

## RSU 54/MSAD 54 Math Curriculum

Content Area: Math

Grade: Grade 6

Unit: Ratios and Proportional Relationships

### Common Core State Standards Domain: Ratios and Proportional Relationships

Common Core State Standards	RSU 54/MSAD 54 Objectives	Instructional Resources/Activities
<p><b>Understand ratio concepts and use ratio reasoning to solve problems.</b></p> <p>1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”</i></p> <p>2. Understand the concept of a unit rate <math>a/b</math> associated with a ratio <math>a:b</math> with <math>b \neq 0</math>, and use rate language in the context of a ratio relationship. <i>For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is <math>3/4</math> cup of flour for each cup of sugar.” “We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger.”<sup>1</sup></i></p> <p>3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>-Make tables of equivalent ratios relating quantities with whole-</p>	<p>1a. Understand the concept of ratio.</p> <p>1b. Understand and use ratio language.</p> <p>1c. Use ratio language to describe a ratio relationship between two quantities.</p> <p>2a. Understand the concept of a unit rate <math>a/b</math> associated with a ratio <math>a:b</math> with <math>b \neq 0</math>.</p> <p>2b. Use rate language in the context of a ratio relationship.</p> <p>3a. Make tables of equivalent ratios relating quantities with</p>	<p>1a-c. <u>Scott Foresman</u>, Lesson 6-1, 6-2 1a-c. <u>Navigating Through Measurement in Grades 6-8, Squareness, Ratios of Perimeters, Areas, Surface Areas, and Volumes</u></p> <p>2a-b. <u>Scott Foresman</u>, Lesson 6-3, 6-4 2a-b. <u>Navigating Through Algebra in Grades 6-8, Walking Rates, Pledge Plans</u></p> <p>3a-d. <u>Scott Foresman</u>, Lessons 6-5 to 6-8, 6-10, 6-11</p>

<p>number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p> <p>-Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</p> <p>-Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>-Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p> <p><sup>1</sup> Expectations for unit rates in this grade are limited to non-complex fractions.</p>	<p>whole-number measurements.</p> <p>3b. Find missing values in the tables.</p> <p>3c. Plot the pairs of values on the coordinate plane.</p> <p>3d. Use tables to compare ratios.</p> <p>3e. Solve unit rate problems including involving unit pricing and constant speed.</p> <p>3f. Understand percent as a ratio.</p> <p>3g. Find a percent of a quantity as a rate per 100.</p> <p>3h. Solve problems involving finding the whole, given a part and the percent.</p> <p>3i. Use ratio reasoning to convert measurement units.</p> <p>3j. Manipulate and transform units appropriately when multiplying or dividing quantities.</p>	<p>3a-d. <u>Navigating Through Algebra in Grades 6-8</u>, <i>Missing Values</i></p> <p>3a-b. <u>Navigating Through Measurement in Grades 6-8</u>, <i>Teacher, I Shrank My Room!</i></p> <p>3e. <u>Scott Foresman</u>, Lesson 6-3, 6-9</p> <p>3e. <u>Navigating Through Measurement in Grades 6-8</u>, <i>Best Buy, Faster/Slower, Just as Crowded</i></p> <p>3e. Activity: “Find the Better Deal” (resource packet)</p> <p>3f. <u>Scott Foresman</u>, Lesson 7-1, 7-2</p> <p>3f. Games: “Percent Target,” “Four in a Row” (resource packet)</p> <p>3g. <u>Scott Foresman</u>, Lessons 7-4 to 7-6</p> <p>3g. <u>Teaching Arithmetic, Decimals and Percents</u>, Ch. 9, 10, 11, 12</p> <p>3g. Activities: “Percent of a Number Lesson,” “Percent of a Number Practice” (resource packet)</p> <p>3g. Game: “It’s in the Percentages” (resource packet)</p> <p>3i-j. <u>Scott Foresman</u>, Lesson 10-1, 10-2</p> <p>3i-j. Game: “Fraction/Decimal Race” (resource packet)</p>
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## RSU 54/MSAD 54 Math Curriculum

