4

Mathematics 2-5

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Mathematics RIT Score Range: < 161

Goal: Operations and Algebraic Thinking

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170	
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems	
Uses models to construct whole number addition facts with addends through 10	Solves real-world whole number addition problems with sums to 20 (result unknown)	
	• Uses models to construct subtraction facts with differences through 10 (whole numbers)	
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	
New Vocabulary: None	New Vocabulary: None	
New Signs and Symbols: None	New Signs and Symbols: + addition, = is equal to, - subtraction, variable	

Explanatory Notes



Mathematics

RIT Score Range:

161 - 170

Goal: Operations and Algebraic Thinking

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
Uses models to construct whole number addition facts with addends	Solves real-world whole number addition problems with sums to 20	Determines the operation needed from a simple problem
through 10	(result unknown)	Solves problems using tally charts
	Uses models to construct subtraction facts with differences through 10 (whole numbers)	• Writes equivalent forms of whole number expressions (e.g., 15 + 5 = 10 + 10)
		Reads a chart or table - comparisons
		Solves real-world whole number addition problems with sums to 20 (result unknown)
		Solves real-world whole number addition problems with sums to 20 (start unknown)
		Solves real-world whole number addition problems with sums to 100 (result unknown)
		Represents a basic facts addition problem with a number sentence
		Solves real-world whole number problems involving subtraction with numbers under 20
		Recognizes addition and subtraction fact families through 18
New Vocabulary: None	New Vocabulary: None	New Vocabulary: fact family
New Signs and Symbols: None	New Signs and Symbols: + addition, = is equal to, - subtraction, variable	New Signs and Symbols: () order of operations, × multiplication, tally mark

Explanatory Notes



Mathematics
Goal: Operations and Algebraic Thinking

RIT Score Range:

171 - 180

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
Solves real-world whole number addition problems with sums to 20 (result unknown)	Determines the operation needed from a simple problem Solves problems using tally charts	Solves real-world whole number addition problems with sums to 100 (result unknown)
Uses models to construct subtraction facts with differences through 10	Writes equivalent forms of whole number expressions (e.g., 15 + 5 =	Instantly recalls basic addition facts with sums to 18 in a table
(whole numbers)	10 + 10)	Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given
	Reads a chart or table - comparisons	,
	Solves real-world whole number addition problems with sums to 20 (result unknown)	 Solves real-world whole number problems involving subtraction with numbers under 20
	Solves real-world whole number addition problems with sums to 20 (start unknown)	 Solves real-world whole number problems involving subtraction with numbers 100 and under
	Solves real-world whole number addition problems with sums to 100 (result unknown)	 Solves problems using the inverse relationship between addition and subtraction
	Represents a basic facts addition problem with a number sentence	 Solves real-world whole number problems involving addition and subtraction
	Solves real-world whole number problems involving subtraction with numbers under 20	Recognizes addition and subtraction fact families through 18
	Recognizes addition and subtraction fact families through 18	Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)
		Solves 1-step open sentences with missing addends (numbers 100 and under)
		Determines the operation needed from a simple problem
		Solves simple problems based on data from tally charts
		Solves problems using tally charts
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
	Counts by 2's to 100	Models multiplication and division algorithms using arrays (whole numbers)
		Demonstrates an understanding of the zero property of multiplication
		Demonstrates an understanding of the inverse relationship between multiplication and division
		Distinguishes between odd and even numbers
		Uses counting by multiples for multiplication
		Solves word problems involving basic whole number multiplication facts to 10 x 10
		Uses manipulatives to divide a small set of objects into groups of equal size
		Uses sharing for division
		Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships • Extends a growing arithmetic pattern, defined by numbers	Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)

Explanatory Notes



Mathematics

RIT Score Range:

171 - 180

Goal: Operations and Algebraic Thinking

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
	Adds 1-digit numbers with sums to 18 (with parentheses)	Interprets a chart or table - calculation required
	Analyzes a growing, arithmetic pattern with numbers to determine the	Extends a growing arithmetic pattern, defined by numbers
	rule	Writes a number sentence for a simple problem solving situation
		Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)
		Solves real-world whole number problems involving subtraction with numbers under 1000
New Vocabulary: None	New Vocabulary: fact family	New Vocabulary: gave, left, row, unifix cubes
New Signs and Symbols: + addition, = is equal to, - subtraction, variable	New Signs and Symbols: () order of operations, × multiplication, tally mark	New Signs and Symbols: ÷ division, \$ dollar sign

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: 181 - 190

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
Determines the operation needed from a simple problem	Solves real-world whole number addition problems with sums to 100	Determines the operation needed from a simple problem
 Solves problems using tally charts Writes equivalent forms of whole number expressions (e.g., 15 + 5 = 	(result unknown) • Instantly recalls basic addition facts with sums to 18 in a table	Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given
10 + 10)	Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given	Solves real-world whole number addition problems with sums to 20 (change unknown)
 Reads a chart or table - comparisons Solves real-world whole number addition problems with sums to 20 (result unknown) 	Solves real-world whole number problems involving subtraction with numbers under 20	Solves real-world whole number problems involving subtraction with numbers 100 and under
Solves real-world whole number addition problems with sums to 20 (start unknown)	Solves real-world whole number problems involving subtraction with numbers 100 and under	Solves problems using the inverse relationship between addition and subtraction
Solves real-world whole number addition problems with sums to 100 (result unknown)	Solves problems using the inverse relationship between addition and subtraction	Uses algebraic reasoning to solve problems involving equality relationships
Represents a basic facts addition problem with a number sentence Solves real world whole number problems involving subtraction with	 Solves real-world whole number problems involving addition and subtraction 	Solves 1-step open sentences with missing addends (numbers 100 and under)
 Solves real-world whole number problems involving subtraction with numbers under 20 	Recognizes addition and subtraction fact families through 18	Solves 2-step open sentences with missing addends
Recognizes addition and subtraction fact families through 18	Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)	Solves problems using tally charts
	Solves 1-step open sentences with missing addends (numbers 100 and under)	
	Determines the operation needed from a simple problem	
	Solves simple problems based on data from tally charts	
	Solves problems using tally charts	
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
Counts by 2's to 100	 Models multiplication and division algorithms using arrays (whole numbers) 	Solves word problems with whole number division facts with dividend and divisors less than 11
	 Demonstrates an understanding of the zero property of multiplication Demonstrates an understanding of the inverse relationship between multiplication and division 	Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)
	Distinguishes between odd and even numbers	Solves word problems involving basic whole number multiplication facts to 10 x 10
	 Uses counting by multiples for multiplication Solves word problems involving basic whole number multiplication 	Solves word problems involving whole number multiplication with numbers greater than 10 x 10
	facts to 10 x 10 • Uses manipulatives to divide a small set of objects into groups of equal	Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)
	Uses sharing for division	Uses manipulatives to divide a small set of objects into groups of equal size
	Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated	Demonstrates an understanding of the zero property of multiplication
	subtraction)	 Solves simple open sentences with missing factors (numbers 100 and under)
		Distinguishes between odd and even numbers
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
 Extends a growing arithmetic pattern, defined by numbers 		Extends a growing arithmetic pattern, defined by objects or diagrams



Mathematics

RIT Score Range:

181 - 190

Goal: Operations and Algebraic Thinking

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
Writes a number sentence for a simple problem solving situation Adds 1-digit numbers with sums to 18 (with parentheses) Analyzes a growing, arithmetic pattern with numbers to determine the rule	Analyzes a growing, arithmetic pattern with numbers to determine the rule Interprets a chart or table - calculation required Extends a growing arithmetic pattern, defined by numbers Writes a number sentence for a simple problem solving situation Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only) Solves real-world whole number problems involving subtraction with numbers under 1000	Solves problems involving measurement of temperature Identifies numbers as composite Solves real-world whole number problems involving subtraction with numbers under 1000 Evaluates numerical expressions using grouping symbols (whole numbers only) Solves whole number subtraction word problems with numbers over 1000 Interprets a chart or table - calculation required Solves problems using tables Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only) Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels) Analyzes a growing, arithmetic pattern with numbers to determine the rule
New Vocabulary: fact family	New Vocabulary: gave, left, row, unifix cubes	New Vocabulary: composite number, each, prime number
New Signs and Symbols: () order of operations, × multiplication, tally mark	New Signs and Symbols: ÷ division, \$ dollar sign	New Signs and Symbols: °F degrees Fahrenheit, lb pound

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: 191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
Solves real-world whole number addition problems with sums to 100 (result unknown)	Determines the operation needed from a simple problem Solves real-world whole number addition problems with sums to 20	Uses algebraic reasoning to solve problems involving equality relationships
Instantly recalls basic addition facts with sums to 18 in a table	(result unknown) - with extraneous information given	Solves 2-step open sentences with missing addends
Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given	Solves real-world whole number addition problems with sums to 20 (change unknown)	Solves open sentences with basic-facts calculations on both sides of the sentence
 Solves real-world whole number problems involving subtraction with numbers under 20 	Solves real-world whole number problems involving subtraction with numbers 100 and under	Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis)
Solves real-world whole number problems involving subtraction with numbers 100 and under	Solves problems using the inverse relationship between addition and subtraction	Solves problems using the inverse relationship between addition and subtraction
Solves problems using the inverse relationship between addition and subtraction	Uses algebraic reasoning to solve problems involving equality relationships	Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2)
 Solves real-world whole number problems involving addition and subtraction 	Solves 1-step open sentences with missing addends (numbers 100 and under)	
Recognizes addition and subtraction fact families through 18	Solves 2-step open sentences with missing addends	
Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)	Solves problems using tally charts	
Solves 1-step open sentences with missing addends (numbers 100 and under)		
Determines the operation needed from a simple problem		
Solves simple problems based on data from tally charts		
Solves problems using tally charts		
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
Models multiplication and division algorithms using arrays (whole numbers)	Solves word problems with whole number division facts with dividend and divisors less than 11	Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)
Demonstrates an understanding of the zero property of multiplication	Models whole number multiplication and division algorithms (e.g.,	Solves word problems with whole number division facts with dividend
Demonstrates an understanding of the inverse relationship between multiplication and division	shows multiplication as repeated addition and division as repeated subtraction)	and divisors less than 11 • Solves simple open sentences with missing factors (numbers 100 and
Distinguishes between odd and even numbers	Solves word problems involving basic whole number multiplication	under)
Uses counting by multiples for multiplication	facts to 10 x 10	Describes a realistic situation using information given in a linear
Solves word problems involving basic whole number multiplication facts to 10 x 10	Solves word problems involving whole number multiplication with numbers greater than 10 x 10	equationSolves whole number word problems with division over 10 x 10
Uses manipulatives to divide a small set of objects into groups of equal size	Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)	Solves word problems involving whole number multiplication with numbers greater than 10 x 10
Uses sharing for division	Uses manipulatives to divide a small set of objects into groups of equal	Models whole number multiplication and division algorithms (e.g., uses)
Models whole number multiplication and division algorithms (e.g.,	Size	physical materials to show 4 groups of 3 objects)
shows multiplication as repeated addition and division as repeated subtraction)	Demonstrates an understanding of the zero property of multiplication Solves simple open sentences with missing factors (numbers 100 and under)	
	Distinguishes between odd and even numbers	
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships



Mathematics

RIT Score Range:

