# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 1: Number Sense

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 1      | Millions Period | • Demonstrate an understanding of the repetition of the Ones, Tens, and Hundreds places in each period  
• Read numbers with 9 or fewer digits  
• Write numbers with 9 or fewer digits in standard form, word form, expanded form, and expanded form with multiplication  
• Identify the value of the digits in a number with 9 or fewer digits  
• Compare numbers with 9 or fewer digits | **Teacher Manipulatives Packet:**  
• Place Value Pocket Chart Kit  
• Decimal Place Value Pocket Chart Kit (A)  
• Place Value Kit  
• Thermometer  
• Red Strip  
• Roman Numeral Clock  
• Number Line  
**Student Manipulatives Packet:**  
• Place Value Pocket Chart Kit  
• Decimal Place Value Pocket Chart Kit (A)  
**Instructional Aids (Teacher’s Toolkit CD):**  
• Place Value & Number Forms transparency (page IA1)  
• Number Lines: Decimals transparency (page IA2)  
• Number Lines: Decimals (page IA2) for each student  
• Place Value: Decimals transparency (page IA3)  
• Equivalent Decimals transparency (page IA4)  
• Equivalent Decimals (page IA4) for each student  
• Rounding Decimals transparency (page IA5)  
• Rounding Decimals (page IA5) for each student  
• Positive & Negative Number Line transparency (page IA6)  
• Positive & Negative Number Line (page IA6) for each student  
• Number Lines (blank) transparency (page IA7)  
• Number Lines (blank) (page IA7), 2 copies for each student  
• Cumulative Review Answer Sheet (page IA8) for each student  
**Other Teaching Aids:**  
• Chalk or erasable markers: black and red  
• A red colored pencil for each student  
• A meter stick (optional)  
**Math 5 Tests and Answer Key**  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 1–17  
• Enrichment pages 1–6  
• Extended Activities |
| 2      | Billions Period | • Demonstrate an understanding of the repetition of the Ones, Tens, and Hundreds places in each period  
• Read numbers with 12 or fewer digits  
• Write numbers with 12 or fewer digits in standard form, word form, expanded form, and expanded form with multiplication  
• Identify the value of the digits in a number with 12 or fewer digits  
• Compare numbers with 12 or fewer digits  
• Round numbers to the place of greatest value or to a given place | 
| 3      | Decimals | • Develop an understanding of one thousandths  
• Identify a decimal on a number line  
• Write decimals in standard form, word form, fraction form, expanded form, and expanded form with multiplication  
• Identify the value of the digits in a decimal | 
| 4      | Equivalent Decimals | • Identify equivalent decimals  
• Compare decimals  
• Round decimals to a given place | 
| 5      | Positive & Negative Numbers | • Develop an understanding of positive and negative numbers  
• Label a number line to show positive and negative numbers  
• Explore positive and negative numbers in real-life situations  
• Read a Fahrenheit thermometer | 
| 6      | Compare Positive & Negative Numbers | • Compare and order positive and negative numbers  
• Identify the number that is 1 more or 1 less  
• Plot positive and negative numbers on a number line | 
| 7      | Roman Numerals | • Write Roman numerals 1–100  
• Recognize a pattern in writing Roman numerals | 
| 8      | Chapter 1 Review | • Review | 
| 9      | Chapter 1 Test  
Grade 4 Review | • Identify the number that is 100 more  
• Identify related multiplication and division facts  
• Solve missing addend facts  
• Solve addition problems with 3 addends  
• Subtract 3-digit numbers |
Math 5, 3rd Edition—Lesson Plan Overview

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 10     | Properties | • Apply addition properties: Commutative Property, Identity Property, and Associative Property  
• Apply the Zero Principle of Subtraction  
• Solve addition and subtraction equations with variables  
• Complete input/output tables | Teaching Visuals (Teacher’s Toolkit CD):  
• Chart 1: Problem-Solving Plan  
Teacher Manipulatives Packet:  
• Place Value Kit  
• Decimal Place Value Kit  
• Rulers: Centimeter Ruler  
Student Manipulatives Packet:  
• Place Value Kit |
| 11     | Add Large Numbers | • Add 4-, 5-, and 6-digit numbers  
• Estimate the sum by rounding to the place of greatest value  
• Solve addition problems with 3 or more addends  
• Read a bar graph | |
| 12     | Add Decimals | • Round decimals to the place of greatest value  
• Add decimals with 3 or fewer decimal places  
• Estimate the sum by rounding to the place of greatest value  
• Solve addition problems with 3 or more addends | |
| 13     | Subtract Large Numbers | • Subtract numbers with 6 or fewer digits  
• Estimate the difference by rounding to the place of greatest value  
• Subtract 5- and 6-digit numbers, renaming zeros  
• Interpret a line graph | |
| 14     | Subtract Decimals | • Subtract decimals with 3 or fewer decimal places  
• Estimate the difference by rounding to the place of greatest value  
• Solve subtraction word problems | |
| 15     | Add & Subtract | • Demonstrate an understanding of the relationship between addition and subtraction  
• Solve addition and subtraction equations with variables  
• Complete input/output tables | Other Teaching Aids:  
• 2 pencils of different lengths  
• 2 unused pencil cap erasers of the same size  
Math 5 Tests and Answer Key  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 18–35  
• Enrichment pages 7–15  
• Extended Activities |
| 16     | Compensation & Word Problems | • Use compensation to add and subtract mentally  
• Solve addition and subtraction word problems | |
| 17     | Chapter 2 Review | • Review | |
| 18     | Chapter 2 Test Cumulative Review | • Round numbers to the nearest hundred thousand  
• Identify in a number the period for the place with the greatest value  
• Locate the position of a number on a number line  
• Identify the value of a digit within a number  
• Order numbers from least to greatest | |
### Chapter 3: Multiplication

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| **19** | Multiplication Properties | • Demonstrate an understanding of multiplication and the terms factor and product  
• Solve multiplication equations with a multiplication dot  
• Apply properties of multiplication to variables and numbers: Commutative Property, Identity Property, Zero Property, and Associative Property  
• Write a mathematical expression for a word phrase | Teaching Visuals (Teacher's Toolkit CD):  
• Chart 1: Problem-Solving Plan  
Teacher Manipulatives Packet:  
• Place Value Kit  
Student Manipulatives Packet:  
• Place Value Kit  
Instructional Aids (Teacher's Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Properties of Multiplication (page IA16) one for each student  
• Associative Property of Multiplication transparency (page IA17)  
• Associative Property of Multiplication (page IA17) for each student  
• Prime & Composite Numbers transparency (page IA18)  
• Prime & Composite Numbers (page IA18) for each student  
• Multiples of 10, 100 & 1,000 transparency (page IA19)  
• Grid Paper transparency (page IA20)  
• Input/Output Tables transparency (page IA21)  
• Sticker Sheet (page IA22), 3 copies  
• Divisibility Rules transparency (page IA23)  
Other Teaching Aids:  
• Overhead marker: red  
• 135 sheets of paper  
• 5 sentence strips  
Math 5 Tests and Answer Key  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 1–17  
• Enrichment pages 16–21  
• Extended Activities |
| **20** | Prime & Composite Numbers | • Demonstrate an understanding of the term multiple  
• Determine whether a number is prime or composite  
• Develop number sense with multiplication |  |
| **21** | Distributive Property | • Analyze patterns and use mental math to multiply factors that are multiples of 10  
• Apply properties of multiplication: Associative Property, Commutative Property, and Distributive Property of Multiplication over Addition |  |
| **22** | 1-Digit Multipliers | • Apply the Distributive Property of Multiplication over Addition  
• Estimate the product by rounding to the place of greatest value  
• Solve a multiplication word problem  
• Multiply a 2-, 3-, or 4-digit factor by a 1-digit multiplier  
• Solve money multiplication problems |  |
| **23** | 2-Digit Multipliers | • Multiply a 2- or 3-digit factor by a 1- or 2-digit multiplier  
• Estimate the product by rounding to the place of greatest value  
• Solve multiplication word problems  
• Complete an input/output table |  |
| **24** | Multiply & Estimate | • Multiply a 2-, 3-, or 4-digit factor by a 2-digit multiplier  
• Solve multiplication word problems  
• Solve money multiplication problems  
• Solve a multiplication problem with a variable, using substitution  
• Complete an input/output table |  |
| **25** | 3-Digit Multipliers | • Multiply a 3-digit factor by a 3-digit multiplier  
• Solve money multiplication problems  
• Solve multiplication problems with zeros in the multiplier |  |
| **26** | Factor Trees | • Demonstrate an understanding of prime and composite numbers  
• Develop an understanding of a factor tree  
• Write the prime factorization of a number  
• Determine whether a number is divisible by 2, 5, or 10 |  |
| **27** | Exponent Form | • Develop an understanding of exponents  
• Develop an understanding of powers of 10  
• Develop an understanding of the relationship between exponential notation and prime factorization |  |
| **28** | Chapter 2 Review | • Review |  |
| **29** | Chapter 2 Test Cumulative Review | • Use the information on a chart to solve problems  
• Identify the value of a digit in a number  
• Identify the expanded form or word form of a number  
• Identify an odd number  
• Order decimals from greatest to least |  |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Add decimals</td>
<td></td>
</tr>
<tr>
<td>Round whole numbers and decimals</td>
<td></td>
</tr>
<tr>
<td>Determine the rule for an input/output table</td>
<td></td>
</tr>
<tr>
<td>Apply the Commutative and Associative Properties of Addition</td>
<td></td>
</tr>
</tbody>
</table>
### Chapter 4: Geometry—Lines & Angles