Content Area: Math  
Unit: The Number System

Grade: Grade 6

### Common Core State Standards Domain: The Number System

Common Core State Standards	RSU 54/MSAD 54 Objectives	Instructional Resources/Activities
<p><b>Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</b></p> <p>1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for <math>(2/3) \div (3/4)</math> and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that <math>(2/3) \div (3/4) = 8/9</math> because <math>3/4</math> of <math>8/9</math> is <math>2/3</math>. (In general, <math>(a/b) \div (c/d) = ad/bc</math>.) How much chocolate will each person get if 3 people share <math>1/2</math> lb of chocolate equally? How many <math>3/4</math>-cup servings are in <math>2/3</math> of a cup of yogurt? How wide is a rectangular strip of land with length <math>3/4</math> mi and area <math>1/2</math> square mi? Compute fluently with multi-digit numbers and find common factors and multiples.</i></p>	<p>1a. Interpret and compute products of fractions.</p> <p>1b. Interpret and compute quotients of fractions.</p> <p>1c. Solve word problems involving multiplication of fractions by fractions</p> <p>1d. Solve word problems involving division of fractions by fractions.</p> <p>1e. Apply and extend understanding of multiplication and division of fractions by whole numbers and whole numbers by fractions, and apply to</p>	<p>1a. <u>Scott Foresman</u>, Lessons 5-1 to 5-4 1a. <u>Teaching Arithmetic, Multiplying and Dividing Fractions</u>, Ch. 1-6 1a. <u>Zeroing in on Number and Operations, Modeling Multiplication of Fractions, Multiplying Fractions with Arrays</u></p> <p>1b. <u>Scott Foresman</u>, Lessons 5-6, 5-7 1b. <u>Teaching Arithmetic, Multiplying and Dividing Fractions</u>, Ch. 7-12 1b. <u>Zeroing in on Number and Operations, Modeling Division of Fractions with Pattern Blocks, Dividing Fractions with Area Model</u></p> <p>1c. <u>Scott Foresman</u>, Lessons 5-1 to 5-4</p> <p>1d. <u>Scott Foresman</u>, Lessons 5-6, 5-7</p> <p>1e. <u>Scott Foresman</u>, Lessons 5-8 to 5-9 1e. Game: "Running with Fractions" (resource packet)</p>