191 - 200

Goal: Operations and Algebraic Thinking

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
Analyzes a growing, arithmetic pattern with numbers to determine the	Solves problems involving measurement of temperature	Uses simple linear equations to represent problem situations
rule	Identifies numbers as composite	Completes a simple function table based on real-life situations (e.g.,
Interprets a chart or table - calculation required	Solves real-world whole number problems involving subtraction with	the number of tricycles related to the number of wheels)
 Extends a growing arithmetic pattern, defined by numbers 	numbers under 1000	Completes a function table given a simple rule (e.g., x + 2)
 Writes a number sentence for a simple problem solving situation 	Evaluates numerical expressions using grouping symbols (whole)	Determines the rule and completes a simple function machine output
 Uses rounding to estimate answers to real-world problems involving 	numbers only)	Solves problems using tables
addition of numbers less than 100 (whole numbers only)	Solves whole number subtraction word problems with numbers over	Uses rounding to estimate answers to real-world problems involving
Solves real-world whole number problems involving subtraction with	1000	numbers 1000 or greater with addition and subtraction (whole numbers
numbers under 1000	Interprets a chart or table - calculation required	only)
	Solves problems using tables	Solves whole number subtraction word problems with numbers over 1000
	Uses rounding to estimate answers to real-world problems involving	
	numbers less than 1000 with addition and subtraction (whole numbers	Determines the remainder in a real-world problem (whole numbers)
	only)	Uses division for multiple-step real-world problems (whole numbers)
	Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels)	Evaluates numerical expressions using grouping symbols (whole numbers only)
	Analyzes a growing, arithmetic pattern with numbers to determine the rule	Solves real-world problems involving 2-step multiple operations, whole numbers only
		Extends a growing arithmetic pattern, defined by objects or diagrams
New Vocabulary: gave, left, row, unifix cubes	New Vocabulary: composite number, each, prime number	New Vocabulary: minimum, plus
New Signs and Symbols: ÷ division, \$ dollar sign	New Signs and Symbols: °F degrees Fahrenheit, lb pound	New Signs and Symbols: ¢ cent sign, = is equal to, + positive number

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: 201 - 210

Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
Uses algebraic reasoning to solve problems involving equality	Solves open sentences with calculations on both sides of the sentence
relationships • Solves 2-step open sentences with missing addends	Uses algebraic reasoning to solve problems involving equality relationships
 Solves open sentences with basic-facts calculations on both sides of the sentence 	Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2)
 Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) 	
 Solves problems using the inverse relationship between addition and subtraction 	
 Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2) 	
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
 Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) 	Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)
Solves word problems with whole number division facts with dividend and divisors less than 11	Solves problems involving rates Solves simple open sentences with missing factors (numbers over 100)
Solves simple open sentences with missing factors (numbers 100 and)	Demonstrates an understanding of the associative property of
,	multiplication
equation	Predicts the relative size of the answer when multiplying whole numbers
Solves word problems involving whole number multiplication with	Solves whole number word problems with division over 10 x 10
Models whole number multiplication and division algorithms (e.g., uses)	
physical materials to show 4 groups of 5 objects)	
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
Predicts from simple charts and tables	Determines factors of whole numbers
Uses simple linear equations to represent problem situations	Uses rounding to estimate answers to real-world problems involving
Completes a simple function table based on real-life situations (e.g.,	multiplication and division of numbers less than 100 (whole numbers only)
 the number of tricycles related to the number of wheels) Completes a function table given a simple rule (e.g., x + 2) 	Uses rounding to estimate answers to real-world problems involving
Determines the rule and completes a simple function machine output	numbers less than 1000 with multiplication and division (whole numbers only)
	Add & Subtract: Represent and Solve Problems Uses algebraic reasoning to solve problems involving equality relationships Solves 2-step open sentences with missing addends Solves open sentences with basic-facts calculations on both sides of the sentence Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) Solves problems using the inverse relationship between addition and subtraction Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2) Multiply & Divide: Represent and Solve Problems Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) Solves word problems with whole number division facts with dividend and divisors less than 11 Solves simple open sentences with missing factors (numbers 100 and under) Describes a realistic situation using information given in a linear equation Solves whole number word problems with division over 10 x 10 Solves word problems involving whole number multiplication with numbers greater than 10 x 10 Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solve Problems & Analyze Patterns & Relationships Predicts from simple charts and tables Uses simple linear equations to represent problem situations Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels) Completes a function table given a simple rule (e.g., x + 2)

Explanatory Notes



Mathematics
Goal: Operations and Algebraic Thinking

RIT Score Range:

201 - 210

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
Solves whole number subtraction word problems with numbers over 1000 Interprets a chart or table - calculation required Solves problems using tables Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only) Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels) Analyzes a growing, arithmetic pattern with numbers to determine the rule	Solves problems using tables Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only) Solves whole number subtraction word problems with numbers over 1000 Determines the remainder in a real-world problem (whole numbers) Uses division for multiple-step real-world problems (whole numbers) Evaluates numerical expressions using grouping symbols (whole numbers only) Solves real-world problems involving 2-step multiple operations, whole numbers only Extends a growing arithmetic pattern, defined by objects or diagrams	Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) Solves real-world problems involving 2-step multiple operations, whole numbers only Solves real-world multiple-step problems involving whole numbers Solves 1-step problems involving proportions Uses simple linear equations to represent problem situations Applies algebraic methods to solve theoretical problems Completes a function table given a simple rule (e.g., x + 2) Determines the rule given a simple real-world function table (e.g., # Dogs compared to # Legs) Determines the rule and completes a simple function machine output Looks for a growing pattern to solve a problem
New Vocabulary: composite number, each, prime number	New Vocabulary: minimum, plus	New Vocabulary: None
New Signs and Symbols: °F degrees Fahrenheit, lb pound	New Signs and Symbols: ¢ cent sign, = is equal to, + positive number	New Signs and Symbols: () parenthesis around an integer, { } set notation

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range:

211 - 220

Add & Subtract: Represent and Solve Problems • Uses algebraic reasoning to solve problems involving equality relationships • Solves 2-step open sentences with missing addends • Solves open sentences with basic-facts calculations on both sides of the sentence • Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) • Solves problems using the inverse relationship between addition and subtraction • Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2) Multiply & Divide: Represent and Solve Problems • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple open sentences with missing factors (numbers 100 and under) • Describes a realistic situation using information given in a linear equation • Solves whole number word problems with division over 10 x 10 • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solve Problems • Predicts from simple charts and tables	the sentences with calculations on both sides of the sentence aic reasoning to solve problems involving equality as equivalence and extends the concept to number volving variables (e.g., 8 + 2 = [] + 2) de: Represent and Solve Problems de: Represent and Solve Problems le number multiplication and division algorithms (e.g., uses vials to show 4 groups of 3 objects) lems involving rates le open sentences with missing factors (numbers over 100) as an understanding of the associative property of relative size of the answer when multiplying whole	Skills and Concepts to Introduce (27% Probability*) 221 - 230 Add & Subtract: Represent and Solve Problems • Solves open sentences with calculations on both sides of the sentence Multiply & Divide: Represent and Solve Problems • Models algorithms using place value concepts (multiplication and division with whole numbers) • Demonstrates an understanding of multiple properties • Solves problems involving rates
 Uses algebraic reasoning to solve problems involving equality relationships Solves 2-step open sentences with missing addends Solves open sentences with basic-facts calculations on both sides of the sentence Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) Solves problems using the inverse relationship between addition and subtraction Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2) Multiply & Divide: Represent and Solve Problems Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) Solves word problems with whole number division facts with dividend and divisors less than 11 Solves simple open sentences with missing factors (numbers 100 and under) Describes a realistic situation using information given in a linear equation Solves word problems involving whole number multiplication with numbers greater than 10 x 10 Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solve Problems Predicts from simple charts and tables Solve Problem Determines 	de: Represent and Solve Problems le number multiplication and division algorithms (e.g., uses irials to show 4 groups of 3 objects) lems involving rates le open sentences with missing factors (numbers over 100) es an understanding of the associative property of	Solves open sentences with calculations on both sides of the sentence Multiply & Divide: Represent and Solve Problems Models algorithms using place value concepts (multiplication and division with whole numbers) Demonstrates an understanding of multiple properties
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 • Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2) • Multiply & Divide: Represent and Solve Problems • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple open sentences with missing factors (numbers 100 and under) • Describes a realistic situation using information given in a linear equation • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solve Problems • Solve Problems • Determines 	le number multiplication and division algorithms (e.g., uses irials to show 4 groups of 3 objects) lems involving rates le open sentences with missing factors (numbers over 100) es an understanding of the associative property of	Models algorithms using place value concepts (multiplication and division with whole numbers) Demonstrates an understanding of multiple properties
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remainder (e.g., 1-step, 1-digit divisor) • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple open sentences with missing factors (numbers 100 and under) • Describes a realistic situation using information given in a linear equation • Solves whole number word problems with division over 10 x 10 • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solve Problems & Analyze Patterns & Relationships • Determines	rials to show 4 groups of 3 objects) lems involving rates le open sentences with missing factors (numbers over 100) es an understanding of the associative property of	division with whole numbers) • Demonstrates an understanding of multiple properties
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Solves word problems involving whole number multiplication with numbers greater than 10 x 10 Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solve Problems & Analyze Patterns & Relationships Predicts from simple charts and tables Solve Problems & Determines		
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physical materials to show 4 groups of 3 objects) Solve Problems & Analyze Patterns & Relationships • Predicts from simple charts and tables • Determines		
Predicts from simple charts and tables Determines		
·	ns & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
• Llocs simple linear equations to represent problem situations	factors of whole numbers	Uses rounding to estimate answers to real-world problems involving
	ng to estimate answers to real-world problems involving	multiplication and division of numbers less than 100 (whole numbers
Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels) multiplication only)	and division of numbers less than 100 (whole numbers	Uses rounding to estimate answers to real-world problems involving
	ng to estimate answers to real-world problems involving	numbers less than 1000 with multiplication and division (whole numbers only)
Determines the rule and completes a simple function machine output numbers less only)	than 1000 with multiplication and division (whole numbers	Solves complex word problems involving whole number division with
Calvas machiama vaina tablas	ng to estimate answers to difficult multiplication and	remainder (e.g., 2-step, 2-digit divisor)
Uses rounding to estimate answers to real-world problems involving	ems (whole numbers only)	Solves real-world multiple-step problems involving whole numbers
	olex word problems involving whole number division with	Solves 1-step problems involving proportions
Column whole purchase subtraction would make an exist purchase such	g., 2-step, 2-digit divisor)	Applies algebraic methods to solve theoretical problems
1000 rumbers only	world problems involving 2-step multiple operations, whole	Extends a growing pattern of triangular numbers, defined by objects or diagrams
 Determines the remainder in a real-world problem (whole numbers) Uses division for multiple-step real-world problems (whole numbers) Solves real-solves 1-step 		Uses factor and multiple concepts to solve simple problems

Explanatory Notes



New Vocabulary: minimum, plus

New Signs and Symbols: ¢ cent sign, = is equal to, + positive number

DesCartes: A Continuum of Learning®

New Vocabulary: None

MathematicsGoal: Operations and Algebraic Thinking

RIT Score Range: 211 - 220

New Vocabulary: None

New Signs and Symbols: None

Skills and concepts to Enhance (73% Probability*) Skills and Concepts to Develop (50% Probability*) Skills and Concepts to Introduce (27% Probability*) 201 - 210 211 - 220 221 - 230 Solve Problems & Analyze Patterns & Relationships Solve Problems & Analyze Patterns & Relationships Solve Problems & Analyze Patterns & Relationships • Evaluates numerical expressions using grouping symbols (whole • Uses multiple number theory concepts to solve problems (e.g., factors, • Uses simple linear equations to represent problem situations numbers only) digits, odd/even, divisibility) · Applies algebraic methods to solve theoretical problems • Solves real-world problems involving 2-step multiple operations, whole Determines factors of whole numbers • Completes a function table given a simple rule (e.g., x + 2) numbers only · Looks for a growing pattern to solve a problem Determines the rule given a simple real-world function table (e.g., # • Extends a growing arithmetic pattern, defined by objects or diagrams Dogs compared to # Legs) • Applies algebraic methods to solve real-world problems • Determines the rule and completes a simple function machine output · Looks for a growing pattern to solve a problem • Identifies numbers as prime