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 30     | Points, Lines & Planes | • Identify and name points, lines, line segments, and planes  
• Write ordered pairs to identify points on a coordinate graph  
• Plot points on a coordinate graph  
• Construct a line using points on a coordinate graph | Teaching Visuals (Teacher's Toolkit CD):  
• Chart 4: Points, Lines & Planes  
• Chart 5: Line Segments, Rays & Angles  
• Chart 6: Angles  
• Chart 7: Triangles  
• Chart 8: Center Points, Radii, & Diameters  
• Chart 9: Chords & Central Angles  
• Chart 24: Coordinate Graph  
Teacher Manipulatives Packet:  
• 2 Rays (Angler)  
• Fractions Kit: 1 whole fraction circle, 1 fourth fraction circle  
Student Manipulatives Packet:  
• 2 Rays (Angler)  
Instructional Aids (Teacher's Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Coordinate Graph transparency (page IA24)  
• Coordinate Graph (page IA24), laminate 1 copy for each student  
• Angles transparency (page IA25)  
• Angles (page IA25) for each student  
• Graph Paper transparency (page IA26)  
• Graph Paper (page IA26) for each student  
• More Angles transparency (page IA27)  
• More Angles (page IA27) for each student  
• Supplementary Angles transparency (page IA29)  
• Supplementary Angles (page IA29) for each student  
• Triangles transparency (page IA30)  
• Triangles (page IA30) for each student  
• Missing Angle transparency (page IA31)  
• Missing Angle (page IA31) for each student  
• Circle & Center Point transparency (page IA32)  
• Circle & Center Point (page IA32) for each student  
• Central Angles transparency (page IA33)  
• Central Angles (page IA33) for each student  
• Angle Review transparency (page IA34)  
• Angle Review (page IA34) for each student  
Christian Worldview Shaping (Teacher's Toolkit CD):  
• Pages 1–6  
Other Teaching Aids:  
• 5 strands of beads, each strand a different solid color  
• 9 sheets of graph paper  
• A ruler  
• A transparent ruler  
• A brass fastener for each student and the teacher |
| 31     | Rays & Angles | • Identify and name rays and angles  
• Classify right, acute, obtuse, and straight angles  
• Use a protractor to measure angles | |
| 32     | Measuring Angles | • Identify lines as parallel, perpendicular, or intersecting  
• Identify right, acute, obtuse, and straight angles  
• Use a protractor to measure angles  
• Relate angles to real-life situations | |
| 33     | Measure & Draw Angles | • Use a protractor to measure angles  
• Draw angles using a protractor  
• Develop an understanding of supplementary angles and that the sum of the two angle measurements is 180°  
• Write an equation to find the unknown measure of an angle in a pair of supplementary angles | |
| 34     | Triangles | • Identify right, acute, and obtuse triangles  
• Measure the angles within a triangle  
• Develop an understanding that the sum of the angle measurements of any triangle is 180°  
• Find the unknown measure of an angle in a triangle | |
| 35     | Circles | • Identify the center point of a circle  
• Name a circle  
• Identify, name, and draw a radius, a diameter, a chord, and a central angle in a circle  
• Develop an understanding that the sum of the measures of the central angles in a circle equals 360°  
• Measure the central angles in a circle using a protractor  
• Relate circles to real-life situations | |
| 36     | Graphing Figures | • Construct geometric figures on a coordinate graph | |
| 37     | Chapter 4 Review | • Review | |
| 38     | Chapter 4 Test Cumulative Review | • Identify the related fact  
• Identify the prime factorization of a number  
• Identify the factors of a number  
• Identify names for a number  
• Determine the perimeter of a square  
• Identify names for sets of objects  
• Identify the fraction that names part of a whole and part of a set | |
<table>
<thead>
<tr>
<th>Math 5, 3rd Edition—Lesson Plan Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>• An overhead protractor</td>
</tr>
<tr>
<td>• A protractor for each student</td>
</tr>
<tr>
<td>• Overhead markers: black, red, blue, and green</td>
</tr>
<tr>
<td>• Building blocks, to make an approximately 1-foot-tall tower</td>
</tr>
<tr>
<td>• Colored pencils: red, blue, and green for each student</td>
</tr>
<tr>
<td>• Three 8 1/2 × 11 sheets of paper</td>
</tr>
<tr>
<td>• A washable marker for each student</td>
</tr>
</tbody>
</table>

Math 5 Tests and Answer Key
Optional (Teacher’s Toolkit CD):
• Fact Reviews pages 35–61
• Enrichment pages 22–26
• Extended Activities
# Chapter 5: Division: 1-Digit Divisors

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 39     | Division | • Demonstrate an understanding of division  
         • Identify the dividend, divisor, and quotient in division problems  
         • Illustrate and solve division word problems  
         • Demonstrate an understanding of the inverse relationship between multiplication and division  
         • Solve a missing factor equation | **Teaching Visuals (Teacher’s Toolkit CD):**  
• Chart 4: Points, Lines & Planes  
• Chart 5: Line Segments, Rays & Angles  
• Chart 6: Angles  
**Teacher Manipulatives Packet:**  
• Place Value Kit  
• Money Kit  
**Student Manipulatives Packet:**  
• Place Value Kit  
• Money Kit  
• Multiplication/Division Mat  
**Instructional Aids (Teacher’s Toolkit CD):**  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Input/Output Tables transparency (page IA21)  
• Division Grids (4) transparency (page IA35)  
• Division Grids (4) (page IA35), several copies for each student  
• Division Grids (2) transparency (page IA36)  
• Division Grids (2) (page IA36) for each student  
• Mathematical Expressions transparency (page IA37)  
**Other Teaching Aids:**  
• Several half-sheets of paper for each student and the teacher  
• 3 pencils  
**Math 5 Tests and Answer Key**  
• Fact Reviews pages 18–35  
• Enrichment pages 27–31  
• Extended Activities |
| 40     | 1-Digit Quotients | • Divide to find a 1-digit quotient, using manipulatives  
         • Solve a division word problem  
         • Write a division equation for a word problem  
         • Demonstrate an understanding of the long division process  
         • Check the quotient of a division problem, using multiplication |  
| 41     | 1- & 2-Digit Quotients | • Divide to find 1- and 2-digit quotients, using manipulatives  
         • Solve a division word problem  
         • Write a division equation for a word problem  
         • Interpret a remainder  
         • Check a division problem using multiplication |  
| 42     | 2- & 3-Digit Quotients | • Divide to find 2- and 3-digit quotients  
         • Write a division equation for a word problem  
         • Interpret a remainder  
         • Illustrate a division word problem using a part-part-whole model  
         • Check a division problem using multiplication  
         • Determine the average (mean) |  
| 43     | Zero in the Quotient | • Complete an input/output table  
         • Divide to find quotients with zero  
         • Solve a division word problem |  
| 44     | 4-Digit Dividends | • Solve a missing factor equation with a variable  
         • Divide a 4-digit dividend  
         • Divide money  
         • Solve a money division word problem  
         • Write a money division word problem |  
| 45     | Estimate | • Complete a division input/output table  
         • Analyze patterns and use mental math to divide multiples of 10  
         • Estimate a quotient using compatible numbers |  
| 46     | Short Form of Division | • Write a mathematical expression for a word phrase  
         • Use the short form of division to find a quotient  
         • Solve a division word problem |  
| 47     | Chapter 5 Review | • Review |  
| 48     | Chapter 5 Test Cumulative Review | • Demonstrate an understanding of the Distributive Property of Multiplication over Addition  
         • Identify a name for a given number  
         • Identify a multiple of a given number  
         • Identify prime and composite numbers  
         • Identify the number rounded to a given amount  
         • Round to determine the estimate  
         • Determine the unknown measure of an angle in a triangle  
         • Read and interpret the data in a bar graph |
# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 6: Fractions