<p><b>Compute fluently with multi-digit numbers and find common factors and multiples.</b></p> <p>2. Fluently divide multi-digit numbers using the standard algorithm.</p> <p>3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p> <p>4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express <math>36 + 8</math> as <math>4(9 + 2)</math>. Apply and extend previous understandings of numbers to the system of rational numbers.</i></p>	<p>problem solving and algebra.</p> <p>2. Fluently divide multi-digit numbers using the standard algorithm.</p> <p>3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p> <p>4a. Find the greatest common factor of two whole numbers less than or equal to 100.</p> <p>4b. Find the least common multiple of two whole numbers less than or equal to 12.</p> <p>4c. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a</p>	<p>2. <u>Scott Foresman</u>, Lessons 1-6 2. <u>Zeroing in on Number and Operations</u>, <i>Connecting Division to Multiplication, Understanding Division Algorithms, Estimating Quotients, Working with Remainders</i> 2. Game: “Target Quotients” (resource packet)</p> <p>3. <u>Scott Foresman</u>, Lessons 2-4 to 2-10 3. <u>Zeroing in on Number and Operations</u>, <i>Estimating Decimals, Adding and Subtracting Decimals, Multiplying Decimals with Arrays, Dividing Decimals</i> 3. Games: “Decimal Roll,” “Target Decimals,” “Make One with Decimals,” “Target Products,” “Go for Broke,” “Decimal Sum Comparing,” “Go For Zero with Decimals” (resource packet)</p> <p>4a. <u>Scott Foresman</u>, Lessons 3-1, 3-3 4a-b. <u>Zeroing in on Number and Operations</u>, <i>Greatest Common Factors and Least Common Multiples, Problems Solving with Greatest Common Factors and Least Common Multiples</i> 4a. Games: “Factor Search,” “Divisibility Search” (resource packet)</p> <p>4b. <u>Scott Foresman</u>, Lesson 3-4 4b. Game: “Multiple Rally” (resource packet)</p> <p>4c. <u>Scott Foresman</u>, Lesson 1-10</p>
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<p><b>Apply and extend previous understandings of numbers to the system of rational numbers.</b></p> <p>5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <p>-Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., <math>-(-3) = 3</math>, and that 0 is its own opposite.</p> <p>-Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p> <p>-Find and position integers and other rational numbers on a horizontal or</p>	<p>multiple of a sum of two whole numbers with no common factor.</p> <p>5a. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values.</p> <p>5b. Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>6a. Understand a rational number as a point on the number line.</p> <p>6b. Locate and name points as ordered pairs in the coordinate plane.</p> <p>6c. Find and position integers and other rational numbers on</p>	<p>5a-b. <u>Scott Foresman</u>, Lesson 8-1, 8-2 5a-b. Game: “Integer Race” (resource packet)</p> <p>6a. <u>Scott Foresman</u>, Lesson 8-1 to 8-3</p> <p>6b. <u>Scott Foresman</u>, Lesson 8-11 6b. Game: “Coordinate Bulls Eye” (resource packet)</p> <p>6c. <u>Scott Foresman</u>, Lesson 8-11</p>
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<p>vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>7. Understand ordering and absolute value of rational numbers.</p> <p>-Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret <math>-3 &gt; -7</math> as a statement that <math>-3</math> is located to the right of <math>-7</math> on a number line oriented from left to right.</p> <p>-Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write <math>-3\text{ }^{\circ}\text{C} &gt; -7\text{ }^{\circ}\text{C}</math> to express the fact that <math>-3\text{ }^{\circ}\text{C}</math> is warmer than <math>-7\text{ }^{\circ}\text{C}</math>.</p> <p>-Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of <math>-30</math> dollars, write <math> -30  = 30</math> to describe the size of the debt in dollars.</p> <p>-Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than <math>-30</math> dollars represent a debt greater than 30 dollars.</p> <p>8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances</p>	<p>a horizontal or vertical number line diagram.</p> <p>7a. Compare and order rational numbers and integers</p> <p>7b. Write, interpret, and explain statements of order for rational numbers in real-world context.</p> <p>7c. Understand the absolute value of a rational number as its distance from 0 on the number line.</p> <p>7d. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.</p> <p>7e. Distinguish comparisons of absolute value from statements about order.</p> <p>8a. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.</p>	<p>7a. <u>Scott Foresman</u>, Lesson 8-2 7a. Games: “Integer Race,” “From Here to There Decimals,” “Get Them in Order Fractions,” “Decimal Number Maker,” “From Here to There Fractions” (resource packet)</p> <p>7b. <u>Scott Foresman</u>, Lessons 8-2, 8-3</p> <p>7c-d. <u>Scott Foresman</u>, Lessons 8-2, 8-3 7c-d. <u>Navigating Through Geometry (6-8) Finding Your Way Around</u> <a href="http://illuminations.nctm.org/LessonDetail.aspx?id=L280">http://illuminations.nctm.org/LessonDetail.aspx?id=L280</a></p> <p>8a. <u>Scott Foresman</u>, Lesson 8-11</p>
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<p>between points with the same first coordinate or the same second coordinate.</p>	<p>8b. Use coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p>9. Determine whether a given number is prime or composite.</p> <p>10. Add and subtract fractions with unlike denominators, including mixed numbers.</p> <p>11. Relate fractions, decimals, and percents</p>	<p>9. <u>Scott Foresman</u>, Lesson 3-2 9. Games: “It’s Abundantly Clear,” “Prime or Not”</p> <p>10. <u>Scott Foresman</u>, Lessons 4-1, 4-2, 4-4 to 4-6 10. Games: “Fraction Sum Reject,” “Make One with Fractions,” “Target Fractions” (resource packet)</p> <p>11. <u>Scott Foresman</u>, Lessons 3-10, 7-2 11. 1a. <u>Zeroing in on Number and Operations, Converting Fractions to Decimals, Equivalent Values</u> 11. <u>Teaching Arithmetic: Decimals and Percents</u>, Ch. 12 11. Games: “Split the Difference,” “Fraction/Decimal Race,” “From Here to There Decimals,” “Make One with Decimals,” “Get Them in Order Decimals,” “Fraction Decimal Concentration,” “Fraction/Decimal Match Up” (resource packet)</p> <p><b>Additional Resources:</b></p> <p>Understand the meaning of fractions: Games: “Ready, Set, Fraction!” (resource packet)</p>
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## RSU 54/MSAD 54 Math Curriculum