New Signs and Symbols: () parenthesis around an integer, { } set notation

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: 221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
• Solves open sentences with calculations on both sides of the sentence	Solves open sentences with calculations on both sides of the sentence	
 Uses algebraic reasoning to solve problems involving equality relationships 		
 Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2) 		
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
 Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) 	Models algorithms using place value concepts (multiplication and division with whole numbers)	Models algorithms using place value concepts (multiplication and division with whole numbers)
 Solves problems involving rates 	Demonstrates an understanding of multiple properties	Solves problems involving rates
• Solves simple open sentences with missing factors (numbers over 100)	Solves problems involving rates	
 Demonstrates an understanding of the associative property of multiplication 		
 Predicts the relative size of the answer when multiplying whole numbers 		
 Solves whole number word problems with division over 10 x 10 		
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
Determines factors of whole numbers	Uses rounding to estimate answers to real-world problems involving	Evaluates numerical expressions using the order of operations (whole
Uses rounding to estimate answers to real-world problems involving	multiplication and division of numbers less than 100 (whole numbers only)	numbers only)
multiplication and division of numbers less than 100 (whole numbers only)	Uses rounding to estimate answers to real-world problems involving	 Evaluates numerical expressions using the order of operations (using integers)
Uses rounding to estimate answers to real-world problems involving	numbers less than 1000 with multiplication and division (whole numbers	Applies algebraic methods to solve real-world problems
numbers less than 1000 with multiplication and division (whole numbers	only)	Solves problems comparing unit prices
only)	 Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) 	
 Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) 	Solves real-world multiple-step problems involving whole numbers	
Solves complex word problems involving whole number division with	Solves 1-step problems involving proportions	
remainder (e.g., 2-step, 2-digit divisor)	Applies algebraic methods to solve theoretical problems	
 Solves real-world problems involving 2-step multiple operations, whole numbers only 	Extends a growing pattern of triangular numbers, defined by objects or diagrams	
 Solves real-world multiple-step problems involving whole numbers 	Uses factor and multiple concepts to solve simple problems	
 Solves 1-step problems involving proportions 	Uses multiple number theory concepts to solve problems (e.g., factors,	
 Uses simple linear equations to represent problem situations 	digits, odd/even, divisibility)	
 Applies algebraic methods to solve theoretical problems 	Determines factors of whole numbers	
 Completes a function table given a simple rule (e.g., x + 2) 	Looks for a growing pattern to solve a problem	
 Determines the rule given a simple real-world function table (e.g., # Dogs compared to # Legs) 	Applies algebraic methods to solve real-world problems	
Determines the rule and completes a simple function machine output		
 Looks for a growing pattern to solve a problem 		
 Identifies numbers as prime 		

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: 221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
New Vocabulary: None	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: () parenthesis around an integer, { } set notation	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

RIT Score Range:

231 - 240

Goal: Operations and Algebraic Thinking

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
 Models algorithms using place value concepts (multiplication and division with whole numbers) 	Models algorithms using place value concepts (multiplication and division with whole numbers)	
 Demonstrates an understanding of multiple properties 	Solves problems involving rates	
 Solves problems involving rates 		
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
 Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only) Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only) Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) Solves real-world multiple-step problems involving whole numbers Solves 1-step problems involving proportions Applies algebraic methods to solve theoretical problems Extends a growing pattern of triangular numbers, defined by objects or diagrams Uses factor and multiple concepts to solve simple problems Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility) Determines factors of whole numbers Looks for a growing pattern to solve a problem Applies algebraic methods to solve real-world problems 	Evaluates numerical expressions using the order of operations (whole numbers only) Evaluates numerical expressions using the order of operations (using integers) Applies algebraic methods to solve real-world problems Solves problems comparing unit prices	Evaluates numerical expressions using the order of operations (using integers) Uses reasoning strategies to solve problems Applies algebraic methods to solve real-world problems
New Vocabulary: None	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: 241 - 250

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) > 250
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
 Models algorithms using place value concepts (multiplication and division with whole numbers) 		
Solves problems involving rates		
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
Evaluates numerical expressions using the order of operations (whole numbers only)	Evaluates numerical expressions using the order of operations (using integers)	Uses reasoning strategies to solve problems
• Evaluates numerical expressions using the order of operations (using	Uses reasoning strategies to solve problems	
integers)	Applies algebraic methods to solve real-world problems	
 Applies algebraic methods to solve real-world problems 		
Solves problems comparing unit prices		
New Vocabulary: None	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: > 250

Goal: Operations and Algebraic Thinking

Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) > 250
Add & Subtract: Represent and Solve Problems	Add & Subtract: Represent and Solve Problems
Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
Solve Problems & Analyze Patterns & Relationships	Solve Problems & Analyze Patterns & Relationships
 Evaluates numerical expressions using the order of operations (using integers) 	Uses reasoning strategies to solve problems
 Uses reasoning strategies to solve problems 	
 Applies algebraic methods to solve real-world problems 	
New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: < 161

Goal: Number and Operations in Base Ten

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Identifies whole numbers under 100 using base-10 blocks 	Writes whole numbers in standard and expanded form through the tens
• Identifies the numerical and written name for whole numbers 11 to 20	Identifies whole numbers under 100 using base-10 blocks
(e.g., 15 is fifteen, and vice versa)	Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)
	Counts 1 to 10 objects
	Identifies missing numbers in a series through 100
	Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20
	Orders whole numbers less than 10
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Adds 1-digit to multiple-digit number with no regrouping Adds 1-digit to multiple-digit number with regrouping 	Uses a number line to construct addition facts with sums through 20 (whole numbers)
Uses models to calculate whole number sums through 99	Uses models to calculate whole number sums through 99
Adds two 1-digit numbers with sums to 10 in horizontal format	Adds two 1-digit numbers with sums to 10 in horizontal format
· ·	Adds two 1-digit numbers with sums between 10 and 19 in horizontal format
	Adds two 1-digit numbers with sums between 10 and 19 in vertical format
	Adds multiple 1-digit numbers
	Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)
	Adds 1-digit to multiple-digit number with no regrouping
	Adds 1-digit to multiple-digit number with regrouping
	Adds 2-digit numbers with no regrouping
	Subtracts two 1-digit numbers horizontally
	Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)
	Subtracts a 2-digit number from a 2-digit number, with no regrouping
	Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12
	Solves basic-facts open sentences - addition and subtraction
Operations with Decimals	Operations with Decimals
New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: + addition, = is equal to, × multiplication, variable

Explanatory Notes



Mathematics

Goal: Number and Operations in Base Ten

RIT Score Range: 161 - 170

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Identifies whole numbers under 100 using base-10 blocks 	Writes whole numbers in standard and expanded form through the tens	• Identifies whole numbers 100 - 999 using base-10 blocks
 Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa) 	Identifies whole numbers under 100 using base-10 blocks Identifies the numerical and written name for whole numbers 11 to 20	• Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)
	(e.g., 15 is fifteen, and vice versa) • Counts 1 to 10 objects	• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)
	Identifies missing numbers in a series through 100	Identifies missing numbers in a series through 100
	Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20	Counts backwards from a given number (given number greater than 10)
	Orders whole numbers less than 10	Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20
		Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)
		Compares whole numbers through 999
		Orders sets of objects 0-10
		Counts objects that are grouped into tens and ones
		 Identifies the place value and value of each digit in whole numbers through the tens place
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Adds 1-digit to multiple-digit number with no regrouping Adds 1-digit to multiple-digit number with regrouping 	Uses a number line to construct addition facts with sums through 20 (whole numbers)	Uses a number line to construct addition facts with sums through 20 (whole numbers)
Uses models to calculate whole number sums through 99	Uses models to calculate whole number sums through 99	Uses models to calculate whole number sums through 999
Adds two 1-digit numbers with sums to 10 in horizontal format	Adds two 1-digit numbers with sums to 10 in horizontal format	• Uses strategies for addition facts (e.g., compatible numbers, counting
, lade two T digit hambers with same to To III honzontal format	Adds two 1-digit numbers with sums between 10 and 19 in horizontal format	on, doubles, neighbors, making tens) • Adds two or three 2-digit number with regrouping
	Adds two 1-digit numbers with sums between 10 and 19 in vertical	Adds 1- and/or 2-digit numbers with sums under 100
	format	Adds 3-digit numbers with no regrouping
	Adds multiple 1-digit numbers	Adds 3-digit numbers, with regrouping, with sums under 1000
	Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)	Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)
	Adds 1-digit to multiple-digit number with no regrouping	Subtracts a 2-digit number from a 2-digit number, with no regrouping
	Adds 1-digit to multiple-digit number with regrouping	Subtracts 2- and/or 3-digit numbers with no regrouping
	Adds 2-digit numbers with no regrouping	Instantly recalls basic multiplication facts where one factor is 0-5 and
	Subtracts two 1-digit numbers horizontally	the other factor is 0-12
	Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)	 Multiplies basic facts to 10 x 10 vertically Solves basic-facts open sentences - addition and subtraction
	Subtracts a 2-digit number from a 2-digit number, with no regrouping	Solves basic facts open sentences - multiplication and division
	• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12	
	Solves basic-facts open sentences - addition and subtraction	
Operations with Decimals	Operations with Decimals	Operations with Decimals

Explanatory Note:



Mathematics RIT Score Range: 161 - 170

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
New Vocabulary: None	New Vocabulary: None	New Vocabulary: hundred, thousand
New Signs and Symbols: None	New Signs and Symbols: + addition, = is equal to, × multiplication, variable	New Signs and Symbols: None

Explanatory Notes



Mathematics

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) Skills and Concepts to Develop (50% Probability*) Skills and Concepts to Introduce (27% Probability*) 161 - 170 171 - 180 181 - 190 Understand Place Value, Counting, & Cardinality Understand Place Value, Counting, & Cardinality Understand Place Value, Counting, & Cardinality • Identifies whole numbers 100 - 999 using base-10 blocks Writes whole numbers in standard and expanded form through the tens Rounds 2- and 3- digit whole numbers to the nearest ten • Identifies whole numbers under 100 using base-10 blocks • Identifies the numerical and written name for whole numbers 21 to 100 • Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa) (e.g., 62 is sixty-two, and vice versa) Identifies the numerical and written name for whole numbers 11 to 20 • Identifies the numeral and written name for whole numbers 101 to 999 • Identifies the numeral and written name for whole numbers to 1000 to (e.g., 15 is fifteen, and vice versa) (e.g., 342 is three hundred forty-two, and vice versa) 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) · Counts 1 to 10 objects • Identifies missing numbers in a series through 100 • Identifies the numeral and written name for whole numbers 10,000 to • Identifies missing numbers in a series through 100 100.000 • Counts backwards from a given number (given number greater than Recognizes and generates equivalent forms for the same number 10) Compares whole numbers through 999 using physical models for whole numbers 11 to 20 • Recognizes and generates equivalent forms for the same number • Rounds 3-digit whole numbers to the nearest hundred Orders whole numbers less than 10 using physical models for whole numbers 11 to 20 Counts objects that are grouped into tens and ones • Compares sets of objects and identifies which is equal to, more than, • Identifies whole numbers under 100 given place value terms (e.g., 3 or less than the other (1 to 10 objects) tens and 4 ones = 34) Compares whole numbers through 999 • Identifies the place value and value of each digit in whole numbers • Orders sets of objects 0-10 through the tens place · Counts objects that are grouped into tens and ones • Identifies the place value and value of each digit in whole numbers through the hundreds place • Identifies the place value and value of each digit in whole numbers through the tens place • Identifies the place value and value of each digit in whole numbers through the thousands • Identifies the place value and value of each digit in whole numbers through the hundred thousands Compares and orders decimals to the hundredths place (same number of digits after decimal) Operations with Multi-digit Whole Numbers Operations with Multi-digit Whole Numbers Operations with Multi-digit Whole Numbers • Uses a number line to construct addition facts with sums through 20 • Uses a number line to construct addition facts with sums through 20 • Adds two or three 2-digit number with regrouping (whole numbers) (whole numbers) • Adds 3-digit numbers, with regrouping, with sums under 1000 • Uses models to calculate whole number sums through 99 • Uses models to calculate whole number sums through 999 • Performs mental computation with 2, 3, or 4 addends Adds two 1-digit numbers with sums to 10 in horizontal format • Uses strategies for addition facts (e.g., compatible numbers, counting · Adds two 3- and/or 4-digit numbers, with regrouping, with sums over on, doubles, neighbors, making tens) Adds two 1-digit numbers with sums between 10 and 19 in horizontal · Adds two or three 2-digit number with regrouping format Adds multiple-digit numbers, with regrouping, with sums over 1000 • Adds two 1-digit numbers with sums between 10 and 19 in vertical • Adds 1- and/or 2-digit numbers with sums under 100 • Uses models to calculate differences through 100 (whole numbers) format Adds 3-digit numbers with no regrouping • Subtracts a 2-digit number from a 2-digit number, with regrouping