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 49     | Compare & Order Fractions | • Demonstrate an understanding of a fraction  
         |       | • Demonstrate an understanding of equivalent fractions  
         |       | • Compare and order like fractions  
         |       | • Compare and order unlike fractions  
         |       | • Compare fractions to 1 or ½ using >, <, =, or ≠  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Student Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 50     | Rename Fractions | • Rename a fraction to higher terms  
         |       | • Rename a fraction to lower terms, using divisibility rules  
         |       | • Compare and order related fractions  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 51     | Improper Fractions & Mixed Numbers | • Rename an improper fraction as a mixed number  
         |       | • Rename a mixed number as an improper fraction  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 52     | Compare Mixed Numbers | • Compare mixed numbers and improper fractions  
         |       | • Round mixed numbers to the nearest whole number  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 53     | Common Factors | • List the factors of a number  
         |       | • Identify prime and composite numbers  
         |       | • Use a Venn diagram to identify common factors  
         |       | • Determine if a number is divisible by 2, 3, 4, 5, 6, or 10  
         |       | • Use divisibility rules to identify common factors  
         |       | • Rename a fraction to lowest terms  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 54     | Lowest Terms | • Identify common factors of two numbers  
         |       | • Demonstrate an understanding of renaming fractions to lower terms  
         |       | • Rename a fraction to lowest terms using the Greatest Common Factor (GCF)  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 55     | More Lowest Terms | • Construct a factor tree  
         |       | • Determine the GCF for two numbers using prime factorization  
         |       | • Use a Venn diagram to determine the GCF for two numbers  
         |       | • Write the prime factorization of a number, using exponents  
         |       | • Rename a fraction to lowest terms using the GCF  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Fraction Number Lines transparency (page IA38) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 56     | Guess & Check | • Use the guess and check strategy to solve problems  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 57     | Chapter 6 Review | • Review  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  
| 58     | Chapter 6 Test Cumulative Review | • Compare and order positive and negative numbers  
         |       | • Compare equations using using >, <, or =  
         |       | • Determine the radius of a circle, given the diameter  
         |       | • Determine the diameter of a circle, given the radius  
         |       | • Identify acute, obtuse, and right angles  
         |       | • Determine the unknown measure of an angle in a pair of supplementary angles  
         |       | • Identify lines containing rays and line segments  
         |       | Teacher Manipulatives Packet:  
         |       | • Fraction Kit  
         |       | Instructional Aids (Teacher’s Toolkit CD):  
         |       | • Cumulative Review Answer Sheet (page IA8) for each student  
         |       | • Equivalent Fractions transparency (page IA39) for each student  
         |       | • More Fraction Number Lines transparency (page IA40) for each student  
         |       | Math 5 Tests and Answer Key  
         |       | Optional (Teacher’s Toolkit CD):  
         |       | • Fact Reviews pages 62–78  
         |       | • Enrichment pages 32–35  
         |       | • Extended Activities  

---

9
# Chapter 7: Division: 2-Digit Divisors

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>Multiples of 10</td>
<td>• Analyze patterns and use mental math to divide multiples of 10</td>
<td>Teaching Visuals (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Estimate a quotient using compatible numbers</td>
<td>• Chart 1: Problem-Solving Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Divide by a multiple of 10</td>
<td>• Chart 2: Adjust the Quotient (higher)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Chart 3: Adjust the Quotient (lower)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Chart 25: Line Graph: Fair Week</td>
</tr>
<tr>
<td>60</td>
<td>1-Digit Quotients</td>
<td>• Divide to find 1-digit quotients</td>
<td>Teacher Manipulatives Packet:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Estimate a quotient using compatible numbers</td>
<td>• Place Value Kit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solve a division word problem</td>
<td>Student Manipulatives Packet:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check division problems using multiplication</td>
<td>• Place Value Kit</td>
</tr>
<tr>
<td></td>
<td>Adjust the Quotient</td>
<td>• Adjust the quotient in a division problem</td>
<td>Instructional Aids (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Divide to find 1-digit quotients</td>
<td>• Cumulative Review Answer Sheet (page IA8) for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check division problems using multiplication</td>
<td>• Input/Output Tables transparency (page IA21)</td>
</tr>
<tr>
<td></td>
<td>2-Digit Quotients</td>
<td>• Divide to find 2-digit quotients</td>
<td>• Division Grids (4) transparency (page IA35)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adjust the quotient in a division problem</td>
<td>• Division Grids (4) (page IA35), several copies for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solve a division word problem</td>
<td>• More Fraction Number Lines transparency (page IA40)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Interpret a remainder</td>
<td>• Venn Diagram transparency (page IA42)</td>
</tr>
<tr>
<td></td>
<td>4-Digit Dividends</td>
<td>• Complete an input/output table using mental math</td>
<td>• Too Much or Not Enough transparency (page IA45)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Divide 4-digit dividends to find 2-digit quotients</td>
<td>• Too Much or Not Enough (page IA45) for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adjust the quotient in a division problem</td>
<td>• Chart &amp; Line Graph transparency (page IA46)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solve a division word problem</td>
<td>• Class Popcorn Sales transparency (page IA47)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Interpret a remainder</td>
<td>• Multi-step Word Problems transparency (page IA48)</td>
</tr>
<tr>
<td></td>
<td>3-Digit Quotients</td>
<td>• Divide to find 3-digit quotients</td>
<td>• Line Graph: Air Show Attendance transparency (page IA49)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine whether a word problem has too much or not enough information</td>
<td>• Bar Graph: Airline Flight 253 transparency (page IA50)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solve a word problem</td>
<td>Other Teaching Aids:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Write an equation for a division word problem</td>
<td>• 130 small dried beans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Interpret a remainder</td>
<td>• A red overhead marker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Develop an understanding of a remainder written as a fraction</td>
<td>• A calculator for each student (optional)</td>
</tr>
<tr>
<td></td>
<td>More 3-Digit Quotients</td>
<td>• Divide to find 3-digit quotients</td>
<td>Math 5 Tests and Answer Key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Divide to find a quotient containing 0</td>
<td>Optional (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Analyze a line graph</td>
<td>• Fact Reviews pages 1–78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use a line graph to solve word problems</td>
<td>• Enrichment pages 36–44</td>
</tr>
<tr>
<td></td>
<td>More Division</td>
<td>• Determine the rule for an input/output table</td>
<td>• Extended Activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Analyze a pictograph</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use a pictograph to solve word problems</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Develop an understanding of a remainder written as a fraction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Order of Operations</td>
<td>• Use the order of operations to solve equations and multi-step word problems</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Chapter 7 Review</td>
<td>• Review</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chapter 7 Test Cumulative</td>
<td>• Recognize related numbers and fractions</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Review</td>
<td>• Identify equivalent fractions</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td></td>
<td>• Determine the number for a point on a number line</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chapter 7 Test Cumulative</td>
<td>• Rename improper fractions and mixed numbers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Read and interpret the data in a bar graph</td>
<td></td>
</tr>
</tbody>
</table>
# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 8: Time & Customary Measurement