Content Area: Math  
Unit: Expressions and Equations

Grade: 6

### Common Core State Standards Domain: Expressions and Equations

Common Core State Standards	RSU 54/MSAD 54 Objectives	Instructional Resources/Activities
<p><b>Apply and extend previous understandings of arithmetic to algebraic expressions.</b></p> <p>1. Write and evaluate numerical expressions involving whole-number exponents.</p> <p>2. Write, read, and evaluate expressions in which letters stand for numbers.</p> <ul style="list-style-type: none"> <li>• Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation “Subtract <math>y</math> from 5” as <math>5 - y</math>.</i></li> <li>• Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe</i></li> </ul>	<p>1. Write and evaluate numerical expressions involving whole-number exponents.</p> <p>2a. Write expressions that record operations with numbers and with letters standing for numbers.</p> <p>2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient).</p> <p>2c. View one or more parts of an expression as a single entity.</p>	<p>1. <u>Scott Foresman</u>, Lesson 1-2 1. Game: “Exponents all Lined Up” (resource packet)</p> <p>2a. <u>Scott Foresman</u>, Lessons 1-13, 2-12, 12-4</p> <p>2c. Games, “Krypto,” and “Contig” (resource packet)</p>

<p><i>the expression <math>2(8 + 7)</math> as a product of two factors; view <math>(8 + 7)</math> as both a single entity and a sum of two terms.</i></p> <ul style="list-style-type: none"> <li>Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas <math>V = s^3</math> and <math>A = 6s^2</math> to find the volume and surface area of a cube with sides of length <math>s = 1/2</math></i></li> </ul> <p>3. Apply the properties of operations to generate equivalent expressions. <i>For example, apply the distributive property to the expression <math>3(2 + x)</math> to produce the equivalent expression <math>6 + 3x</math>; apply the distributive property to the expression <math>24x + 18y</math> to produce the equivalent expression <math>6(4x + 3y)</math>; apply properties of operations to <math>y + y + y</math> to</i></p>	<p>2d. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems.</p> <p>2e. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p> <p>3. Apply the properties of operations to generate equivalent expressions.</p>	<p>2d. <u>Scott Foresman</u>, Lessons 1-13, 6-9 2d. Game: “Number Cruncher” (resource packet)</p> <p>2e. <u>Scott Foresman</u>, Lesson 1-8 2e. Games, “Krypto,” and “Contig” (resource packet)</p> <p>3. Games, “Krypto,” and “Contig” (resource packet)</p>
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<p><i>produce the equivalent expression <math>3y</math>.</i></p> <p>4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). <i>For example, the expressions <math>y + y + y</math> and <math>3y</math> are equivalent because they name the same number regardless of which number <math>y</math> stands for. Reason about and solve one-variable equations and inequalities</i></p> <p><b>Reason about and solve one-variable equations and inequalities.</b></p> <p>5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p>	<p>4. Identify when two expressions are equivalent.</p> <p>5a. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true?</p> <p>5b. Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6a. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem.</p> <p>6b. Understand that a variable can represent an unknown number, or, depending on the purpose at</p>	<p>4. Activity: “Building Block Patterns” (resource packet)</p> <p>4. <u>Scott Foresman</u>, Lesson 12-6</p> <p>4. <u>Navigating Through Algebra in Grades 6-8, Tiling Tubs</u></p> <p>5a-b. <u>Scott Foresman</u>, Lesson 1-15, 2-12, 5-9, 12-2, 12-5, 12-6</p> <p>5a-b. Game: “X-traordinary” (resource packet)</p> <p>6a-b. <u>Scott Foresman</u>, Lessons 1-13, 1-14</p> <p>6a-b. <u>Navigating Through Algebra in Grades 6-8, Exploring Houses, Building with Toothpicks</u></p>
