaf plot |
| 152 | 150 | 332–33 | 332–33b | Teacher Resources* 99 Types of Graphs
* 101 Line Plot

Additional Materials* 3 × 5 cards

Assessments* Chapter 15 Quiz 1
 | Topic: Line PlotsSkills: interpreting and recording data on a line plot, determining the effects of an outlier |
| 153 | 151 | 334–35 | 334–35b | Teacher Resources* 99 Types of Graphs
* 102 Restaurant Statistics
* 103 Histogram: Piano Practice Statistics
* 104 Histogram

Additional Materials* rulers
 | Topic: HistogramsSkills: interpreting and constructing a histogramBWS: Service |
| 154 | 152 | 336–37 | 336–37b | Teacher Resources* 99 Types of Graphs
* 105 Box-and-Whisker Plot: Points Scored
* 106 Box-and-Whisker Plot

Additional Materials* rulers
 | Topic: Box-and-Whisker PlotsSkills: interpreting a box-and-whisker plot; determining the lower, middle, and upper quartiles of a set of data; constructing a box-and-whisker plot |
| 155 | 153 | 338–39 | 338–39b | Teacher Resources* 107 Graph: Double Bar Graph
* 108 Graph: Double Line Graph
* 109 Stem-and-Leaf Plot & Line Plot
* 110 Graph: Histogram
* 111 Graph: Box-and-Whisker Plot

Assessments* Chapter 15 Quiz 2
 | Topic: Graph ReviewSkills: interpreting graphsBWS: Service |
| 156 | 154 | 340–41 | 340–41b | Teacher Resources* 112 Data

Additional Materials* prepared terms and definitions from Types of Graphs, pages 1–4
* 3 × 5 cards
 | Topic: Comparing GraphsSkills: choosing a graph to display a set of data |
| 157 | 155 | 342–43 | 342–43b | Teacher Resources* 97 Double Bar Graph
* 98 Double Line Graph
* 103 Histogram: Piano Practice Statistics
* 105 Box-and-Whisker Plot: Points Scored

Additional Materials* prepared terms and definitions from Types of Graphs, pages 1–4
* Bible
 | Topic: Chapter ReviewBWS: Service |
| 158 | 156 | 344–46 | 344–46 |  | Topic: Test & Cumulative Review |
| 159 | 157 | 325, 347–48 | 347–48a | Teacher Resources* 25 Engineering Design Process
* 113 Business Idea Organizer

Additional Materials* examples of successful young entrepreneurs (optional)
 | Topic: STEM: EntrepreneurshipSkills: identifying and researching a problem, recording possible solutions, identifying a workable solution |
| 160 | 158 | 347–48 | 348b–c | Teacher Resources* 114 Rover's Romps Business Plan
* 115 Business Plan

Additional Materials* completed Business Idea Organizer pages
 | Topic: STEM: EntrepreneurshipSkills: assembling business data, writing a business planBWS: Service |
| 161 | 159 | 347–48 | 348d–e | Teacher Resources* 116 Rover's Romps Profit Projection
* 117 Business Profit Projection
* 118 STEM Rubric: Entrepreneurship

Additional Materials* completed Business Plan pages
 | Topic: STEM: EntrepreneurshipSkills: testing and improving a plan |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 16: Probability |
| 162 | 160 | 349–51 | 349–51b | Teacher Resources* 119 Probability
* 120 Theoretical Probability

Additional Materials* colored markers: red and blue
* colored pencils or crayons: red and blue
* calculators (optional)
 | Topic: Theoretical ProbabilitySkills: deciding whether a given statement is impossible, unlikely, likely, or certain; finding the theoretical probability of an eventBWS: Design |
| 163 | 161 | 352–53 | 352–53b | Teacher Resources* 121 Sample Spaces
* 122 Tree Diagram
* 123 Multiplication Counting Principle

Additional Materials* calculators (optional)
 | Topic: Sample SpacesSkills: finding the sample space for and the probability of an event, making a tree diagram, determining the number of possible outcomes using the Multiplication Counting Principle |
| 164 | 162 | 354–55 | 354–55b | Teacher Resources* 124 Experimental Probability
* 125 Spinning Penny Experiment

Additional Materials* paper clips
* calculators (optional)
* pennies (optional)
 | Topic: Experimental ProbabilitySkills: finding the theoretical probability of an event, conducting a probability experiment, finding the experimental probability of an eventBWS: Design |
| 165 | 163 | 356–57 | 356–57b | Teacher Resources* 126 Fair or Unfair Games