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 70     | Time  | • Identify equivalent units of time  
          • Tell and write time to the minute  
          • Differentiate between AM and PM  
          • Convert (rename) units of time to smaller or larger units  
          • Read a calendar and write a date | **Teaching Visuals (Teacher’s Toolkit CD):**  
          • Chart 17: Time Measurement  
          • Chart 18: Time Line: Air & Space  
          • Chart 19: Customary Measurement  
          **Teacher Manipulatives Packet:**  
          • Clock  
          • Rulers: Inch Ruler (fourths), Inch Ruler (eighths)  
          • Thermometer  
          • Red Strip  
          **Student Manipulatives Packet:**  
          • Clock  
          • Rulers: Inch Ruler (fourths), Inch Ruler (eighths), Measuring Tape (yard)  
          • Thermometer  
          • Red Strip  
          **Instructional Aids (Teacher’s Toolkit CD):**  
          • Cumulative Review Answer Sheet (page IA8) for each student  
          • 1776 transparency (page IA51)  
          • Map Key transparency (page IA52)  
          • Map Key (page IA52) for each student  
          • Input/Output Tables (blank) transparency (page IA53)  
          • Input/Output Tables (blank) (page IA53), 2 copies for each student  
          • Temperature Chart (page IA54) for each student  
          • Line Graph: Temperature transparency (page IA55)  
          • Word Problems transparency (page IA56)  
          **Christian Worldview Shaping (Teacher’s Toolkit CD):**  
          • Pages 7–10  
          **Other Teaching Aids:**  
          • Judy Clock  
          • A yardstick  
          • A tape measure  
          • A drinking straw  
          • 14 feet of rope  
          • A spring scale  
          • 1 lb of sugar and 1 oz of sugar  
          • A 1-lb loaf of bread  
          • A small onion  
          • An apple  
          • A cabbage  
          • Unpopped popcorn, rice, or dried beans  
          • Two clear 1-cup measuring cups, an 8-ounce paper cup, a 1-pint container, a 1-quart container, and a 1-gallon container  
          • 1 gallon of colored water  
          • A thermometer for each group of 4 students  
          • Six 3 × 5 cards |
| 71     | Elapsed Time | • Determine the elapsed time to the hour and minute  
          • Determine the future elapsed time  
          • Add and subtract time  
          • Demonstrate an understanding of elapsed time on a time line | **Elapsed Time**  
          • Determine the elapsed time to the hour and minute  
          • Determine the future elapsed time  
          • Add and subtract time  
          • Demonstrate an understanding of elapsed time on a time line |
| 72     | Linear Measurement | • Recognize inch, foot, yard, and mile as linear measurement units  
          • Use a map key to determine distance  
          • Estimate length to the nearest inch  
          • Measure to the nearest inch, half inch, fourth inch, and eighth inch  
          • Draw a line to the nearest inch, half inch, fourth inch, and eighth inch  
          • Measure the perimeter of a figure | **Linear Measurement**  
          • Recognize inch, foot, yard, and mile as linear measurement units  
          • Use a map key to determine distance  
          • Estimate length to the nearest inch  
          • Measure to the nearest inch, half inch, fourth inch, and eighth inch  
          • Draw a line to the nearest inch, half inch, fourth inch, and eighth inch  
          • Measure the perimeter of a figure |
| 73     | Rename Measurements | • Convert (rename) units of linear measurement to smaller or larger units  
          • Recognize the symbols for foot and inch | ** Rename Measurements**  
          • Convert (rename) units of linear measurement to smaller or larger units  
          • Recognize the symbols for foot and inch |
| 74     | Weight & Capacity | • Recognize pound, ounce, and ton as measuring units for weight  
          • Recognize fluid ounce, cup, pint, quart, and gallon as measuring units for capacity  
          • Convert (rename) units of weight and capacity to smaller or larger units  
          • Read a spring scale | **Weight & Capacity**  
          • Recognize pound, ounce, and ton as measuring units for weight  
          • Recognize fluid ounce, cup, pint, quart, and gallon as measuring units for capacity  
          • Convert (rename) units of weight and capacity to smaller or larger units  
          • Read a spring scale |
| 75     | Temperature | • Recognize degree as a measuring unit for temperature  
          • Recognize that °F represents degrees Fahrenheit  
          • Read and set a Fahrenheit thermometer  
          • Recognize standard Fahrenheit temperatures  
          • Measure temperature using a Fahrenheit thermometer  
          • Interpreting a line graph | **Temperature**  
          • Recognize degree as a measuring unit for temperature  
          • Recognize that °F represents degrees Fahrenheit  
          • Read and set a Fahrenheit thermometer  
          • Recognize standard Fahrenheit temperatures  
          • Measure temperature using a Fahrenheit thermometer  
          • Interpreting a line graph |
| 76     | Measurement Problems | • Add, subtract, and multiply customary measurements  
          • Solve rate (speed) and distance word problems | **Measurement Problems**  
          • Add, subtract, and multiply customary measurements  
          • Solve rate (speed) and distance word problems |
| 77     | Chapter 8 Review | • Review | **Chapter 8 Review**  
          • Review |
| 78     | Chapter 8 Test Cumulative Review | • Multiply a 2- or 3-digit factor by a 1- or 2-digit multiplier  
          • Solve multiplication and division problems mentally  
          • Identify lines, rays, and angles in a plane figure  
          • Determine equivalent fractions | **Chapter 8 Test Cumulative Review**  
          • Multiply a 2- or 3-digit factor by a 1- or 2-digit multiplier  
          • Solve multiplication and division problems mentally  
          • Identify lines, rays, and angles in a plane figure  
          • Determine equivalent fractions |
<table>
<thead>
<tr>
<th>Math 5, 3rd Edition—Lesson Plan Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A calculator for each student (optional</td>
</tr>
<tr>
<td>Math 5 Tests and Answer Key</td>
</tr>
<tr>
<td>Optional (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td>• Fact Reviews pages 1–78</td>
</tr>
<tr>
<td>• Enrichment pages 45–50</td>
</tr>
<tr>
<td>• Extended Activities</td>
</tr>
</tbody>
</table>
Math 5, 3rd Edition—Lesson Plan Overview

### Chapter 9: Fractions: Addition & Subtraction

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 79     | Add Like Fractions | • Add fractions and mixed numbers with like denominators  
         • Estimate the sum of mixed numbers by rounding to the nearest whole number  
         • Simplify fraction answers by renaming to lowest terms  
         • Simplify improper fraction answers by renaming as mixed numbers  
         • Apply addition properties to fractions | Teaching Visuals (Teacher’s Toolkit CD):  
         • Chart 3: Points, Lines & Planes  
         • Chart 4: Line Segments, Rays & Angles  
         • Chart 5: Angles  
         • Chart 6: Triangles  
         Teacher Manipulatives Packet:  
         • Fraction Kit: fraction circles  
         • Fraction Number Line (tan)  
         • Measurement Flashcards: customary capacity  
         Student Manipulatives Packet:  
         • Fraction Kit: fraction circles  
         • Fraction Number Line (tan)  
         Instructional Aids (Teacher’s Toolkit CD):  
         • Cumulative Review Answer Sheet (page IA8) for each student  
         • Fraction Number Lines (blank) transparency (page IA41)  
         • Venn Diagram transparency (page IA42)  
         • Venn Diagram (page IA42) for each student  
         • Fraction Paper (page IA57) (optional)  
         • Hundred Chart (page IA58) for each student  
         • Add & Subtract Fractions transparency (page IA59)  
         Other Teaching Aids:  
         • 26 Unifix Cubes for each student (10 of one color and 16 of another)  
         • A calculator for each student (optional)  
         • A measuring teaspoon  
         • A measuring tablespoon  
         • Ingredients, utensils, and other supplies for making cookies (optional; see recipe in Lesson 89)  
         Math 5 Tests and Answer Key  
         Optional (Teacher’s Toolkit CD):  
         • Fact Reviews pages 1–78  
         • Enrichment pages 51–58  
         • Extended Activities |
| 80     | Subtract Like Fractions | • Subtract fractions and mixed numbers with like denominators  
         • Estimate the difference of mixed numbers by rounding to the nearest whole number  
         • Rename 1 as an improper fraction to subtract  
         • Simplify answers by renaming to lowest terms  
         • Write an equation to solve a fraction word problem |  
| 81     | Add Unlike Fractions | • Add fractions and mixed numbers with unlike (related) denominators  
         • Estimate the sum of mixed numbers by rounding  
         • Simplify answers by renaming to lowest terms  
         • Write an equation to solve a fraction word problem |  
| 82     | Subtract Unlike Fractions | • Subtract fractions and mixed numbers with unlike (related) denominators  
         • Estimate the difference of mixed numbers by rounding  
         • Simplify answers by renaming to lowest terms  
         • Write an equation to solve a fraction word problem |  
| 83     | Least Common Multiple | • List multiples to determine the Least Common Multiple (LCM) of two numbers  
         • Use a Venn diagram to determine the LCM of two numbers  
         • Write equivalent fractions using the Least Common Denominator (LCD)  
         • Add and subtract unlike fractions  
         • Complete an input/output table |  
| 84     | Compare Fractions | • Determine the Least Common Denominator (LCD) by finding the Least Common Multiple (LCM) or find a common denominator by multiplying the unlike denominators  
         • Compare unlike fractions (use the LCD to make equivalent fractions)  
         • Add and subtract unlike fractions  
         • Apply the LCM to problem-solving situations |  
| 85     | Least Common Denominator | • Determine the LCD by finding the LCM  
         • Add and subtract fractions  
         • Simplify answers by renaming to lowest terms  
         • Evaluate equations by substituting fractions for variables |  
| 86     | Add & Subtract Unlike Fractions | • Determine the LCD by finding the LCM or find a common denominator by multiplying the unlike denominators  
         • Add and subtract fractions  
         • Simplify answers by renaming to lowest terms  
         • Write an equation to solve a fraction word problem |  
| 87     | Add & Subtract Mixed Numbers | • Determine the LCD by finding the LCM or find a common denominator by multiplying the unlike denominators  
         • Add and subtract mixed numbers |  

### Lesson 79: Add Like Fractions

- Add fractions and mixed numbers with like denominators.
- Estimate the sum of mixed numbers by rounding to the nearest whole number.
- Simplify fraction answers by renaming to lowest terms.
- Simplify improper fraction answers by renaming as mixed numbers.
- Apply addition properties to fractions.

### Lesson 80: Subtract Like Fractions

- Subtract fractions and mixed numbers with like denominators.
- Estimate the difference of mixed numbers by rounding to the nearest whole number.
- Rename 1 as an improper fraction to subtract.
- Simplify answers by renaming to lowest terms.
- Write an equation to solve a fraction word problem.

### Lesson 81: Add Unlike Fractions

- Add fractions and mixed numbers with unlike (related) denominators.
- Estimate the sum of mixed numbers by rounding.
- Simplify answers by renaming to lowest terms.
- Write an equation to solve a fraction word problem.

### Lesson 82: Subtract Unlike Fractions

- Subtract fractions and mixed numbers with unlike (related) denominators.
- Estimate the difference of mixed numbers by rounding.
- Simplify answers by renaming to lowest terms.
- Write an equation to solve a fraction word problem.

### Lesson 83: Least Common Multiple

- List multiples to determine the Least Common Multiple (LCM) of two numbers.
- Use a Venn diagram to determine the LCM of two numbers.
- Write equivalent fractions using the Least Common Denominator (LCD).
- Add and subtract unlike fractions.
- Complete an input/output table.

### Lesson 84: Compare Fractions

- Determine the Least Common Denominator (LCD) by finding the Least Common Multiple (LCM) or find a common denominator by multiplying the unlike denominators.
- Compare unlike fractions (use the LCD to make equivalent fractions).
- Add and subtract unlike fractions.
- Apply the LCM to problem-solving situations.

### Lesson 85: Least Common Denominator

- Determine the LCD by finding the LCM.
- Add and subtract fractions.
- Simplify answers by renaming to lowest terms.
- Evaluate equations by substituting fractions for variables.