RIT Score Range:

171 - 180

- Adds multiple 1-digit numbers
- Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)
- Adds 1-digit to multiple-digit number with no regrouping
- Adds 1-digit to multiple-digit number with regrouping
- Adds 2-digit numbers with no regrouping
- Subtracts two 1-digit numbers horizontally
- Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)

- Adds 3-digit numbers, with regrouping, with sums under 1000
- Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)
- Subtracts a 2-digit number from a 2-digit number, with no regrouping
- Subtracts 2- and/or 3-digit numbers with no regrouping
- Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12
- Multiplies basic facts to 10 x 10 vertically
- Solves basic-facts open sentences addition and subtraction

- Uses strategies for sums and differences with 2 digit numbers (o.
- Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)
- Subtracts 2- and/or 3-digit numbers with no regrouping
- Subtracts 3- or 4-digit numbers with regrouping
- Performs mental subtraction with numbers under 1000
- Subtracts multiple-digit numbers with no regrouping
- Identifies the number that is "1 less than" a given number
- Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7)

Explanatory Notes



Mathematics RIT Score Range: 171 - 180

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
• Subtracts a 2-digit number from a 2-digit number, with no regrouping	Solves basic facts open sentences - multiplication and division	Compares whole numbers through 9999
 Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12 		Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12
• Solves basic-facts open sentences - addition and subtraction		Multiplies basic facts to 10 x 10 vertically
		Multiplies a 2-digit number by a 1-digit number with regrouping
		Multiplies a 2-digit number by a 2-digit number with no regrouping
		• Instantly recalls division facts with dividend and divisors less than 10
Operations with Decimals	Operations with Decimals	Operations with Decimals
		Adds decimals to the hundredths place (same number of digits)
New Vocabulary: None	New Vocabulary: hundred, thousand	New Vocabulary: closest, digit, hundreds, million, nearest, one, ten
New Signs and Symbols: + addition, = is equal to, × multiplication,	New Signs and Symbols: None	thousand
variable		New Signs and Symbols: { } set notation, \$ dollar sign, long division symbol, - subtraction

Explanatory Notes



Goal: Number and Operations in Base Ten

Mathematics RIT Score Range:

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Understand Place Value, Counting, & Cardinality Identifies whole numbers 100 - 999 using base-10 blocks Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa) Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa) Identifies missing numbers in a series through 100 Counts backwards from a given number (given number greater than 10) Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20 Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects) Compares whole numbers through 999 Orders sets of objects 0-10 Counts objects that are grouped into tens and ones Identifies the place value and value of each digit in whole numbers through the tens place 	 Understand Place Value, Counting, & Cardinality Rounds 2- and 3- digit whole numbers to the nearest ten Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa) Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) Identifies the numeral and written name for whole numbers 10,000 to 100,000 Compares whole numbers through 999 Rounds 3-digit whole numbers to the nearest hundred Counts objects that are grouped into tens and ones Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the tens place Identifies the place value and value of each digit in whole numbers through the hundreds place Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Compares and orders decimals to the hundredths place (same number of digits after decimal) 	 Understand Place Value, Counting, & Cardinality Writes whole numbers in standard and expanded form through the hundreds Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) Identifies whole numbers over 999 using base-10 blocks Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers 10,000 to 100,000 Identifies the numeral and written name for whole numbers over 100,000 Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >) Compares whole numbers through the thousands using the symbols <, >, or = Rounds 2- and 3- digit whole numbers to the nearest ten Rounds 3-digit whole numbers to the nearest hundred Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Writes whole numbers in standard and expanded form through the
On augustiana viitla Miriti dimit Whala Niveshaus	Omegations with Multi-digit Whele Numbers	thousands
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Uses a number line to construct addition facts with sums through 20 (whole numbers) Uses models to calculate whole number sums through 999 Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) Adds two or three 2-digit number with regrouping Adds 1- and/or 2-digit numbers with sums under 100 Adds 3-digit numbers with no regrouping Adds 3-digit numbers, with regrouping, with sums under 1000 Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) Subtracts a 2-digit number from a 2-digit number, with no regrouping Subtracts 2- and/or 3-digit numbers with no regrouping 	Adds two or three 2-digit number with regrouping Adds 3-digit numbers, with regrouping, with sums under 1000 Performs mental computation with 2, 3, or 4 addends Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000 Adds multiple-digit numbers, with regrouping, with sums over 1000 Uses models to calculate differences through 100 (whole numbers) Subtracts a 2-digit number from a 2-digit number, with regrouping Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) Subtracts 2- and/or 3-digit numbers with no regrouping Subtracts 3- or 4-digit numbers with regrouping Performs mental subtraction with numbers under 1000	 Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000 Adds multiple-digit numbers, with regrouping, with sums over 1000 Adds multiple-digit numbers with sums under 1000 Subtracts 1-digit number from a 2-digit number with regrouping Subtracts a 2-digit number from a 2-digit number, with regrouping Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) Subtracts a 2-digit number from a 3-digit number with a single regrouping Subtracts 3- or 4-digit numbers with regrouping Performs mental subtraction with numbers under 1000 Subtracts multiple-digit numbers with no regrouping Instantly recalls basic multiplication facts where one factor is 6-12 and

* Åt the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

181 - 190



Mathematics RIT Score Range: 181 - 190

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Multiplies basic facts to 10 x 10 vertically Solves basic-facts open sentences - addition and subtraction Solves basic facts open sentences - multiplication and division 	Identifies the number that is "1 less than" a given number Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7) Compares whole numbers through 9999 Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12 Multiplies basic facts to 10 x 10 vertically Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 2-digit number by a 2-digit number with no regrouping Instantly recalls division facts with dividend and divisors less than 10	 Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number Multiplies a 2-digit number by a 2-digit number with no regrouping Performs mental computation with multiplication Instantly recalls division facts with dividend and divisors less than 10 Instantly recalls division facts with dividend and divisors less than 13 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7) Divides a 2-digit number by a 1-digit number with no remainder
Operations with Decimals	Operations with Decimals	Operations with Decimals
	Adds decimals to the hundredths place (same number of digits)	Adds decimals to the hundredths place (same number of digits) Adds decimals to the hundredths place is vertical format (act against
		Adds decimals to the hundredths place in vertical format (not same number of digits) Adds decimals to the thousandths place vertically with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number
New Vocabulary: hundred, thousand	New Vocabulary: closest, digit, hundreds, million, nearest, one, ten	number of digits) • Adds decimals to the thousandths place vertically with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping

Explanatory Notes



Mathematics

Goal: Number and Operations in Base Ten

RIT Score Range: 191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Rounds 2- and 3- digit whole numbers to the nearest ten Identifies the numeral and written name for whole numbers 101 to 999 	Writes whole numbers in standard and expanded form through the hundreds	Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)
(e.g., 342 is three hundred forty-two, and vice versa)	Uses rounding to estimate answers to addition and subtraction	Identifies whole numbers over 999 using base-10 blocks
 Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) 	problems (whole numbers only) • Identifies whole numbers over 999 using base-10 blocks	Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place
 Identifies the numeral and written name for whole numbers 10,000 to 100,000 	Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place	Identifies the numeral and written name for whole numbers over 100,000
Compares whole numbers through 999 Depends 2 digit whole greathers to the good set hands and	Identifies the numeral and written name for whole numbers 10,000 to 100,000	• Compares whole numbers through the billions using the symbols <, >, or =
 Rounds 3-digit whole numbers to the nearest hundred Counts objects that are grouped into tens and ones 	Identifies the numeral and written name for whole numbers over	Orders whole numbers a million or greater using < or > symbols
 Identifies whole numbers under 100 given place value terms (e.g., 3 	100,000	Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten
tens and 4 ones = 34)	• Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >)	Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred
Identifies the place value and value of each digit in whole numbers	 Compares whole numbers through the thousands using the symbols <, 	Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand
through the tens place	>, or =	Rounds whole numbers to the nearest hundred thousand
 Identifies the place value and value of each digit in whole numbers through the hundreds place 	Rounds 2- and 3- digit whole numbers to the nearest ten	Rounds wholes numbers to the nearest billion
Identifies the place value and value of each digit in whole numbers	Rounds 3-digit whole numbers to the nearest hundred	Explains the rules for rounding
through the thousands • Identifies the place value and value of each digit in whole numbers	• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)	Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)
through the hundred thousands	Identifies the place value and value of each digit in whole numbers through the thousands	Identifies the place value and value of each digit in whole numbers through the billions
 Compares and orders decimals to the hundredths place (same number of digits after decimal) 	Identifies the place value and value of each digit in whole numbers through the hundred thousands	Writes whole numbers in standard and expanded form through the hundred thousands
	Writes whole numbers in standard and expanded form through the thousands	Applies base ten place value concepts with whole numbers to solve problems
	Tiododrido	Writes whole numbers using place value terms and vice versa
		Rounds decimals to the nearest whole number
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
Adds two or three 2-digit number with regrouping	Adds two 3- and/or 4-digit numbers, with regrouping, with sums over	Adds multiple-digit numbers, with regrouping, with sums over 1000
 Adds 3-digit numbers, with regrouping, with sums under 1000 	1000	Adds multiple-digit numbers with sums under 1000
 Performs mental computation with 2, 3, or 4 addends 	Adds multiple-digit numbers, with regrouping, with sums over 1000	Performs mental computation with more than 4 addends
Adds two 3- and/or 4-digit numbers, with regrouping, with sums over	Adds multiple-digit numbers with sums under 1000	Subtracts 3- or 4-digit numbers with regrouping
1000	Subtracts 1-digit number from a 2-digit number with regrouping	Subtracts numbers with 5 digits or more with regrouping
Adds multiple-digit numbers, with regrouping, with sums over 1000	Subtracts a 2-digit number from a 2-digit number, with regrouping	Instantly recalls basic multiplication and division facts in a table
Uses models to calculate differences through 100 (whole numbers)	Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)	Multiplies a 2-digit number by a 1-digit number with regrouping
Subtracts a 2-digit number from a 2-digit number, with regrouping	Subtracts a 2-digit number from a 3-digit number with a single	Multiplies a 3- or 4-digit number by a 1-digit number
 Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) 	regrouping	Multiplies multiple 1-digit numbers
Subtracts 2- and/or 3-digit numbers with no regrouping	Subtracts 3- or 4-digit numbers with regrouping	Multiplies a 2-digit number by a 2-digit number with regrouping
Subtracts 3- or 4-digit numbers with regrouping	Performs mental subtraction with numbers under 1000	Multiplies a 3-digit number by a 2-digit number with regrouping
	Subtracts multiple-digit numbers with no regrouping	Performs mental computation with multiplication
Explanatory Notes * At the range mid-point, this is the probability students would correctly answer item:	s measuring these concepts and skills. Both data from test items and review by NWE	A curriculum specialists are used to place Learning Continuum statements into



