Math: Measurement & Data: Geometric Measurement & Problem Solving

Students:	DesCartes Statements:
Students:	**RIT Above 260:** • Uses properties of angles to solve mathematical problem
Students:	**RIT 251-260:** • Calculates the length of one side of a cube, given the volume (customary units) • Solves complex problems involving inscribed figures • Uses properties of angles to solve mathematical problems
Students:	**RIT 241-250:** • Apply dimensional analysis to simple real-world problems (length) • Calculates the area of irregular shapes (metric units) • Determines the area of irregular shapes (customary units) • Solves complex problems involving inscribed figures • Solves problems involving area of a rectangle and converts to larger or smaller units (customary) • Solves problems involving capacity in the metric system and converts to larger or smaller units • Uses properties of angles to solve mathematical problems
Students:	**RIT 231-240:** • Apply dimensional analysis to simple real-world problems (capacity) • Apply dimensional analysis to simple real-world problems (length) • Calculates the area of a rectangle, given labeled sides (customary units) • Calculates the length, width, or height of a rectangular prism, given the area (customary units) • Calculates the volume of rectangular solids • Converts between grams and kilograms • Converts within the metric system and between millimeters, centimeters, meters, and kilometers • Describes the change in perimeter when dimensions of an object are altered • Determines the area of a triangle drawn on a grid • Determines the area of irregular shapes (customary units) • Determines the length or width of a rectangle, given the area (metric units) • Identifies the formula for perimeter with a variable • Measures length to the nearest millimeter • Solves problems involving capacity in the metric system and converts to larger or smaller units • Solves problems involving length in the customary system and converts to larger or smaller units • Solves problems involving rates • Solves problems involving the perimeter of irregular or complex shapes
Students:	**RIT 221-230:** • Applies dimensional analysis to simple real-world problems (time) • Apply dimensional analysis to simple real-world problems (capacity) • Calculates area and perimeter of a rectangle (customary units) • Calculates the area of a rectangle, given labeled sides (customary units) • Calculates the volume of rectangular solids • Computes 2-step conversions between units of time • Computes the value of multiple bills and coins (multiplication/division) • Computes with dollars and cents over $5.00 and converts to decimals (multiplication/division) • Converts between cups, pints, quarts, and gallons • Converts between inches, feet, and yards • Converts between millimeters, centimeters, meters, and kilometers • Converts between ounces and pounds and between ounces, pounds, and tons • Converts within the metric system • Describes the change in perimeter when dimensions of an object are altered • Determines the area of irregular shapes (customary units) • Determines the length or width of a rectangle, given the area (metric units) • Determines the perimeter of a figure using non-standard units • Measures length to the nearest millimeter • Solves complex problems involving miles/kilometers per hour • Solves difficult problems involving elapsed time, with the conversion of hours • Solves problems involving length in the customary system and converts to larger or smaller units • Solves problems involving perimeter and converts to larger or smaller units • Solves problems involving rates • Solves problems involving the perimeter of irregular or complex shapes • Solves problems involving the perimeter of squares, rectangles, or triangles

Students:	**RIT 211-220:**

- Analyzes and computes 1 operation on real-world problems involving money over $5.00 (addition/subtraction only)
- Analyzes and computes 1 operation on real-world problems involving money over $5.00 (multiplication/division)
- Applies dimensional analysis to simple real-world problems (time)
- Apply dimensional analysis to simple real-world problems (capacity)
- Computes addition and subtraction on multiple-step real-world problems involving money
- Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money
- Computes more difficult conversions among units of time
- Computes the value of multiple bills and coins (addition/subtraction only)
- Computes with dollars and cents over $5.00 and converts to decimals (multiplication/division)
- Converts between cups, pints, quarts, and gallons
- Converts between inches and feet
- Converts between inches, feet, and yards
- Describes the change in perimeter when dimensions of an object are altered
- Determines the area of irregular shapes with partial square units
- Determines the perimeter of a figure using non-standard units
- Estimates and finds volume of a figure using cubic units
- Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents
- Finds the perimeter of a polygon using a formula
- Identifies properties of angles
- Knows the approximate size of a millimeter
- Measures angles using a protractor
- Selects and uses the appropriate type and size of unit in metric system (mass)
- Solves difficult problems involving elapsed time, with the conversion of hours
- Solves problems involving rates
- Solves problems involving the perimeter of squares, rectangles, or triangles
- Solves simple problems involving miles per gallon
- Uses the appropriate unit of measure for length