### Lesson 86: Add & Subtract Unlike Fractions

- Determine the LCD by finding the LCM or find a common denominator by multiplying the unlike denominators.
- Add and subtract fractions.
- Simplify answers by renaming to lowest terms.
- Write an equation to solve a fraction word problem.

### Lesson 87: Add & Subtract Mixed Numbers

- Determine the LCD by finding the LCM or find a common denominator by multiplying the unlike denominators.
- Add and subtract mixed numbers.
<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• Simplify answers by renaming to lowest terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Estimate by rounding to the nearest whole number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Write &gt;, &lt;, or = to complete statements comparing sums or differences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Write an equation to solve a fraction word problem</td>
</tr>
<tr>
<td>88</td>
<td>Add &amp; Subtract Fractions</td>
<td>• Add fractions and mixed numbers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Subtract fractions and mixed numbers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the LCD by finding the LCM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Simplify answers by renaming to lowest terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Estimate by rounding to the nearest whole number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Apply the LCM to problem-solving situations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solve math phrases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Complete an input/output table</td>
</tr>
<tr>
<td>89</td>
<td>Factoring to Compare Fractions</td>
<td>• Construct a factor tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Write the prime factorization of a number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the LCM for two numbers using prime factorization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Apply knowledge of fractions to everyday life</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use a recipe to solve fraction problems</td>
</tr>
<tr>
<td>90</td>
<td>Chapter 9 Review</td>
<td>• Review</td>
</tr>
<tr>
<td>91</td>
<td>Chapter 9 Test Cumulative Review</td>
<td>• Read a circle graph, a line graph, and a bar graph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the number, variable, or operation needed to complete an equation</td>
</tr>
</tbody>
</table>
# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 10: Equations

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>92</td>
<td>Expressions</td>
<td>• Write a mathematical expression for a real-life situation or a word phrase</td>
<td>Teaching Charts (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use two equal expressions to write an equation</td>
<td>• Chart 24: Coordinate Graph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Evaluate and relate expressions using $&gt;$, $&lt;$, or $=$</td>
<td>• Chart 26: Double Bar Graph</td>
</tr>
<tr>
<td>93</td>
<td>Equations</td>
<td>• Apply properties and strategies to evaluate and relate equivalent expressions</td>
<td>Student Manipulatives Packet:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Write an equation for a part-part-whole model</td>
<td>• Place Value Kit</td>
</tr>
<tr>
<td>94</td>
<td>Balanced Equations</td>
<td>• Determine the value of an expression using substitution</td>
<td>Instructional Aids (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine an unknown value (value of a variable) in an equation using substitution or mental math</td>
<td>• Cumulative Review Answer Sheet (page IA8) for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the value of objects on a balanced scale</td>
<td>• Bar Graph transparency (page IA10)</td>
</tr>
<tr>
<td>95</td>
<td>Equations in Word Problems</td>
<td>• Solve word problems with unlike parts</td>
<td>• Input/Output Tables transparency (page IA21)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Write an equation for a word problem</td>
<td>• Coordinate Graph transparency (page IA24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rename parts with unlike labels</td>
<td>• Class Popcorn Sales transparency (page IA47)</td>
</tr>
<tr>
<td>96</td>
<td>Chapter 10 Review</td>
<td>• Review</td>
<td>• Expressions &amp; Equations I transparency (page IA60)</td>
</tr>
<tr>
<td>97</td>
<td>Chapter 10 Test Cumulative Review</td>
<td>• Solve problems mentally</td>
<td>• Expressions &amp; Equations II transparency (page IA61)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the perimeter of a triangle</td>
<td>• Apply Properties transparency (page IA62)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the unknown measure of an angle in a triangle</td>
<td>• Solve for $x$ transparency (page IA63)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Identify the kind of angle</td>
<td>• Solve for $x$ (page IA63) for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Recognize the diameter of a circle</td>
<td>• Balanced Equations (numbers) transparency (page IA64)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Identify the equivalent fraction</td>
<td>• Balanced Equations (objects) transparency (page IA65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Add fractions</td>
<td>• Part-Part-Whole Model (page IA66) for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Equations: Word Problems I transparency (page IA67)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Equations: Word Problems II transparency (page IA68)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• More Expressions &amp; Equations transparency (page IA69)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Part-Part-Whole Model (variable) transparency (page IA70)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other Teaching Aids:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 3 coffee stirrers for each student</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Math 5 Tests and Answer Key</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Optional (Teacher’s Toolkit CD):</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Fact Reviews pages 1–78</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Enrichment pages 59–62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Extended Activities</td>
</tr>
</tbody>
</table>
# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 11: Geometry—Perimeter & Area

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 98     | Quadrilaterals & Other Polygons | • Describe and identify regular and irregular polygons  
• Calculate the perimeter of a polygon  
• Identify a square, a rectangle, a parallelogram, a trapezoid, and a rhombus as quadrilaterals  
• Develop an understanding that the sum of the angle measurements of any quadrilateral is 360° | Teaching Visuals (Teacher’s Toolkit CD):  
• Chart 7: Triangles  
• Chart 8: Center Points, Radii & Diameters  
• Chart 10: Polygons  
• Chart 11: Quadrilaterals  
• Chart 12: Similar, Congruent & Symmetrical  
• Chart 13: Perimeter  
• Chart 14: Area  
Student Manipulatives Packet:  
• Shapes Kit: 1 quadrilateral  
Instructional Aids (Teacher’s Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Triangles transparency (page IA30)  
• Triangles (page IA30) for each student  
• Equations: Word Problems I transparency (page IA67)  
• Quadrilaterals transparency (page IA71)  
• Quadrilaterals (page IA71) for each student  
• Circumference A (page IA72) for one third of the students  
• Circumferences B & C (page IA73) for two thirds of the students  
• Transformations transparency (page IA74)  
• Transformations (page IA74) for each student  
• More Triangles transparency (page IA75)  
• Area Grid transparency (page IA76)  
• Area Grid (page IA76) for each student  
• Complex Area transparency (page IA77)  
• Complex Area (page IA77) for each student  
• Triangles transparency (page IA78)  
• Triangles (page IA78) for each student  
• Perimeter & Area transparency (page IA79)  
• Perimeter & Area (page IA79) for each student  
Christian Worldview Shaping (Teacher’s Toolkit CD):  
• Page 11  
Other Teaching Aids:  
• A 25-inch strand of yarn for each student  
• Quadrilaterals of different shapes for each student  
• A 12-inch ruler for each student  
• A centimeter ruler for each student  
• Scissors for each student  
• A protractor for each student  
• An overhead protractor  
Math 5 Tests and Answer Key  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 1–78  
• Enrichment pages 63–70  
• Extended Activities |
| 99     | Perimeter & Circumference | • Develop an understanding of the relationship between the diameter and the circumference of a circle  
• Estimate the circumference of a circle  
• Identify and describe similar, congruent, and symmetrical figures  
• Identify, model, and describe translations, rotations, and reflections  
• Calculate the perimeter of a polygon | |
| 100    | Classify Triangles | • Develop an understanding that the sum of the angle measurements of any triangle is 180°  
• Measure the angles in a triangle using a protractor  
• Classify triangles by angles (right, acute, obtuse)  
• Classify triangles by sides (equilateral, isosceles, scalene) | |
| 101    | Area | • Use a formula to calculate the area of squares and rectangles  
• Calculate the area of a complex polygon  
• Solve geometry word problems | |
| 102    | Area of a Triangle | • Develop an understanding of the area of a triangle  
• Solve geometry word problems | |
| 103    | Perimeter & Area | • Calculate the area of a square, a rectangle, a complex figure, and a triangle  
• Calculate the perimeter of a rectangle | |
| 104    | Chapter 11 Review | • Review | |
| 105    | Chapter 11 Test Cumulative Review | • Add and subtract fractions and mixed numbers  
• Determine equivalent measurements  
• Determine equivalent expressions  
• Solve problems with variables | |
## Chapter 12: Fractions—Multiplication & Division