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<p>7. Solve real-world and mathematical problems by writing and solving equations of the form <math>x + p = q</math> and <math>px = q</math> for cases in which <math>p</math>, <math>q</math> and <math>x</math> are all nonnegative rational numbers.</p> <p>8. Write an inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math> to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p><b>Represent and analyze quantitative relationships between dependent and independent variables.</b></p> <p>9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate</p>	<p>hand, any number in a specified set.</p> <p>7. Solve real-world and mathematical problems by writing and solving equations of the form <math>x + p = q</math> and <math>px = q</math>. for cases in which <math>p</math>, <math>q</math>, and <math>x</math> are all nonnegative rational numbers.</p> <p>8a. Write an inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math> to represent a constraint or condition in a real-world or mathematical problem.</p> <p>8b. Recognize that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions.</p> <p>8c. Represent solutions of such inequalities on number line diagrams.</p> <p>9a. Use variables to represent two quantities in a real-world problem that change in relationship to one another.</p> <p>9b. Write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variables using graphs.</p>	<p>7. <u>Scott Foresman</u>, Lesson 1-15, 2-12, 5-9, 12-5, 12-6</p> <p>7. <u>Navigating Through Algebra in Grades 6-8</u>, <i>Exploring Houses, Building with Toothpicks</i></p> <p>8a. – 8c. <u>Scott Foresman</u>, Lessons 12-1, 12-2</p> <p>9a-c. <u>Scott Foresman</u>, Lesson 1-13, 12-6, 12-7, 12-8</p> <p>9a-c. Activity: “Building Block Patterns” (resource packet)</p> <p>9a-c. <u>Navigating Through Algebra in Grades 6-8</u>, <i>Exploring Houses, Building with Toothpicks, Stacking Cups</i></p>
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<p>these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation <math>d = 65t</math> to represent the relationship between distance and time</p>	<p>9c. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.</p>	<p>9c. <u>Scott Foresman</u>, Lesson 12-7</p>
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## RSU 54/MSAD 54 Math Curriculum

Content Area: Math  
Unit: Geometry

Grade: 6

### Common Core State Standards Domain: Geometry

Common Core State Standards	RSU 54/MSAD 54 Objectives	Instructional Resources/Activities
<p><b>Solve real-world and mathematical problems involving area, surface area, and volume.</b></p> <p>1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p>2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas <math>V = lwh</math> and <math>V = bh</math> to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p>	<p>1a. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes.</p> <p>1b. Apply the area formulas and techniques in the context of solving real-world and mathematical problems.</p> <p>2a. Find the volume of a right rectangular prism with fractional edge lengths by packing it with the unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism.</p> <p>2b. Apply the formulas <math>V = lwh</math> and <math>V = bh</math> to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and</p>	<p>1a-b. <u>Scott Foresman</u>, Lessons 10-8, 10-10 1a-b. <u>Navigating Through Measurement in Grades 6-8</u>, <i>Seeing is Believing, Piecing Ideas Together</i></p> <p>2a-b. <u>Scott Foresman</u>, Lessons 10-14, 10-16</p> <p>2b. <u>Navigating Through Measurement in Grades 6-8</u>, <i>Ratios of Perimeters, Areas, Surface Areas, and Volumes</i></p>

