Math: Number & Operations: Fractions

Students:	DesCartes Statements:
Students:	**RIT Over 241:** • Identifies the least common multiple of whole numbers • Solves open sentences with fractions
Students:	**RIT 231-240:** • Adds fractions with unlike denominators with reducing or converting to a mixed fraction • Adds mixed fractions where converting from improper fractions is necessary • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Compares and orders decimal and fractional coordinates on a number line • Compares fractions (e.g., comparing numerators and denominators) • Divides a fraction by a whole number • Divides a mixed fraction by a fraction • Divides a whole number by a fraction • Multiplies mixed fractions • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions) • Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary • Subtracts whole numbers, fractions, and mixed fractions • Subtracts whole numbers, fractions, and mixed fractions with regrouping • Uses models to multiply and divide fractions and connect the actions to algorithms • Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms • Writes a fraction as a decimal and vice versa
Students:	**RIT 221-230:** • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds mixed fractions where converting from improper fractions is necessary • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Compares fractions (e.g., comparing numerators and denominators) • Determines equivalent fractions using multiples • Determines simple equivalent fractions using multiples • Divides a mixed fraction by a fraction • Identifies a fractions in lowest terms from a region or set • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a fraction without reducing to simplest form (complex problem) • Multiplies a fraction by a whole number • Multiplies mixed fractions • Solves 1-step problems involving proportions • Solves 1-step real-world problems involving fractions with multiplication and division • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions) • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Subtracts fractions with like denominators with reducing • Subtracts fractions with unlike denominators with reducing • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with unlike denominators with no regrouping • Subtracts whole numbers, fractions, and mixed fractions • Subtracts whole numbers, fractions, and mixed fractions with regrouping • Uses alternative algorithms to explain the meaning of "fraction" • Uses models to multiply and divide fractions and connect the actions to algorithms • Writes a decimal for a shaded region to the hundredths place • Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10

Students:	**RIT 211-220:** • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with like denominators without reducing • Adds fractions with unlike denominators without reducing • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Compares fractions and mixed numbers • Compares fractions and mixed numbers using symbols • Compares fractions greater than or less than a given fraction using visual representations • Compares fractions on a number line • Converts fractions to lowest terms • Determines simple equivalent fractions using multiples • Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) • Expresses a simple fraction as a decimal • Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) • Identifies a fractions in lowest terms from a region or set • Identifies eighths, reduced to lowest terms, from a region or set • Identifies equivalent fractions using visual representations • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Orders fractions on a number line • Solves 1-step problems involving proportions • Solves 1-step real-world problems involving fractions with multiplication and division • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts mixed fractions with unlike denominators with no regrouping • Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths) • Uses models to multiply and divide fractions and connect the actions to algorithms • Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 • Writes mixed numbers as improper fractions and improper fractions as mixed numbers
Students:	**RIT 201-210:** • Adds fractions with like denominators without reducing • Adds whole numbers and fractions • Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10) • Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters) • Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) • Expresses "1" in many different ways (e.g., 3/3, 4/4) • Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) • Identifies equivalent fractions using visual representations • Identifies halves of a region using nonadjacent parts • Multiplies a fraction by a fraction without reducing to simplest form (simple problem) • Orders fractions on a number line • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Subtracts fractions with like denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Uses models to add and subtract fractions and connect the actions to algorithms • Writes a terminating decimal as a fraction or mixed number • Writes mixed numbers as improper fractions and improper fractions as mixed numbers • Writes the missing number in a proportion using basic facts
Students:	**RIT 191-200:** • Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) • Identifies 1/3 from a region or set • Identifies 1/4 from a region or set • Identifies 2/3 or 3/3 from a region or set • Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set • Identifies equivalent fractions using visual representations

	• Identifies tenths from a region or set • Matches numeric and visual representation of equivalent fractions • Represents 1/3 with a diagram or model • Represents fractions with denominators other than 2, 3, 4 with a diagram or model • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction • Subtracts fractions with like denominators without reducing • Uses models to add and subtract fractions and connect the actions to algorithms • Writes the missing number in a proportion using basic facts
Students:	**RIT 181-190:** • Identifies 1/2 from a region or set • Identifies 1/4 from a region or set • Identifies 2/3 or 3/3 from a region or set • Identifies 2/4, 3/4, or 4/4 from a region or set • Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set • Identifies eighths from a region or set • Identifies one-half from a region or set • Identifies tenths from a region or set • Represents 3/4 with a diagram or model
Students:	**RIT 171-180:** • Identifies one-half from a region or set • Represents 1/2 with a diagram or model • Represents 1/4 with a diagram or model