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>106</td>
<td>Multiply a Whole Number and a Fraction</td>
<td>• Write a multiplication equation for a repeated addition equation&lt;br&gt;• Multiply a whole number and a fraction&lt;br&gt;• Simplify answers by renaming to lowest terms&lt;br&gt;• Write an equation to solve a fraction word problem&lt;br&gt;• Complete an input/output table</td>
<td>Teacher Manipulatives Packet:&lt;br&gt;• Fraction Kit: fraction circles&lt;br&gt;• Shapes Kit: 12 red squares&lt;br&gt;• Fraction Number Line (tan)&lt;br&gt;Student Manipulatives Packet:&lt;br&gt;• Fraction Kit: fraction circles&lt;br&gt;• Shapes Kit: 12 red squares&lt;br&gt;• Fraction Number Line (tan)&lt;br&gt;Instructional Aids (Teacher’s Toolkit CD):&lt;br&gt;• Cumulative Review Answer Sheet (page IA8) for each student&lt;br&gt;• Input/Output Tables (blank) transparency (page IA53)&lt;br&gt;• More Fractions transparency (page IA80)&lt;br&gt;Other Teaching Aids:&lt;br&gt;• Four 8½ × 11 sheets of unruled white paper for each student and the teacher&lt;br&gt;• 2 different colored crayons for each student&lt;br&gt;• 2 different colored markers or chalk&lt;br&gt;• Examples of fractions from home (e.g., measuring cups, recipes, serving labels from canned goods, fabric, ruler)&lt;br&gt;• A bar graph (from a newspaper, a magazine, or an online encyclopedia)&lt;br&gt;• A ruler for each student&lt;br&gt;• A Bible&lt;br&gt;Math 5 Tests and Answer Key&lt;br&gt;Optional (Teacher’s Toolkit CD):&lt;br&gt;• Fact Reviews pages 1–78&lt;br&gt;• Enrichment pages 71–74&lt;br&gt;• Extended Activities</td>
</tr>
<tr>
<td>107</td>
<td>Find a Fraction of a Whole Number</td>
<td>• Find a fraction of a whole number using manipulatives&lt;br&gt;• Multiply to find a fraction of a whole number&lt;br&gt;• Simplify answers by renaming to lowest terms&lt;br&gt;• Write an equation to solve a fraction word problem</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>Find a Fraction of a Fraction</td>
<td>• Make a model or diagram to find a fraction of a fraction&lt;br&gt;• Multiply to find a fraction of a fraction&lt;br&gt;• Simplify answers by renaming to lowest terms&lt;br&gt;• Write an equation to solve a fraction word problem&lt;br&gt;• Apply multiplication properties to fractions</td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>Multiply a Mixed Number</td>
<td>• Multiply a whole number and a mixed number&lt;br&gt;• Apply the Distributive Property of Multiplication over Addition to multiply a whole number and a mixed number&lt;br&gt;• Simplify answers by renaming to lowest terms&lt;br&gt;• Write an equation to solve a fraction word problem</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>Multiply Mixed Numbers</td>
<td>• Estimate the product of mixed numbers by rounding to the nearest whole number&lt;br&gt;• Multiply mixed numbers&lt;br&gt;• Simplify answers by renaming to lowest terms&lt;br&gt;• Write an expression for a phrase</td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>Divide a Whole Number by a Fraction</td>
<td>• Draw a diagram to solve a division equation with a fraction&lt;br&gt;• Use a number line to solve a division equation with a fraction&lt;br&gt;• Demonstrate an understanding of dividing a whole number by a fraction&lt;br&gt;• Check a division problem using multiplication&lt;br&gt;• Complete an input/output table</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>Divide a Fraction by a Fraction</td>
<td>• Draw a diagram to solve a division equation with a fraction&lt;br&gt;• Use a number line to solve a division equation with a fraction&lt;br&gt;• Demonstrate an understanding of dividing a fraction by a fraction&lt;br&gt;• Check a division problem using multiplication&lt;br&gt;• Write an equation to solve a fraction word problem</td>
<td></td>
</tr>
<tr>
<td>113</td>
<td>Use Reciprocals to Divide Fractions</td>
<td>• Write multiplication and division equations for a fraction family&lt;br&gt;• Identify the reciprocal of a fraction&lt;br&gt;• Divide by multiplying by the reciprocal of the divisor&lt;br&gt;• Check a division problem using multiplication&lt;br&gt;• Write an equation to solve a fraction word problem</td>
<td></td>
</tr>
<tr>
<td>114</td>
<td>Divide Fractions</td>
<td>• Identify the reciprocal of a fraction&lt;br&gt;• Divide by multiplying by the reciprocal of the divisor&lt;br&gt;• Check a division problem using multiplication&lt;br&gt;• Complete an input/output table&lt;br&gt;• Write an equation to solve a fraction word problem</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>The World of Fractions</td>
<td>• Connect math to other subjects in real-world situations&lt;br&gt;• Write an equation to solve a fraction word problem&lt;br&gt;• Solve multi-step word problems</td>
<td></td>
</tr>
</tbody>
</table>
### Math 5, 3rd Edition—Lesson Plan Overview

<table>
<thead>
<tr>
<th>Page</th>
<th>#</th>
<th>Chapter 12 Review</th>
<th>Chapter 12 Test Cumulative Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td></td>
<td>• Review</td>
<td>• Recognize the factors of a number</td>
</tr>
<tr>
<td>117</td>
<td></td>
<td></td>
<td>• Recognize the multiples of a number</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Recognize characteristics of a number</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Recognize addition properties</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Determine the value of $n$ in a part-part-whole model</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Calculate perimeter and area of figures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Calculate the unknown measure of an angle in a triangle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Convert inches to feet</td>
</tr>
</tbody>
</table>
# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 13: Decimals—Multiplication & Division

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 118    | Decimals | • Demonstrate an understanding of decimals  
• Read and write decimals to the One Thousandths place  
• Identify the value of digits in a decimal  
• Write decimals as fractions and mixed numbers  
• Identify the equivalent fraction for a decimal | Teacher Manipulatives Packet:  
• Decimal Place Value Pocket Chart Kit (B)  
• Place Value Kit  
Student Manipulatives Packet:  
• Decimal Place Value Pocket Chart Kit (B)  
• Place Value Kit  
Instructional Aids (Teacher’s Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Input/Output Tables (blank) transparency (page IA53)  
• Tenths transparency (page IA81)  
• Hundredths transparency (page IA82)  
• Hundredths (page IA82) for each student  
• Decimals transparency (page IA83)  
• Number Line Patterns transparency (page IA84)  
• Number Line Patterns (page IA84) for each student  
• Decimal Word Problems transparency (page IA85)  
• Multiply & Divide by Powers of 10 transparency (page IA86)  
• Multiply & Divide by Powers of 10 (page IA86) for each student  
• Decimal Review transparency (page IA87)  
• Decimal Review (page IA87) for each student  
• Decimal Review, Continued transparency (page IA88)  
• Decimal Review, Continued (page IA88) for each student  
Christian Worldview Shaping (Teacher’s Toolkit CD):  
• Page 12  
Other Teaching Aids:  
• A calculator for each student  
• Overhead markers: red, blue, orange, purple, and brown  
• Crayons: red and blue for each student  
Math 5 Tests and Answer Key  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 1–78  
• Enrichment pages 75–80  
• Extended Activities |
| 119    | Rounding Decimals | • Demonstrate an understanding of decimals  
• Plot decimals on a number line  
• Round decimals to a given place  
• Order decimals from least to greatest |  |
| 120    | Compare & Multiply | • Order decimals from least to greatest  
• Compare decimals  
• Multiply a decimal by a whole number  
• Estimate the product of a multiplication problem by rounding to the nearest whole number  
• Solve decimal word problems |  |
| 121    | Multiply Decimals | • Multiply a decimal by a multiple of ten  
• Multiply a decimal by a decimal  
• Solve decimal word problems  
• Write an equation for a word problem |  |
| 122    | Estimate & Multiply | • Write a decimal in expanded form with multiplication  
• Estimate the product by rounding to the nearest whole number  
• Multiply a decimal by a decimal  
• Determine the number of decimal places in a product  
• Annex zeros in the product  
• Write a multiplication equation for a word problem |  |
| 123    | Division: Decimal by a 1-Digit Divisor | • Divide a decimal by a 1-digit whole number, with and without renaming in the dividend  
• Check a division problem using multiplication  
• Read a chart |  |
| 124    | Quotients Less Than One | • Annex a 0 to rename a decimal  
• Check a division problem using multiplication  
• Determine if a quotient will be less than 1  
• Divide a whole number by a 1-digit whole number to find a quotient less than 1  
• Divide to rename a fraction as a decimal  
• Write an equation for a word problem |  |
| 125    | Zero in the Quotient | • Round a decimal to the nearest Ones, Tenths, or Hundredths place  
• Demonstrate an understanding of zeros in the quotient  
• Estimate the quotient of a decimal division problem  
• Divide a decimal by a 1-digit whole number  
• Check a division problem using multiplication  
• Divide to rename a fraction as a decimal  
• Solve a money word problem |  |
| 126    | Powers of Ten | • Multiply or divide a decimal by a power of 10 using mental math  
• Write an equation for a word problem |  |
| 127    | Solve Problems Backwards | • Solve word problems, working backwards |  |
| 128    | Chapter 13 Review | • Review |  |
| 129    | Chapter 13 Test Cumulative Review | • Calculate area and perimeter of figures  
• Determine the measure of the unknown angle of a figure |  |
<table>
<thead>
<tr>
<th>Math 5, 3rd Edition—Lesson Plan Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>triangle and a quadrilateral</td>
</tr>
<tr>
<td>• Identify the transformation of a figure</td>
</tr>
<tr>
<td>• Recognize congruent figures</td>
</tr>
<tr>
<td>• Identify parallel line segments in a figure</td>
</tr>
<tr>
<td>• Add fractions</td>
</tr>
<tr>
<td>• Multiply fractions</td>
</tr>
<tr>
<td>• Identify equivalent fractions</td>
</tr>
<tr>
<td>• Write an expression for a number</td>
</tr>
<tr>
<td>• Complete a part-part-whole model</td>
</tr>
<tr>
<td>• Solve a multi-step money word problem</td>
</tr>
<tr>
<td>Lesson</td>
</tr>
<tr>
<td>--------</td>
</tr>
</tbody>
</table>
| 130    | 3-Dimensional Figures | • Distinguish between 2-dimensional and 3-dimensional figures  
• Recognize 3-dimensional figures: a sphere, a cone, a cylinder, a prism, and a pyramid  
• Identify flat and curved surfaces of 3-dimensional figures  
• Develop an understanding of polyhedrons  
• Identify faces, edges, and vertices of a polyhedron  
• Distinguish between prisms and pyramids  
• Recognize a square prism (cube), a rectangular prism, a triangular prism, a square pyramid, a rectangular pyramid, and a triangular pyramid  
• Construct a cone, a cylinder, a prism, and a pyramid from nets | Teaching Visuals (Teacher's Toolkit CD):  
• Chart 13: Perimeter  
• Chart 14: Area  
• Chart 15: Volume  
• Chart 16: 3-Dimensional Figures  
Teacher Manipulatives Packet:  
• Shapes Kit  
• Rulers: Centimeter Ruler  
Student Manipulatives Packet:  
• Rulers: Centimeter Ruler  
Instructional Aids (Teacher's Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Nets I transparency (page IA89)  
• Nets II transparency (page IA90)  
• Solid Figure Patterns (pages IA91–IA98) for each student and the teacher  
• Pyramids transparency (page IA99)  
• Prisms transparency (page IA100)  
• Surface Area: Rectangular Prism transparency (page IA101)  
• Surface Area: Rectangular Prism (page IA101) for each student  
• Surface Area: Square Prism transparency (page IA102)  
• Surface Area: Square Prism (page IA102) for each student  
• Cube Pattern (page IA103) for each student and the teacher  
• Face Area (page IA104) for the teacher  
• 3-Dimensional Figures transparency (page IA105)  
• 3-Dimensional Figures (page IA105) for each student  
• Nets Review transparency (page IA106)  
Other Teaching Aids:  
• An object to represent each of the following: sphere, cone, cylinder, rectangular prism, square prism (cube), triangular prism, rectangular pyramid, square pyramid, triangular pyramid  
• A cereal box  
• Construction paper: red, yellow, and blue  
• Scissors for each student and the teacher  
• Transparent tape for each student and the teacher  
• Crayons for each student: green, orange, purple  
• A shoebox  
• A piece of cardboard (large enough to cover the opening of the shoebox) |
| 131    | Prisms & Pyramids | • Distinguish between prisms and pyramids  
• Construct a rectangular prism, a triangular prism, a rectangular pyramid, and a triangular pyramid from nets  
• Identify the characteristics of 3-dimensional figures: cone, cylinder, square prism (cube), rectangular prism, triangular prism, square pyramid, rectangular pyramid, triangular pyramid  
• Demonstrate an understanding of nets | |
| 132    | Surface Area | • Develop an understanding of surface area  
• Find the surface area of a rectangular prism and a square prism (cube) | |
| 133    | Volume | • Develop an understanding of volume  
• Use a formula to determine the volume of a 3-dimensional figure | |
| 134    | More Volume | • Develop an understanding of the relationship between perimeter, area, and volume  
• Use a formula to determine the volume of a 3-dimensional figure  
• Develop an understanding of square units and cubic units  
• Solve geometry word problems | |
| 135    | More Surface Area & Volume | • Demonstrate an understanding of surface area and volume  
• Find the surface area of a square prism (cube) and a rectangular prism  
• Use a formula to determine the volume of a 3-dimensional figure  
• Solve geometry word problems | |
| 136    | Chapter 14 Review | • Review | |
| 137    | Chapter 14 Test Cumulative Review | • Demonstrate an understanding of multiplication properties  
• Substitute a value for a variable to determine the value of the expression  
• Determine the operation needed to make an equation true  
• Solve multiplication and division problems  
• Solve time and measurement problems  
• Determine the standard form for the given word form of a number  
• Determine the value of an improper fraction  
• Solve a multi-step word problem | |