Mathematics RIT Score Range:

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Performs mental subtraction with numbers under 1000 Subtracts multiple-digit numbers with no regrouping Identifies the number that is "1 less than" a given number Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7) Compares whole numbers through 9999 Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12 Multiplies basic facts to 10 x 10 vertically Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 2-digit number by a 2-digit number with no regrouping Instantly recalls division facts with dividend and divisors less than 10 	 Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12 Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number Multiplies a 2-digit number by a 2-digit number with no regrouping Performs mental computation with multiplication Instantly recalls division facts with dividend and divisors less than 10 Instantly recalls division facts with dividend and divisors less than 13 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7) Divides a 2-digit number by a 1-digit number with no remainder 	Multiplies a 2- or 3-digit number by multiples of 10 or 100 Multiplies a 3-digit number by a 3-digit number Instantly recalls division facts with dividend and divisors less than 13 Divides a 2-digit number by a 1-digit number with no remainder Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division Divides a 3-digit number by a 1-digit number with no remainder Divides a 4-digit number by a 1-digit number with no remainder Divides a 3-digit number by a multiple of 10 Divides a 4-digit number by a 2-digit number
Operations with Decimals	Operations with Decimals	Operations with Decimals
Adds decimals to the hundredths place (same number of digits)	Adds decimals to the hundredths place (same number of digits) Adds decimals to the hundredths place in vertical format (not same number of digits) Adds decimals to the thousandths place vertically with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number	Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number Divides decimal by a whole number
New Vocabulary: closest, digit, hundreds, million, nearest, one, ten	New Vocabulary: billion, hundred million, quintillion, standard numeral,	New Vocabulary: expanded numeral
thousand	trillion	New Signs and Symbols: None
New Signs and Symbols: { } set notation, \$ dollar sign, long division symbol, - subtraction	New Signs and Symbols: °F degrees Fahrenheit, > greater than, < less than, R remainder	

191 - 200

Explanatory Notes



Mathematics

Goal: Number and Operations in Base Ten

RIT Score Range:

201 - 210

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
Writes whole numbers in standard and expanded form through the hundreds	Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)	Predicts the relative size of the answer when computing with 10's, 100's, 1000's
Uses rounding to estimate answers to addition and subtraction	 Identifies whole numbers over 999 using base-10 blocks 	Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred
problems (whole numbers only)	• Identifies the numeral and written name for whole numbers with a zero	Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand
Identifies whole numbers over 999 using base-10 blocks	between digits to the ten thousands place	Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand
 Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place 	 Identifies the numeral and written name for whole numbers over 100,000 	Rounds wholes numbers to the nearest billion
Identifies the numeral and written name for whole numbers 10,000 to 100.000	Compares whole numbers through the billions using the symbols <, >, or =	Writes whole numbers in standard and expanded form through the hundred thousands
Identifies the numeral and written name for whole numbers over	Orders whole numbers a million or greater using < or > symbols	Represents a decimal to the hundredths place (e.g., three hundredths
100,000	• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten	= 0.03)
• Compares whole numbers to 100, using the symbols for 'less than',	Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred	Compares and orders decimals past the thousandths place Rounds decimals to the nearest whole number
'equal to', or 'greater than' (<, =, >)	Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand	Rounds decimals to the hearest whole number Rounds decimals to the nearest tenth
 Compares whole numbers through the thousands using the symbols <, , or = 	Rounds whole numbers to the nearest hundred thousand	Applies base ten place value concepts to solve problems using
Rounds 2- and 3- digit whole numbers to the nearest ten	Rounds wholes numbers to the nearest billion	decimals
Rounds 3-digit whole numbers to the nearest hundred	Explains the rules for rounding	
• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)	Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)	
Identifies the place value and value of each digit in whole numbers through the thousands	 Identifies the place value and value of each digit in whole numbers through the billions 	
Identifies the place value and value of each digit in whole numbers through the hundred thousands	 Writes whole numbers in standard and expanded form through the hundred thousands 	
Writes whole numbers in standard and expanded form through the thousands	 Applies base ten place value concepts with whole numbers to solve problems 	
	Writes whole numbers using place value terms and vice versa	
	Rounds decimals to the nearest whole number	
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000 	 Adds multiple-digit numbers, with regrouping, with sums over 1000 Adds multiple-digit numbers with sums under 1000 	Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole
Adds multiple-digit numbers, with regrouping, with sums over 1000	Performs mental computation with more than 4 addends	numbers only)
 Adds multiple-digit numbers with sums under 1000 	Subtracts 3- or 4-digit numbers with regrouping	Subtracts numbers with 5 digits or more with regrouping
Subtracts 1-digit number from a 2-digit number with regrouping	Subtracts numbers with 5 digits or more with regrouping	Instantly recalls basic multiplication and division facts in a table
Subtracts a 2-digit number from a 2-digit number, with regrouping	Instantly recalls basic multiplication and division facts in a table	Multiplies a 2-digit number by a 2-digit number with regrouping
 Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) 	 Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number 	Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication
 Subtracts a 2-digit number from a 3-digit number with a single regrouping 	Multiplies multiple 1-digit numbers	Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)
Subtracts 3- or 4-digit numbers with regrouping	Multiplies a 2-digit number by a 2-digit number with regrouping	Multiplies a 3-digit number by a 3-digit number
Performs mental subtraction with numbers under 1000	Multiplies a 3-digit number by a 2-digit number with regrouping	Multiplies a 4- or more digit number by multiples of 100 or 1000
Subtracts multiple-digit numbers with no regrouping	Performs mental computation with multiplication	Multiplies multiple-digit numbers



Mathematics RIT Score Range: 201 - 210

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12 Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number Multiplies a 2-digit number by a 2-digit number with no regrouping Performs mental computation with multiplication Instantly recalls division facts with dividend and divisors less than 10 Instantly recalls division facts with dividend and divisors less than 13 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7) 	 Multiplies a 2- or 3-digit number by multiples of 10 or 100 Multiplies a 3-digit number by a 3-digit number Instantly recalls division facts with dividend and divisors less than 13 Divides a 2-digit number by a 1-digit number with no remainder Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division Divides a 3-digit number by a 1-digit number with no remainder Divides a 4-digit number by a 1-digit number with no remainder Divides a 3-digit number by a multiple of 10 Divides a 4-digit number by a 2-digit number 	 Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division Divides a 4-digit number by a 1-digit number with no remainder Divides a 3-digit number by a 2-digit number Divides a 4-digit number by a 2-digit number Demonstrates an understanding of the inverse relationship between addition and subtraction Demonstrates an understanding of the distributive property of multiplication by decomposing a term
Divides a 2-digit number by a 1-digit number with no remainder		
Operations with Decimals	Operations with Decimals	Operations with Decimals
Adds decimals to the hundredths place (same number of digits) Adds decimals to the hundredths place in vertical format (not same number of digits) Adds decimals to the hundredths place vertically with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number	Operations with Decimals Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number Divides decimal by a whole number	Operations with Decimals Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals to the thousandths place horizontally with and without regrouping Adds decimals through the hundred-thousandths place Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) Multiplies a decimal by a decimal (factors to hundredths) Divides decimal by a whole number
Adds decimals to the hundredths place (same number of digits) Adds decimals to the hundredths place in vertical format (not same number of digits) Adds decimals to the thousandths place vertically with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number New Vocabulary: billion, hundred million, quintillion, standard numeral,	Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals to the thousandths place horizontally with and without regrouping Adds decimals through the hundred-thousandths place Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) Multiplies a decimal by a decimal (factors to hundredths)
Adds decimals to the hundredths place (same number of digits) Adds decimals to the hundredths place in vertical format (not same number of digits) Adds decimals to the thousandths place vertically with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number	Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number Divides decimal by a whole number	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals to the thousandths place horizontally with and without regrouping Adds decimals through the hundred-thousandths place Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) Multiplies a decimal by a decimal (factors to hundredths) Multiplies a decimal by a whole number

Explanatory Notes



Mathematics

Goal: Number and Operations in Base Ten

RIT Score Range: 211 - 220

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)	 Predicts the relative size of the answer when computing with 10's, 100's, 1000's 	Multiplies a decimal by 10, 100, 1000
Identifies whole numbers over 999 using base-10 blocks	Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred	• Divides a decimal by 10, 100, 1000
Identifies whole numbers over 333 using base-10 blocks Identifies the numeral and written name for whole numbers with a zero	Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand	Determines the relative magnitude of whole numbers
between digits to the ten thousands place	Rounds 4-, 5-, and 6-digit whole numbers to the nearest tribusand Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand	Rounds whole numbers to the nearest million
Identifies the numeral and written name for whole numbers over 100,000	Rounds wholes numbers to the nearest billion	Writes whole numbers in standard and exponential form Represents a decimal to thousandths place (e.g., three thousandths =
 Compares whole numbers through the billions using the symbols <, >, or = 	Writes whole numbers in standard and expanded form through the hundred thousands Papercepta a decimal to the hundredthe place (a.g., three hundredthe	O.003) Compares and orders decimals to the hundredths place (not same support of digits of the decimal)
Orders whole numbers a million or greater using < or > symbols Pounds 1	 Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) 	number of digits after decimal) • Compares and orders decimals to the thousandths place (not same
 Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred 	Compares and orders decimals past the thousandths place	number of digits after decimal)
Rounds 4-, 5-, and 6-digit whole numbers to the hearest fundated Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand	Rounds decimals to the nearest whole number	Compares and orders decimals past the thousandths place
Rounds whole numbers to the nearest hundred thousand	Rounds decimals to the nearest tenth	Rounds decimals to the nearest hundredth
Rounds wholes numbers to the nearest billion	 Applies base ten place value concepts to solve problems using decimals 	Rounds decimals to nearest thousandth
• Explains the rules for rounding	dodinale	 Identifies the place value and value of each digit to the hundredths and thousandths
• Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)		Applies base ten place value concepts to solve problems using decimals
Identifies the place value and value of each digit in whole numbers through the billions		
Writes whole numbers in standard and expanded form through the hundred thousands		
Applies base ten place value concepts with whole numbers to solve problems		
Writes whole numbers using place value terms and vice versa		
Rounds decimals to the nearest whole number		
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
Adds multiple-digit numbers, with regrouping, with sums over 1000 Adds multiple-digit numbers with sums under 1000	Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)	Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)
Performs mental computation with more than 4 addends Cubarage 3. or 4 digit growth are with regressing.	Subtracts numbers with 5 digits or more with regrouping	Multiplies multiple-digit numbers
Subtracts 3- or 4-digit numbers with regrouping	• Instantly recalls basic multiplication and division facts in a table	Divides a 4-digit number by a 2-digit number
Subtracts numbers with 5 digits or more with regrouping	Multiplies a 2-digit number by a 2-digit number with regrouping	
Instantly recalls basic multiplication and division facts in a table Addition and division facts in a table Addition and division provides a second division facts.	Multiplies a 3-digit number by a 2-digit number with regrouping	
Multiplies a 2-digit number by a 1-digit number with regrouping	Performs mental computation with multiplication	
 Multiplies a 3- or 4-digit number by a 1-digit number Multiplies multiple 1-digit numbers 	• Uses multiplication strategies to explain computation (e.g., doubles, 9-	
Multiplies multiple 1-aight numbers Multiplies a 2-digit number by a 2-digit number with regrouping	patterns, decomposing, partial products)	
Multiplies a 3-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping	Multiplies a 3-digit number by a 3-digit number	
	 Multiplies a 4- or more digit number by multiples of 100 or 1000 	