Additional Materials* 6 marbles: 4 orange, 1 brown, 1 yellow
* an opaque bag
* two 1–6 number cubes

Assessments* Chapter 16 Quiz 1
 | Topic: Fair or Unfair?Skills: using probability to determine whether a game is fair or unfair, conducting a probability experiment, finding the experimental probability of an event, making predictions using probability |
| 166–67 | 164 | 358–59 | 358–59b | Additional Materials* 6 marbles: 4 orange, 1 brown, 1 yellow
* an opaque bag
* a 1–6 number cube
* calculators
 | Topic: Independent & Dependent EventsSkills: differentiating between independent and dependent compound events, finding the probability of compound events using a formulaBWS: Design |
| 168 | 165 | 360–61 | 360–61b | Teacher Resources* 127 Probability Spinner

Additional Materials* paper clips
* calculators (optional)
 | Topic: Chapter Review |
| 169 | 166 | 362–64 | 362–64 |  | Topic: Test & Cumulative Review |

| Day | Lesson | Student Edition Pages | Teacher Edition Pages | Teacher Resources & Additional Materials | Topics, Skills & Biblical Worldview Shaping |
| --- | --- | --- | --- | --- | --- |
| Chapter 17: Integers |
| 170 | 167 | 366–67 | 366–67b | Teacher Resources* 3 Positive & Negative Number Line
 | Topic: IntegersSkills: identifying integers on a number line, finding the absolute value of a number, comparing and ordering integers |
| 171 | 168 | 365, 368–69 | 365, 368–69b | Teacher Resources* 3 Positive & Negative Number Line
* 128 Algebra Mat
* 129 Positive & Negative Number Lines

Additional Materials* counters: black and red
 | Topic: Adding IntegersSkills: adding integers, solving a word problemBWS: Modeling |
| 172 | 169 | 370–71 | 370–71b | Teacher Resources* 3 Positive & Negative Number Line
* 128 Algebra Mat
* 129 Positive & Negative Number Lines

Additional Materials* counters: black and red
 | Topic: Subtracting IntegersSkills: subtracting integers, solving a word problemBWS: Modeling |
| 173 | 170 | 372–73 | 372–73b | Teacher Resources* 3 Positive & Negative Number Line
* 128 Algebra Mat
* 130 Subtraction Patterns
* 131 More Subtraction Patterns

Additional Materials* counters: black and red

Assessments* Chapter 17 Quiz 1
 | Topic: Adding & Subtracting IntegersSkills: adding and subtracting integers, solving a word problem |
| 174 | 171 | 374–75 | 374–75b | Teacher Resources* 3 Positive & Negative Number Line
 | Topic: More IntegersSkills: adding and subtracting integers, solving real-world problems |
| 175 | 172 | 376–77 | 376–77b | Teacher Resources* 128 Algebra Mat
* 132 Multiplication Patterns

Additional Materials* counters: black and red
 | Topic: Multiplying IntegersSkills: multiplying integers, solving a word problem |
| 176 | 173 | 378–79 | 378–79b | Teacher Resources* 3 Positive & Negative Number Line
* 128 Algebra Mat

Additional Materials* counters: black and red
 | Topic: Multiplying & Dividing IntegersSkills: multiplying and dividing integers, solving real-world problemsBWS: Modeling |
| 177 | 174 | 380–81 | 380–81b | Teacher Resources* 3 Positive & Negative Number Line
* 128 Algebra Mat
* 133 Order of Operations

Additional Materials* counters: black and red
 | Topic: Mixed ReviewSkills: adding, subtracting, multiplying, and dividing integers; subtracting integers by adding the opposite; solving problems by applying the order of operations |
| 178 | 175 | 382–83 | 382–83b | Teacher Resources* 27 Coordinate Plane
* 28 Coordinate Planes

Assessments* Chapter 17 Quiz 2
 | Topic: Coordinate PlanesSkills: graphing points on a coordinate plane, writing ordered pairs to identify points on a coordinate plane |
| 179 | 176 | 384–85 | 384–85b | Teacher Resources* 3 Positive & Negative Number Line
* 128 Algebra Mat

Additional Materials* counters: black and red
 | Topic: Chapter ReviewBWS: Modeling |
| 180 | 177 | 386–88 | 386–88 |  | Topic: Test & Cumulative Review |