Math 5 Tests and Answer Key  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 1–78  
• Extended Activities
## Chapter 15: Metric Measurement

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 138    | Metric Measurement: Linear | • Develop an understanding of the metric system  
• Recognize metric prefixes and abbreviations  
• Develop an understanding of meter, kilometer, centimeter, and millimeter  
• Estimate and measure length, width, and height to the nearest meter, centimeter, and millimeter  
• Draw a line to the nearest centimeter or millimeter  
• Recognize that 1000 meters equal 1 kilometer  
• Determine the appropriate linear unit | Teaching Visuals (Teacher’s Toolkit CD):  
• Chart 13: Perimeter  
• Chart 20: Metric Measurement  
• Chart 21: Metric Measurement: Length & Distance  
• Chart 22: Metric Measurement: Capacity  
• Chart 23: Metric Measurement: Mass  
Teacher Manipulatives Packet:  
• Rulers: Centimeter Ruler, Measuring Tape (meter)  
• Thermometer  
• Red Strip  
• Boiling Point Steam Cloud  
Student Manipulatives Packet:  
• Rulers: Centimeter Ruler, Measuring Tape (meter)  
• Thermometer  
• Red Strip  
Instructional Aids (Teacher’s Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Input/Output Tables transparency (page IA21)  
• Input/Output Tables transparency (page IA21) for each student  
• Pyramids transparency (page IA99)  
• Prisms transparency (page IA100)  
• 3-Dimensional Figures transparency (page IA105)  
• Metric Conversions transparency (page IA107)  
• Metric Conversions (page IA107) for each student  
• Metric Conversions Review transparency (page IA108)  
• Metric Conversions Review (page IA108) for each student  
Christian Worldview Shaping (Teacher’s Toolkit CD):  
• Pages 13–15  
Other Teaching Aids:  
• A meter stick  
• A 1-liter resealable plastic bag filled with 1 liter of water  
• A round bowl (to hold water-filled bag)  
• A square container (to hold water-filled bag)  
• A 1-liter beaker or metric measuring cup  
• A small medicine cup marked 1 to 5 mL or a medicine syringe  
• A balance or metric scale  
• A large paper clip and a standard-sized paper clip for each student  
• A dictionary with a mass of about 1 kg  
• 3 items, each with a mass of less than 1 kg, and 3 other items, each with a mass of 1 kg or more, that can be measured on a balance or metric scale  
• Several types of thermometers (e.g., medical, medical, medical) |
| 139    | More Linear Measurement | • Convert millimeters, centimeters, or kilometers to meters and meters to centimeters, millimeters, or kilometers  
• Convert centimeters to millimeters and millimeters to centimeters  
• Compare linear measurements using >, <, or = |  |
| 140    | Metric Measurement: Capacity & Mass | • Develop an understanding of liter and milliliter  
• Convert milliliters to liters and liters to milliliters  
• Develop an understanding of gram, kilogram, and milligram  
• Convert milligrams or kilograms to grams and grams to milligrams or kilograms  
• Compare capacity measurements using >, <, or =  
• Compare mass measurements using >, <, or = |  |
| 141    | Celsius Temperature | • Recognize degree as a measuring unit for temperature  
• Recognize that °C represents degrees Celsius  
• Recognize standard Celsius temperatures  
• Read and set a Celsius thermometer  
• Determine the temperature 10° warmer or 10° colder  
• Determine the amount of increase or decrease between two temperatures  
• Measure temperature using a Celsius thermometer  
• Determine the more reasonable temperature |  |
| 142    | Add & Subtract Metric Units | • Add and subtract metric measurements with and without decimal form  
• Solve measurement word problems |  |
| 143    | Chapter 15 Review | • Review |  |
| 144    | Chapter 15 Test Cumulative Review | • Round a whole number or a decimal to a given place  
• Complete a mathematical statement or equation  
• Read a bar graph  
• Estimate the sum of 2 mixed numbers  
• Add unlike fractions  
• Determine the volume of a prism |  |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>candy, weather)</td>
<td></td>
</tr>
<tr>
<td>• Celsius thermometers for a group activity</td>
<td></td>
</tr>
<tr>
<td>• 3 containers to hold water at varied temperatures</td>
<td></td>
</tr>
</tbody>
</table>

**Math 5 Tests and Answer Key**

**Optional (Teacher's Toolkit CD):**

• Fact Reviews pages 1–78
• Enrichment pages 81–85
• Extended Activities
# Chapter 16: Ratios, Proportions & Percents