Mathematics RIT Score Range: 211 - 220

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Multiplies a 2- or 3-digit number by multiples of 10 or 100 Multiplies a 3-digit number by a 3-digit number Instantly recalls division facts with dividend and divisors less than 13 Divides a 2-digit number by a 1-digit number with no remainder Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division Divides a 3-digit number by a 1-digit number with no remainder Divides a 4-digit number by a 1-digit number with no remainder Divides a 3-digit number by a multiple of 10 Divides a 4-digit number by a 2-digit number 	 Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division Divides a 4-digit number by a 1-digit number with no remainder Divides a 3-digit number by a 2-digit number Divides a 4-digit number by a 2-digit number Demonstrates an understanding of the inverse relationship between addition and subtraction Demonstrates an understanding of the distributive property of multiplication by decomposing a term 	
Operations with Decimals	Operations with Decimals	Operations with Decimals
Operations with Decimals • Adds decimals to the thousandths place horizontally with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping • Multiplies a decimal by whole number • Divides decimal by a whole number	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals to the thousandths place horizontally with and without regrouping Adds decimals through the hundred-thousandths place Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals through the hundred-thousandths place Subtracts decimals to the hundredths place (not same number of digits) Subtracts a decimal from a whole number, horizontally Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)
Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals to the thousandths place horizontally with and without regrouping Adds decimals through the hundred-thousandths place Multiplies a decimal by a decimal, vertical form (factors to tenths or	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals through the hundred-thousandths place Subtracts decimals to the hundredths place (not same number of digits) Subtracts a decimal from a whole number, horizontally Multiplies a decimal by a decimal, vertical form (factors to tenths or
Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Multiplies a decimal by whole number	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals to the thousandths place horizontally with and without regrouping Adds decimals through the hundred-thousandths place Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) Multiplies a decimal by a decimal (factors to hundredths)	Adds decimals to the hundredths place in horizontal format (not same number of digits) Adds decimals through the hundred-thousandths place Subtracts decimals to the hundredths place (not same number of digits) Subtracts a decimal from a whole number, horizontally Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) Multiplies a decimal by a decimal (factors to hundredths) Multiplies a decimal by a decimal (factors to thousandths)

Explanatory Notes



Mathematics

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Predicts the relative size of the answer when computing with 10's, 100's, 1000's 	 Multiplies a decimal by 10, 100, 1000 Divides a decimal by 10, 100, 1000 	Divides numbers by powers of 10Multiplies a decimal by 10, 100, 1000
• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred	Determines the relative magnitude of whole numbers	• Divides a decimal by 10, 100, 1000
• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand	Rounds whole numbers to the nearest million	Determines the relative magnitude of whole numbers
• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand	Writes whole numbers in standard and exponential form	Writes whole numbers in standard and exponential form
Rounds wholes numbers to the nearest billionWrites whole numbers in standard and expanded form through the	• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)	Rounds decimals to the nearest hundredth
hundred thousands • Represents a decimal to the hundredths place (e.g., three hundredths	Compares and orders decimals to the hundredths place (not same number of digits after decimal)	
= 0.03)Compares and orders decimals past the thousandths place	Compares and orders decimals to the thousandths place (not same number of digits after decimal)	
Rounds decimals to the nearest whole number	Compares and orders decimals past the thousandths place	
Rounds decimals to the nearest tenth	Rounds decimals to the nearest hundredth	
Applies base ten place value concepts to solve problems using	Rounds decimals to nearest thousandth	
decimals	Identifies the place value and value of each digit to the hundredths and thousandths	
	Applies base ten place value concepts to solve problems using decimals	
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)	Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)	
• Cubtracta numbers with E digita or mare with regrouping		
 Subtracts numbers with 5 digits of more with regrouping 	Multiplies multiple-digit numbers	
	Multiplies multiple-digit numbersDivides a 4-digit number by a 2-digit number	
Instantly recalls basic multiplication and division facts in a table		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping 		
 Subtracts numbers with 5 digits or more with regrouping Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9- 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) Multiplies a 3-digit number by a 3-digit number 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) Multiplies a 3-digit number by a 3-digit number Multiplies a 4- or more digit number by multiples of 100 or 1000 Multiplies multiple-digit numbers Divides a 2-digit number or a 3-digit number by a 1-digit number with a 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) Multiplies a 3-digit number by a 3-digit number Multiplies a 4- or more digit number by multiples of 100 or 1000 Multiplies multiple-digit numbers Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) Multiplies a 3-digit number by a 3-digit number Multiplies a 4- or more digit number by multiples of 100 or 1000 Multiplies multiple-digit numbers Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division 		
 Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) Multiplies a 3-digit number by a 3-digit number Multiplies a 4- or more digit number by multiples of 100 or 1000 		

RIT Score Range:

221 - 230

Explanatory Notes



Mathematics RIT Score Range: 221 - 230

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
Demonstrates an understanding of the inverse relationship between addition and subtraction		
 Demonstrates an understanding of the distributive property of multiplication by decomposing a term 		
Operations with Decimals	Operations with Decimals	Operations with Decimals
• Adds decimals to the hundredths place in horizontal format (not same number of digits)	Adds decimals to the hundredths place in horizontal format (not same number of digits)	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal
 Adds decimals to the thousandths place horizontally with and without regrouping 	Adds decimals through the hundred-thousandths place Subtracts decimals to the hundredths place (not same number of digits)	Divides a decimal by a decimal
Adds decimals through the hundred-thousandths place	Subtracts a decimal from a whole number, horizontally	
 Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) 	Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)	
 Multiplies a decimal by a decimal (factors to hundredths) 	Multiplies a decimal by a decimal (factors to hundredths)	
Divides decimal by a whole number	Multiplies a decimal by a decimal (factors to thousandths)	
	Divides a decimal by a decimal	
New Vocabulary: None	New Vocabulary: ten million	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: ÷ division

Explanatory Notes



Mathematics RIT Score Range: 231 - 240

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) > 240
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Multiplies a decimal by 10, 100, 1000 	Divides numbers by powers of 10	Evaluates expressions using the order of operations, including
 Divides a decimal by 10, 100, 1000 	Multiplies a decimal by 10, 100, 1000	exponents (using integers)
 Determines the relative magnitude of whole numbers 	Divides a decimal by 10, 100, 1000	
 Rounds whole numbers to the nearest million 	Determines the relative magnitude of whole numbers	
 Writes whole numbers in standard and exponential form 	Writes whole numbers in standard and exponential form	
 Represents a decimal to thousandths place (e.g., three thousandths = 0.003) 	Rounds decimals to the nearest hundredth	
 Compares and orders decimals to the hundredths place (not same number of digits after decimal) 		
 Compares and orders decimals to the thousandths place (not same number of digits after decimal) 		
 Compares and orders decimals past the thousandths place 		
 Rounds decimals to the nearest hundredth 		
 Rounds decimals to nearest thousandth 		
 Identifies the place value and value of each digit to the hundredths and thousandths 		
 Applies base ten place value concepts to solve problems using decimals 		
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
 Uses rounding to estimate answers to real-world problems involving 		
numbers 1000 or greater using multiplication and division (whole numbers only)		
0 1 1		
numbers only)		
numbers only) • Multiplies multiple-digit numbers	Operations with Decimals	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number	Subtracts a decimal from a whole number, horizontally	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits)	Subtracts a decimal from a whole number, horizontally	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits)	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts a decimal from a whole number, horizontally • Multiplies a decimal by a decimal, vertical form (factors to tenths or	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts a decimal from a whole number, horizontally • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts a decimal from a whole number, horizontally • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths)	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals
numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number Operations with Decimals • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts a decimal from a whole number, horizontally • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Multiplies a decimal by a decimal (factors to thousandths)	Subtracts a decimal from a whole number, horizontally Divides a whole number by a decimal	Operations with Decimals New Vocabulary: None

Explanatory Notes



Mathematics RIT Score Range: > 240

Goal: Number and Operations in Base Ten

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) > 240
Understand Place Value, Counting, & Cardinality	Understand Place Value, Counting, & Cardinality
 Divides numbers by powers of 10 	Evaluates expressions using the order of operations, including
 Multiplies a decimal by 10, 100, 1000 	exponents (using integers)
 Divides a decimal by 10, 100, 1000 	
 Determines the relative magnitude of whole numbers 	
 Writes whole numbers in standard and exponential form 	
 Rounds decimals to the nearest hundredth 	
Operations with Multi-digit Whole Numbers	Operations with Multi-digit Whole Numbers
Operations with Decimals	Operations with Decimals
 Subtracts a decimal from a whole number, horizontally 	
Divides a whole number by a decimal	
Divides a decimal by a decimal	
New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: ÷ division	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: < 181

Goal: Number & Operations-Fractions

Skills and Concepts to Develop (50% Probability*) < 181	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
Represents 1/2 with a diagram or model	• Identifies 2/3 or 3/3 from a region or set
• Represents 1/4 with a diagram or model	Identifies tenths from a region or set
 Identifies one-half from a region or set 	Identifies eighths from a region or set
	 Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set
	• Identifies 1/4 from a region or set
	• Represents 3/4 with a diagram or model
	Identifies equal parts by using models
	• Identifies 1/2 from a region or set
	• Identifies one-half from a region or set
	• Identifies 2/4, 3/4, or 4/4 from a region or set
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
New Vocabulary: fourth, thirds	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: = is equal to

Explanatory Notes



Mathematics RIT Score Range:

Goal: Number & Operations-Fractions

Skills and concepts to Enhance (73% Probability*) < 181	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
 Represents 1/2 with a diagram or model 	Identifies 2/3 or 3/3 from a region or set	Matches numeric and visual representation of equivalent fractions
 Represents 1/4 with a diagram or model 	Identifies tenths from a region or set	Represents 1/3 with a diagram or model
 Identifies one-half from a region or set 	Identifies eighths from a region or set	Represents fractions with denominators other than 2, 3, 4 with a
	• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a	diagram or model
	region or set	• Identifies 1/4 from a region or set
	Identifies 1/4 from a region or set	Identifies 1/3 from a region or set
	Represents 3/4 with a diagram or model	Identifies 2/3 or 3/3 from a region or set
	Identifies equal parts by using models	Identifies tenths from a region or set
	Identifies 1/2 from a region or set	• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a
	Identifies one-half from a region or set	region or set
	• Identifies 2/4, 3/4, or 4/4 from a region or set	Identifies equivalent fractions using visual representations
		Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)
		Writes the missing number in a proportion using basic facts
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
		Subtracts fractions with like denominators without reducing
		Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators
		Uses models to add and subtract fractions and connect the actions to algorithms
		Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction
New Vocabulary: fourth, thirds	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: = is equal to	New Signs and Symbols: - subtraction, variable