<p>3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p>4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p>	<p>mathematical problems.</p> <p>3a. Draw polygons in the coordinate plane given coordinates for the vertices.</p> <p>3b. Use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate.</p> <p>3c. Apply techniques using coordinate grids in the context of solving real-world and mathematical problems.</p> <p>4a. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures.</p> <p>4b. Use the net representation and application in the context of solving real-world and mathematical problems.</p>	<p>3a. <u><a href="#">Navigating Through Geometry in Grades 6-8, Constructing Geometric Figures in Coordinate Space</a></u></p> <p>3b. <u><a href="#">Navigating Through Geometry in Grades 6-8, Exploring Lines, Midpoints, and Triangles Using Coordinate Geometry</a></u></p> <p>4a-b. <u><a href="#">Scott Foresman, Lesson 10-14, 10-15</a></u>  4a-b. <u><a href="#">Navigating Through Geometry in Grades 6-8, Constructing Three-Dimensional Figures</a></u>  4a-b. <u><a href="#">Navigating Through Measurement in Grades 6-8, To the Surface and Beyond</a></u></p>
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## RSU 54/MSAD 54 Math Curriculum

Content Area: Math  
Unit: Statistics and Probability

Grade: 6

### Common Core State Standards Domain: Statistics and Probability

Common Core State Standards	RSU 54/MSAD 54 Objectives	Instructional Resources/Activities
<p><b>Develop understanding of statistical variability.</b></p> <p>1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.</i></p> <p>2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p>3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p><b>Summarize and describe distributions.</b></p> <p>4. Display numerical data in plots on a number line, including dot</p>	<p>1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.</p> <p>2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p>3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>4. Display numerical data in plots on a number line,</p>	<p>1. <u>Scott Foresman</u>, Lessons 11-1, 11-2, 11-3 1. Census at School Online comprehensive classroom project for statistical problem solving <a href="http://www.amstat.org/censusatschool/">http://www.amstat.org/censusatschool/</a></p> <p>2. <u>Scott Foresman</u>, Lessons 11-2, 11-3, 2. Census at School Online comprehensive classroom project for statistical problem solving <a href="http://www.amstat.org/censusatschool/">http://www.amstat.org/censusatschool/</a> 2. Game: “What’s My Mean?” (resource packet)</p> <p>3. <u>Scott Foresman</u>, Lesson 11-2 3. Census at School Online comprehensive classroom project for statistical problem solving <a href="http://www.amstat.org/censusatschool/">http://www.amstat.org/censusatschool/</a></p> <p>4. <u>Scott Foresman</u>, Lesson 11-3, 11-4, 11-5, 11-6 4. <u>Navigating Through Data Analysis in</u></p>

<p>plots, histograms, and box plots.</p> <p>5. Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> <li>-Reporting the number of observations.</li> <li>-Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</li> <li>-Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</li> <li>-Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</li> </ul>	<p>including dot plots, histograms, and box plots (see <a href="#">Navigating Through Data Analysis in Grades 6-8</a>, p. 53, for description of box plots) .</p> <p>5a. Report the number of observations in a data set.</p> <p>5b. Describe the nature of the attribute under investigation, including how it was measured and its units of measurement.</p> <p>5c. Give quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation).</p> <p>5d. Describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</p> <p>5e. Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>	<p><a href="#">Grades 6-8, Cereal, Migraines: Histograms, Migraines: Box Plots</a></p> <p>4. Census at School Online comprehensive classroom project for statistical problem solving <a href="http://www.amstat.org/censusatschool/">http://www.amstat.org/censusatschool/</a></p> <p>4. K12 Action Math, Tinker Plots-Math <a href="http://tinkerplots-math.wikispaces.com/MAD">http://tinkerplots-math.wikispaces.com/MAD</a> CD-ROM, Applet Activities Mini-Tool 2: Using Dot Plots to Compare Data</p> <p>5a-e. K12 Action Math, Tinker Plots-Math <a href="http://tinkerplots-math.wikispaces.com/MAD">http://tinkerplots-math.wikispaces.com/MAD</a></p> <p>5a-e. Census at School Online comprehensive classroom project for statistical problem solving <a href="http://www.amstat.org/censusatschool/">http://www.amstat.org/censusatschool/</a></p> <p>5c. <a href="#">Scott Foresman</a>, Lesson 11-2</p>
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