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 145    | Ratios | • Write ratios in 3 forms: word form, ratio form, fraction form  
• Write ratios to describe part-to-part, part-to-whole, and whole-to-part comparisons  
• Solve problems with ratios | Teacher Manipulatives Packet:  
• Shapes Kit: squares, triangles, parallelograms, rhombi, and trapezoids  
• Measurement Flashcards: metric |
| 146    | Equivalent Ratios | • Write ratios in 3 forms: word form, ratio form, fraction form  
• Write ratios to describe comparisons  
• Develop an understanding of equivalent ratios (proportion)  
• Make equivalent ratios by multiplying and dividing | Student Manipulatives Packet:  
• Shapes Kit: squares, triangles, parallelograms, rhombi, and trapezoids |
| 147    | Map Scales | • Interpret a model, a scale drawing, or a diagram | Instructional Aids (Teacher’s Toolkit CD):  
• Cumulative Review Answer Sheet (page IA8) for each student  
• Favorite Sport Survey transparency (page IA109)  
• Favorite Sport Survey (page IA109) for each student  
• Percent of a Number transparency (page IA110)  
• Probability transparency (page IA111)  
• Probability (page IA111) for each student  
• Probability Experiments (page IA112), 1 table for each pair of students  
• Percent Practice transparency (page IA113) |
| 148    | Rates | • Develop an understanding of rates  
• Use ratios to represent real-life situations and to solve problems  
• Make equivalent ratios to determine the unit rate  
• Calculate the distance traveled at a given rate and time | Christian Worldview Shaping (Teacher’s Toolkit CD):  
• Page 16 |
| 149    | Ratios & Percents | • Develop an understanding of percents  
• Write a percent as a ratio with 100 as the second term  
• Write a percent as a ratio (fraction) in lowest terms  
• Write a ratio (fraction) as a percent  
• Use a ratio to solve a percent problem | Other Teaching Aids:  
• A model car or train  
• A map  
• A ruler for each student  
• A builder’s square (optional)  
• A calculator for each student (optional)  
• Colored chalk or white board markers: yellow and blue  
• Overhead markers: 5 different colors  
• Colored pencils for each student: 5 different colors  
• 4 Unifix Cubes: 2 red, 1 blue, and 1 green  
• A container to hold 4 Unifix Cubes  
• Approximately 4 paper cups, 4 quarters, and 4 number cubes (1 item needed for each pair of students) |
| 150    | Decimals & Percents | • Write a percent as a decimal  
• Write a decimal as a percent  
• Write a fraction as a percent  
• Compare percents to decimals and fractions using >, <, or =  
• Solve percent problems | Math 5 Tests and Answer Key  
Optional (Teacher’s Toolkit CD):  
• Fact Reviews pages 1–78  
• Enrichment pages 86–92  
• Extended Activities |
| 151    | Percent of a Number | • Use a proportion to find the percent of a number  
• Multiply by a decimal to find the percent of a number  
• Use mental math to find 10% and multiples of 10% of a number  
• Solve percent word problems | |
| 152    | Probability | • Develop an understanding of probability  
• Write probability as a fraction and a percent  
• Conduct a probability experiment | |
| 153    | Chapter 16 Review | • Review | |
| 154    | Chapter 16 Test Cumulative Review | • Determine the unknown measure of an angle  
• Determine the volume of a cube  
• Identify a line of symmetry in a figure  
• Identify congruent figures  
• Add and subtract customary measurements  
• Round whole numbers and decimals to a given place  
• Demonstrate an understanding of place value  
• Solve word problems | |
# Chapter 17: Integers

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>155</td>
<td>Positive &amp; Negative Numbers</td>
<td>• Demonstrate an understanding of positive and negative numbers  &lt;br&gt; • Compare and order positive and negative numbers  &lt;br&gt; • Subtract positive numbers to get a negative number using a number line  &lt;br&gt; • Add positive numbers or negative numbers using manipulatives  &lt;br&gt; • Add negative numbers using a number line</td>
<td>Teacher Manipulatives Packet:  &lt;br&gt;  • Number Line  &lt;br&gt; Student Manipulatives Packet:  &lt;br&gt;  • Algebra Mat Kit  &lt;br&gt;  • Number Line  &lt;br&gt; Instructional Aids (Teacher’s Toolkit CD):  &lt;br&gt;  • Cumulative Review Answer Sheet (page IA8) for each student  &lt;br&gt;  • Algebra Mat transparency (page IA114)  &lt;br&gt;  • Integer Review transparency (page IA115)  &lt;br&gt; Other Teaching Aids:  &lt;br&gt;  • Plastic counters: opaque (to appear black on a transparency) and transparent red</td>
</tr>
<tr>
<td>156</td>
<td>Adding Positive &amp; Negative Numbers</td>
<td>• Add positive and negative numbers using manipulatives  &lt;br&gt; • Add positive and negative numbers using a number line  &lt;br&gt; • Write an addition equation for a word problem</td>
<td>Math 5 Tests and Answer Key  &lt;br&gt; Optional (Teacher’s Toolkit CD):  &lt;br&gt;  • Fact Reviews pages 1–78  &lt;br&gt;  • Enrichment pages 93–96  &lt;br&gt;  • Extended Activities</td>
</tr>
<tr>
<td>157</td>
<td>Subtracting Negative Numbers</td>
<td>• Subtract positive and negative numbers using manipulatives  &lt;br&gt; • Subtract positive and negative numbers using a number line  &lt;br&gt; • Write a subtraction equation for a word problem</td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>Adding &amp; Subtracting</td>
<td>• Add and subtract positive and negative numbers using manipulatives  &lt;br&gt; • Add and subtract positive and negative numbers using a number line  &lt;br&gt; • Write an equation for a word problem</td>
<td></td>
</tr>
<tr>
<td>159</td>
<td>Chapter 17 Review</td>
<td>• Review</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Chapter 17 Test Cumulative Review</td>
<td>• Determine the value of a digit in a number  &lt;br&gt; • Round decimals to a given place  &lt;br&gt; • Identify 2-dimensional figures  &lt;br&gt; • Add, subtract, and multiply fractions  &lt;br&gt; • Add and subtract whole numbers and decimals  &lt;br&gt; • Multiply and divide whole numbers  &lt;br&gt; • Use mental math to multiply a factor that is a multiple of 10</td>
<td></td>
</tr>
</tbody>
</table>
# Math 5, 3rd Edition—Lesson Plan Overview

## Chapter 18: Data & Graphs

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Lesson Objectives</th>
<th>Chapter Materials</th>
</tr>
</thead>
</table>
| 161    | Line Plot & Stem-and-Leaf Plot | • Complete a tally/frequency table using given data  
• Calculate the mean (average) for a set of data  
• Determine the range, mode, and median for a set of data  
• Read and interpret a line plot  
• Read and interpret a stem-and-leaf plot | **Teaching Visuals (Teacher's Toolkit CD):**  
• Chart 26: Double Bar Graph  
• Chart 27: Pictograph  
• Chart 28: Double Line Graph  
**Instructional Aids (Teacher's Toolkit CD):**  
• Tally Table transparency (page IA116)  
• Tally Table (page IA116) for each student  
• Line Plot & Stem-and-Leaf Plot transparency (page IA117)  
• Double Bar Graph transparency (page IA118)  
• Double Bar Graph (page IA118) for each student  
• Double Line Graph transparency (page IA119)  
• Double Line Graph (page IA119) for each student  
• Pictograph & Circle Graph transparency (page IA120)  
• Make a Pictograph transparency (page IA121)  
• Circle: Tenths transparency (page IA122)  
• Test Scores transparency (page IA123)  
• Circle Graph transparency (page IA124)  
• Mental Math Problems (page IA125) (optional) |
| 162    | Double Bar & Double Line Graphs | • Read and interpret a double bar graph  
• Complete a double bar graph using given data  
• Read and interpret a double line graph  
• Complete a double line graph using given data | **Other Teaching Aids:**  
• Colored pencils: red and blue for each student  
• Overhead markers: red and blue; 2 other colors  
**Math 5 Tests and Answer Key**  
**Optional (Teacher's Toolkit CD):**  
• Fact Reviews pages 1–78  
• Enrichment pages 97–100  
• Extended Activities |
| 163    | Pictograph & Circle Graph | • Read and interpret a pictograph  
• Make a pictograph using a table of data  
• Read and interpret a circle graph  
• Make a circle graph using given data | **Other Teaching Aids:**  
• Colored pencils: red and blue for each student  
• Overhead markers: red and blue; 2 other colors  
**Math 5 Tests and Answer Key**  
**Optional (Teacher's Toolkit CD):**  
• Fact Reviews pages 1–78  
• Enrichment pages 97–100  
• Extended Activities |
| 164    | Chapter 18 Review | • Review | **Other Teaching Aids:**  
• Colored pencils: red and blue for each student  
• Overhead markers: red and blue; 2 other colors  
**Math 5 Tests and Answer Key**  
**Optional (Teacher's Toolkit CD):**  
• Fact Reviews pages 1–78  
• Enrichment pages 97–100  
• Extended Activities |
| 165    | Chapter 18 Test Cumulative Review | • Estimate a product or a quotient of given whole numbers  
• Find the sum of given whole numbers or fractions  
• Identify an expression for a given value  
• Solve word problems  
• Calculate area, surface area, and volume of figures  
• Rename improper fractions to lowest terms  
• Solve for a variable  
• Find a fraction of a whole number  
• Divide a decimal by a 1-digit divisor | **Other Teaching Aids:**  
• Colored pencils: red and blue for each student  
• Overhead markers: red and blue; 2 other colors  
**Math 5 Tests and Answer Key**  
**Optional (Teacher's Toolkit CD):**  
• Fact Reviews pages 1–78  
• Enrichment pages 97–100  
• Extended Activities |