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

181 - 190



Mathematics

Goal: Number & Operations-Fractions

RIT Score Range: 191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
• Identifies 2/3 or 3/3 from a region or set	Matches numeric and visual representation of equivalent fractions	Orders fractions on a number line
 Identifies tenths from a region or set 	Represents 1/3 with a diagram or model	Identifies halves of a region using nonadjacent parts
• Identifies eighths from a region or set	Represents fractions with denominators other than 2, 3, 4 with a	Identifies equivalent fractions using visual representations
• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a	diagram or model	• Expresses "1" in many different ways (e.g., 3/3, 4/4)
region or set	• Identifies 1/4 from a region or set	Converts a basic fractional numeral to lowest terms (e.g., halves,
Identifies 1/4 from a region or set	Identifies 1/3 from a region or set	thirds, quarters)
Represents 3/4 with a diagram or model	• Identifies 2/3 or 3/3 from a region or set	Compares fractions (e.g., common denominator, 1 in the numerator,
Identifies equal parts by using models	Identifies tenths from a region or set	denominator is 2, 3, 4, 6, 8, 10)
• Identifies 1/2 from a region or set	• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a	Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)
 Identifies one-half from a region or set 	region or set	Writes a terminating decimal as a fraction or mixed number
• Identifies 2/4, 3/4, or 4/4 from a region or set	Identifies equivalent fractions using visual representations	l
	 Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) 	Writes the missing number in a proportion using basic facts
	Writes the missing number in a proportion using basic facts	
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
	Subtracts fractions with like denominators without reducing	Multiplies a fraction by a fraction without reducing to simplest form
	Solves real-world 1-step problems involving addition and subtraction of	(simple problem)
	fractions with like denominators	Adds fractions with like denominators without reducing
	Uses models to add and subtract fractions and connect the actions to	Adds whole numbers and fractions
	algorithmsSolves real-world 1-step problems involving multiplication or division of	Uses models to add and subtract fractions and connect the actions to algorithms
	a whole number by a fraction	Subtracts fractions with like denominators without reducing
		Subtracts mixed fractions with like denominators with no regrouping
		Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators
New Vocabulary: None	New Vocabulary: None	New Vocabulary: biggest
New Signs and Symbols: = is equal to	New Signs and Symbols: - subtraction, variable	New Signs and Symbols: + addition, ¢ cent sign, × multiplication



Mathematics

Goal: Number & Operations-Fractions

RIT Score Range: 201 - 210

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
 Matches numeric and visual representation of equivalent fractions 	Orders fractions on a number line	Writes a fraction or mixed number as a decimal when the denominator
 Represents 1/3 with a diagram or model 	Identifies halves of a region using nonadjacent parts	is a multiple of 10
 Represents fractions with denominators other than 2, 3, 4 with a 	Identifies equivalent fractions using visual representations	Converts fractions to lowest terms
diagram or model	• Expresses "1" in many different ways (e.g., 3/3, 4/4)	Identifies equivalent fractions using visual representations
 Identifies 1/4 from a region or set 	Converts a basic fractional numeral to lowest terms (e.g., halves,	Identifies a fractions in lowest terms from a region or set
 Identifies 1/3 from a region or set 	thirds, quarters)	Identifies eighths, reduced to lowest terms, from a region or set
 Identifies 2/3 or 3/3 from a region or set 	• Compares fractions (e.g., common denominator, 1 in the numerator,	Determines simple equivalent fractions using multiples
 Identifies tenths from a region or set 	denominator is 2, 3, 4, 6, 8, 10)	Compares fractions on a number line
 Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set 	Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)	Compares fractions greater than or less than a given fraction using visual representations
 Identifies equivalent fractions using visual representations 	Writes a terminating decimal as a fraction or mixed number	Compares fractions and mixed numbers
 Explains different interpretations of fractions (e.g., parts of a whole, 	Writes the missing number in a proportion using basic facts	Compares fractions and mixed numbers using symbols
parts of a set, and division of whole numbers by whole numbers)		Orders fractions on a number line
Writes the missing number in a proportion using basic facts		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
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
 Subtracts fractions with like denominators without reducing Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators Uses models to add and subtract fractions and connect the actions to algorithms Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction 	Multiplies a fraction by a fraction without reducing to simplest form (simple problem) Adds fractions with like denominators without reducing Adds whole numbers and fractions Uses models to add and subtract fractions and connect the actions to algorithms Subtracts fractions with like denominators without reducing Subtracts mixed fractions with like denominators with no regrouping Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators	 Adds fractions with like denominators without reducing Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths) 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 Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary Uses models to multiply and divide fractions and connect the actions to algorithms Multiplies a fraction by a fraction where reducing to simplest form is necessary Multiplies a fraction by a whole number Solves 1-step real-world problems involving fractions with multiplication and division
New Vocabulary: None	New Vocabulary: biggest	New Vocabulary: lowest term, lowest terms, reduce, triple
New Signs and Symbols: - subtraction, variable	New Signs and Symbols: + addition, ¢ cent sign, × multiplication	New Signs and Symbols: > greater than, < less than, ≠ not equal to

Explanatory Note



Mathematics

Goal: Number & Operations-Fractions

RIT Score Range:

211 - 220

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
 Orders fractions on a number line Identifies halves of a region using nonadjacent parts Identifies equivalent fractions using visual representations Expresses "1" in many different ways (e.g., 3/3, 4/4) Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters) Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10) Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) Writes a terminating decimal as a fraction or mixed number Writes the missing number in a proportion using basic facts 	Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 Converts fractions to lowest terms Identifies equivalent fractions using visual representations Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Determines simple equivalent fractions using multiples Compares fractions on a number line Compares fractions greater than or less than a given fraction using visual representations Compares fractions and mixed numbers Compares fractions and mixed numbers Compares fractions on a number line Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)	Identifies a fractions in lowest terms from a region or set Determines simple equivalent fractions using multiples Determines equivalent fractions using multiples Compares fractions (e.g., comparing numerators and denominators) 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
	Expresses a simple fraction as a decimal	
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
 Multiplies a fraction by a fraction without reducing to simplest form (simple problem) Adds fractions with like denominators without reducing Adds whole numbers and fractions Uses models to add and subtract fractions and connect the actions to algorithms Subtracts fractions with like denominators without reducing Subtracts mixed fractions with like denominators with no regrouping Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators 	Adds fractions with like denominators without reducing Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths) 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 mixed fractions with unlike denominators with no regrouping Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary Uses models to multiply and divide fractions and connect the actions to algorithms Multiplies a fraction by a fraction where reducing to simplest form is necessary Multiplies a fraction by a whole number Solves 1-step real-world problems involving fractions with multiplication and division	Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) Adds mixed fractions where converting from improper fractions is necessary Subtracts fractions with like denominators with reducing Subtracts fractions with unlike denominators with reducing Subtracts fractions with unlike denominators with no regrouping 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 Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary Uses models to multiply and divide fractions and connect the actions to algorithms Multiplies a fraction by a fraction without reducing to simplest form (complex problem)

Explanatory Note



Mathematics RIT Score Range: 211 - 220

Goal: Number & Operations-Fractions

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
		Multiplies a fraction by a fraction where reducing to simplest form is necessary
		Multiplies a fraction by a whole number
		Multiplies mixed fractions
		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)
		Uses alternative algorithms to explain the meaning of "fraction"
New Vocabulary: biggest	New Vocabulary: lowest term, lowest terms, reduce, triple	New Vocabulary: short
New Signs and Symbols: + addition, ¢ cent sign, × multiplication	New Signs and Symbols: > greater than, < less than, ≠ not equal to	New Signs and Symbols: ÷ division, \$ dollar sign

Explanatory Notes



Mathematics

Goal: Number & Operations-Fractions

RIT Score Range: 221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
 Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 Converts fractions to lowest terms Identifies equivalent fractions using visual representations Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Determines simple equivalent fractions using multiples Compares fractions on a number line Compares fractions greater than or less than a given fraction using visual representations Compares fractions and mixed numbers Compares fractions and mixed numbers using symbols Orders fractions on a number line 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 	 Identifies a fractions in lowest terms from a region or set Determines simple equivalent fractions using multiples Determines equivalent fractions using multiples Compares fractions (e.g., comparing numerators and denominators) 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 	Compares fractions (e.g., comparing numerators and denominators) Writes a fraction as a decimal and vice versa Compares and orders decimal and fractional coordinates on a number line
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
 Adds fractions with like denominators without reducing Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths) 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 Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary Uses models to multiply and divide fractions and connect the actions to algorithms Multiplies a fraction by a fraction where reducing to simplest form is necessary Multiplies a fraction by a whole number Solves 1-step real-world problems involving fractions with multiplication and division 	 Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) Adds mixed fractions where converting from improper fractions is necessary Subtracts fractions with like denominators with reducing Subtracts fractions with unlike denominators with reducing Subtracts fractions with unlike denominators with 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 Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary Uses models to multiply and divide fractions and connect the actions to algorithms Multiplies a fraction by a fraction without reducing to simplest form (complex problem) 	 Predicts the relative size of the answer when dividing a smaller whole number by a larger whole number Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) Adds mixed fractions where converting from improper fractions is necessary Subtracts whole numbers, fractions, and mixed fractions Subtracts whole numbers, fractions, and mixed fractions with regrouping Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary Uses models to multiply and divide fractions and connect the actions to algorithms Multiplies mixed fractions Divides a whole number by a fraction Solves 2- or more step real-world problems involving fractions with multiplication and division Solves problems involving fractions (e.g., multiple operations, conversions)

Explanatory Notes



Mathematics

Goal: Number & Operations-Fractions

RIT Score Range: 221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
	Multiplies a fraction by a fraction where reducing to simplest form is necessary	
	Multiplies a fraction by a whole number	
	Multiplies mixed fractions	
	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)	
	Uses alternative algorithms to explain the meaning of "fraction"	
New Vocabulary: lowest term, lowest terms, reduce, triple	New Vocabulary: short	New Vocabulary: None
New Signs and Symbols: > greater than, < less than, ≠ not equal to	New Signs and Symbols: ÷ division, \$ dollar sign	New Signs and Symbols: None

Explanatory Notes



Mathematics

Goal: Number & Operations-Fractions

RIT Score Range: 231 - 240

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) > 240
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
• Identifies a fractions in lowest terms from a region or set	Compares fractions (e.g., comparing numerators and denominators)	
Determines simple equivalent fractions using multiples	Writes a fraction as a decimal and vice versa	
Determines equivalent fractions using multiples	Compares and orders decimal and fractional coordinates on a number	
Compares fractions (e.g., comparing numerators and denominators)	line	
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		
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
Adds fractions with like denominators with reducing or converting to a mixed fraction	Predicts the relative size of the answer when dividing a smaller whole number by a larger whole number	Solves open sentences with fractions Identifies the least common multiple of whole numbers
Adds fractions with unlike denominators without reducing	Adds fractions with unlike denominators with reducing or converting to	identation the loads comment multiple of whole multiple
Adds fractions with unlike denominators with reducing or converting to a mixed fraction	a mixed fraction Adds simple mixed fractions with unlike denominators (e.g., halves,	
 Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) 	thirds, fourths, eighths) • Adds mixed fractions where converting from improper fractions is	
Adds mixed fractions where converting from improper fractions is necessary	necessary • Subtracts whole numbers, fractions, and mixed fractions	
Subtracts fractions with like denominators with reducing	Subtracts whole numbers, fractions, and mixed fractions with	
Subtracts fractions with unlike denominators without reducing	regrouping	
Subtracts fractions with unlike denominators with reducing	Solves real-world problems involving addition and subtraction of	
Subtracts mixed fractions with unlike denominators with no regrouping	fractions where converting both denominators is necessary	
Subtracts whole numbers, fractions, and mixed fractions	Uses models to multiply and divide fractions and connect the actions to algorithms	
Subtracts whole numbers, fractions, and mixed fractions with	Multiplies mixed fractions	
regrouping	Divides a whole number by a fraction	
 Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary 	Solves 2- or more step real-world problems involving fractions with multiplication and division	
• Uses models to multiply and divide fractions and connect the actions to algorithms	Solves problems involving fractions (e.g., multiple operations,	
 Multiplies a fraction by a fraction without reducing to simplest form (complex problem) 	conversions)	
Multiplies a fraction by a fraction where reducing to simplest form is necessary		
Multiplies a fraction by a whole number		
Multiplies mixed fractions		
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)		