Students:	**RIT 201-210:**

- Applies dimensional analysis to simple real-world problems (time)
- Computes addition and subtraction on multiple-step real-world problems involving money
- Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money
- Computes money problems with multiple operations (addition/subtraction only)
- Computes more difficult conversions among units of time
- Computes simple conversions among units of time (hours, days)
- Computes the value of multiple bills and coins (addition/subtraction only)
- Computes with dollars and cents up to and including $5.00 and converts to decimals (multiplication/division)
- Converts between cups and pints
- Converts between cups, pints, and quarts
- Converts between inches and feet
- Determines the area of irregular shapes with partial square units
- Determines the perimeter of a figure where some sides are labeled
- Estimates and finds volume of a figure using cubic units
- Estimates the area of rectangles using square units
- Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents
- Identifies situations where it is appropriate to calculate area
- Knows the approximate size of a gram
- Knows the approximate size of a pound
- Knows the approximate size of a yard
- Measures length to the nearest centimeter
- Solves problems involving measurement of time
- Solves simple problems involving elapsed time, with the conversion of hours
- Solves simple problems involving miles per gallon
- Solves simple problems involving miles/kilometers per hour
- Uses basic indirect methods to estimate measurements (grids for area of irregular figures)
- Uses the appropriate unit of measure for length

Students:	**RIT 191-200:**

- Adds money with regrouping
- Computes 1 operation on real-world problems involving money over $5.00 (addition/subtraction only)
- Computes 1 operation on real-world problems involving money over $5.00 (multiplication/division)
- Computes basic operations with units of weight/mass
- Computes half price (multiplication/division)
- Computes simple conversions among units of time (minutes, hours)
- Computes with dollars and cents up to and including $5.00 and converts to decimals (addition/subtraction only)
- Computes with dollars and cents up to and including $5.00 and converts to decimals (multiplication/division)
- Converts between cups and pints
- Converts between cups, pints, and quarts
- Determines elapsed clock time
- Determines elapsed time involving whole hours, whole days, whole years
- Determines the perimeter of a figure where all sides are labeled
- Determines the perimeter of a figure where some sides are labeled
- Estimates the area of rectangles using square units
- Finds equivalent combinations of coins with the same value
- Identifies the correct time, given the words, and vice versa
- Identifies the value of a collection of coins and bills to $10.00 by "counting on" (without picture of money)
- Identifies the value of a collection of coins to $1.00 (without picture of coins)
- Makes change to $1.00 by "counting on" or subtracting
- Selects and uses the appropriate type and size of unit in customary system (length)
- Solves real-world problems involving decimals (not money) using addition and subtraction
- Solves simple problems involving elapsed time, with the conversion of hours
- Solves simple problems involving miles/kilometers per hour
- Solves simple problems involving the perimeter of squares, rectangles, or triangles
- Tells time to the nearest 1 minute
- Tells time to the nearest quarter hour

Students:	**RIT 181-190:**

- Adds money with regrouping
- Combines a collection of coins and identifies the correct notation
- Computes 1 operation on addition or subtraction real-world problems involving money up to $5.00
- Computes simple conversions among units of time (days, weeks)
- Computes w/ dollars & cents up to and including $5.00 and converts to decimals (addition/subtraction only)
- Determines elapsed clock time
- Determines elapsed time involving whole hours, whole days, whole years
- Determines elapsed time under 1 hour or to the hour
- Determines more capacity or less capacity
- Determines the area of irregular shapes by counting square units
- Determines the perimeter of a figure where all sides are labeled
- Finds equivalent combinations of coins with the same value
- Identifies the correct time, given the words, and vice versa
- Identifies the value of a collection of coins and bills to $10.00 by "counting on" (with picture of money)
- Identifies the value of a collection of coins to $1.00 (without picture of coins)
- Makes change to $1.00 by "counting on" or subtracting
- Selects and uses the appropriate type and size of unit in customary system (length)
- Tells time to the nearest 5 minutes
- Uses a variety of non-standard units to measure the same length

Students:	**RIT 171-180:**

- Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)
- Connects money with place value
- Determines the area of irregular shapes by counting square units
- Estimates and measures length of an object to the nearest centimeter using a picture of a ruler
- Identifies the value of a collection of coins and bills to $10.00 by "counting on" (with picture of money)
- Identifies the value of a collection of coins to $1.00 (with pictures of coins)
- Measures length with customary measures to the inch mark
- Tells time to the nearest 5 minutes
- Tells time to the nearest half hour
- Tells time to the nearest hour

Students:	**RIT 161-170:** • Compares objects (shorter, longer) • Estimates and measures length of an object to the nearest inch using a picture of a ruler • Identifies time of day (e.g., morning, afternoon) • Measures length with customary measures to the inch mark • Measures length with metric measures to the centimeter mark • Tells time to the nearest half hour • Tells time to the nearest hour