Explanatory Notes



Mathematics RIT Score Range: 231 - 240

Goal: Number & Operations-Fractions

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) > 240
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
Uses alternative algorithms to explain the meaning of "fraction"		
New Vocabulary: short	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: ÷ division, \$ dollar sign	New Signs and Symbols: None	New Signs and Symbols: None



Mathematics RIT Score Range: > 240

Goal: Number & Operations-Fractions

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) > 240
Develop Understanding of Fractions as Numbers	Develop Understanding of Fractions as Numbers
• Compares fractions (e.g., comparing numerators and denominators)	
 Writes a fraction as a decimal and vice versa 	
 Compares and orders decimal and fractional coordinates on a number line 	
Fractions: Add, Subtract, Multiply, & Divide	Fractions: Add, Subtract, Multiply, & Divide
• Predicts the relative size of the answer when dividing a smaller whole	Solves open sentences with fractions
number by a larger whole number	Identifies the least common multiple of whole numbers
 Adds fractions with unlike denominators with reducing or converting to a mixed fraction 	
 Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) 	
 Adds mixed fractions where converting from improper fractions is necessary 	
 Subtracts whole numbers, fractions, and mixed fractions 	
 Subtracts whole numbers, fractions, and mixed fractions with regrouping 	
 Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary 	
 Uses models to multiply and divide fractions and connect the actions to algorithms 	
Multiplies mixed fractions	
Divides a whole number by a fraction	
 Solves 2- or more step real-world problems involving fractions with multiplication and division 	
 Solves problems involving fractions (e.g., multiple operations, conversions) 	
New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: < 161

Goal: Measurement and Data

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
	Tells time to the nearest hour
	Tells time to the nearest half hour
	Compares objects (shorter, longer)
	 Estimates and measures length of an object to the nearest inch using a picture of a ruler
	Measures length with customary measures to the inch mark
	Measures length with metric measures to the centimeter mark
Geometric Measurement	Geometric Measurement
Represent and Interpret Data	Represent and Interpret Data
Reads a simple pictograph - comparisons (e.g., largest smallest, most	Reads a chart or table - numbers
often, least often)	 Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often)
	Displays data appropriately - bar graph - scale is 1 to 1
	-1 -1
	Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often)
	Reads a simple bar graph - comparisons (e.g., largest, smallest, most
New Vocabulary: None	 Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) Compares data from simple graphs (e.g., largest, smallest, most often,

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

161 - 170

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
	Tells time to the nearest hour Tells time to the nearest half hour	Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)
	Compares objects (shorter, longer)	Identifies the value of a collection of coins to \$1.00 (with pictures of coins)
	Estimates and measures length of an object to the nearest inch using a picture of a ruler	Estimates and measures length of an object to the nearest centimeter using a picture of a ruler
	Measures length with customary measures to the inch mark	Measures length with customary measures to the inch mark
	Measures length with metric measures to the centimeter mark	Tells time to the nearest hour
		Tells time to the nearest half hour
		Tells time to the nearest 5 minutes
		Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)
		Connects money with place value
Geometric Measurement	Geometric Measurement	Geometric Measurement
		Determines the area of irregular shapes by counting square units
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
• Reads a simple pictograph - comparisons (e.g., largest smallest, most	Reads a chart or table - numbers	Reads a chart or table - numbers
often, least often)	Reads a simple pictograph - comparisons (e.g., largest smallest, most	Interprets simple graphs or tables
	often, least often)	Interprets data using tally charts
	 Displays data appropriately - bar graph - scale is 1 to 1 Reads a simple bar graph - comparisons (e.g., largest, smallest, most 	Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often)
	often, least often)	Solves simple problems based on data from pictographs
	Compares data from simple graphs (e.g., largest, smallest, most often, least often)	Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often)
		Reads a simple bar graph - numbers (e.g., how many)
		Solves simple problems based on data from bar graphs
		Compares data from simple graphs (e.g., largest, smallest, most often, least often)
New Vocabulary: None	New Vocabulary: dollar, longest, shortest	New Vocabulary: fewer, morning, taller
New Signs and Symbols: None	New Signs and Symbols: = is equal to, : used with time	New Signs and Symbols: a.m., ¢ cent sign, cm centimeter/centimetre, \$ dollar sign, p.m.

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

171 - 180

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
 Tells time to the nearest hour Tells time to the nearest half hour 	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)
Compares objects (shorter, longer)	Identifies the value of a collection of coins to \$1.00 (with pictures of	Adds money with regrouping
Estimates and measures length of an object to the nearest inch using a picture of a ruler	coins) • Estimates and measures length of an object to the nearest centimeter	Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)
Measures length with customary measures to the inch mark	using a picture of a ruler	Finds equivalent combinations of coins with the same value
Measures length with metric measures to the centimeter mark	Measures length with customary measures to the inch mark	Combines a collection of coins and identifies the correct notation
	Tells time to the nearest hour	Makes change to \$1.00 by "counting on" or subtracting
	Tells time to the nearest half hour Tells time to the nearest 5 minutes	Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)
	Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)	Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00
	Connects money with place value	Selects and uses the appropriate type and size of unit in customary system (length)
		Measures length with non-standard units
		Measures length with customary measures to the half-inch mark
		Uses a variety of non-standard units to measure the same length
		Determines more capacity or less capacity
		Identifies the correct time, given the words, and vice versa
		Determines elapsed clock time
		Determines elapsed time under 1 hour or to the hour
		Determines elapsed time involving whole hours, whole days, whole years
		Tells time to the nearest 5 minutes
		Computes simple conversions among units of time (days, weeks)
Geometric Measurement	Geometric Measurement	Geometric Measurement
	Determines the area of irregular shapes by counting square units	Determines the perimeter of a figure where all sides are labeled
		Determines the area of irregular shapes by counting square units
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Reads a chart or table - numbers	Reads a chart or table - numbers	Solves simple problems based on data from bar graphs
• Reads a simple pictograph - comparisons (e.g., largest smallest, most	Interprets simple graphs or tables	Reads a simple bar graph - numbers (e.g., how many)
often, least often)	Interprets data using tally charts	Interprets a simple bar graph - calculation required
 Displays data appropriately - bar graph - scale is 1 to 1 Reads a simple bar graph - comparisons (e.g., largest, smallest, most 	Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often)	Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often)
often, least often)	Solves simple problems based on data from pictographs	Reads and interprets data from a bar graph
 Compares data from simple graphs (e.g., largest, smallest, most often, least often) 	Reads a simple bar graph - comparisons (e.g., largest, smallest, most	Interprets simple graphs or tables
ieasi viieii)	often, least often)	Reads and interprets data from a pictograph
	Reads a simple bar graph - numbers (e.g., how many) Solves simple problems based on data from bar graphs	Solves simple problems based on data from pictographs
Explanatory Notes		



Mathematics

Goal: Measurement and Data

RIT Score Range: 171 - 180

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
	Compares data from simple graphs (e.g., largest, smallest, most often, least often)	
New Vocabulary: dollar, longest, shortest	New Vocabulary: fewer, morning, taller	New Vocabulary: changed, clock, estimation, half past, how much time,
New Signs and Symbols: = is equal to, : used with time	New Signs and Symbols: a.m., ¢ cent sign, cm centimeter/centimetre, \$ dollar sign, p.m.	left over, lowest, millimeter, noon, o'clock, pennies, quarter past, quart to, what time
	23.7, p	New Signs and Symbols: in. inch, : used with time, : used with time

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

181 - 190

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
 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)	Selects and uses the appropriate type and size of unit in customary system (length)
 Identifies the value of a collection of coins to \$1.00 (with pictures of 	Adds money with regrouping	Measures length with non-standard units
coins)	Identifies the value of a collection of coins and bills to \$10.00 by	Computes basic operations with units of weight/mass
 Estimates and measures length of an object to the nearest centimeter using a picture of a ruler 	"counting on" (with picture of money)	Converts between cups and pints
Measures length with customary measures to the inch mark	Finds equivalent combinations of coins with the same value	Converts between cups, pints, and quarts
Tells time to the nearest hour	Combines a collection of coins and identifies the correct notation	Identifies the correct time, given the words, and vice versa
Tells time to the nearest hour Tells time to the nearest half hour	Makes change to \$1.00 by "counting on" or subtracting	Determines elapsed clock time
Tells time to the hearest han hour Tells time to the nearest 5 minutes	Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)	Identifies the value of a collection of coins to \$1.00 (without picture of coins)
• Computes simple conversions among units of time (minutes in an hour,	Computes 1 operation on addition or subtraction real-world problems	Adds money with regrouping
half hour, quarter hour) • Connects money with place value	involving money up to \$5.00 • Selects and uses the appropriate type and size of unit in customary	Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)
	system (length)	Finds equivalent combinations of coins with the same value
	Measures length with non-standard units	Makes change to \$1.00 by "counting on" or subtracting
	Measures length with customary measures to the half-inch mark Uses a variety of non-standard units to measure the same length	Solves real-world problems involving decimals (not money) using addition and subtraction
	Determines more capacity or less capacity Identifies the correct time, given the words, and vice versa	Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)
	Determines elapsed clock time Determines elapsed time under 1 hour or to the hour	Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)
	Determines elapsed time under 1 Hour of to the Hour Determines elapsed time involving whole hours, whole days, whole	Computes half price (multiplication/division)
	years • Tells time to the nearest 5 minutes	Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)
	Computes simple conversions among units of time (days, weeks)	Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)
		Tells time to the nearest quarter hour
		Determines elapsed time involving whole hours, whole days, whole years
		• Tells time to the nearest 1 minute
		Computes simple conversions among units of time (minutes, hours)
		Solves simple problems involving elapsed time, with the conversion of hours
		Solves simple problems involving miles/kilometers per hour
Geometric Measurement	Geometric Measurement	Geometric Measurement
Determines the area of irregular shapes by counting square units	Determines the perimeter of a figure where all sides are labeled	Determines the perimeter of a figure where all sides are labeled
	Determines the area of irregular shapes by counting square units	Solves simple problems involving the perimeter of squares, rectangles, or triangles
		Estimates the area of rectangles using square units
		Determines the perimeter of a figure where some sides are labeled
Explanatory Notes	e measuring these concents and skills. Both data from test items and review by NIM/Fig.	A constant or a scientistic are used to place I constant Continuous at the scientistic are



Mathematics

Goal: Measurement and Data

RIT Score Range:

181 - 190

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Reads a chart or table - numbers	Solves simple problems based on data from bar graphs	Reads and interprets data from a bar graph
Interprets simple graphs or tables	Reads a simple bar graph - numbers (e.g., how many)	Interprets a simple bar graph - calculation required
Interprets data using tally charts	Interprets a simple bar graph - calculation required	Reads and interprets dual bar graphs
Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often)	Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often)	Draws conclusions from data - tally charts or frequency tables Reads and interprets data from a pictograph
Solves simple problems based on data from pictographs	Reads and interprets data from a bar graph	Interprets a pictograph - calculation required
Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often)	Interprets simple graphs or tables	
Reads a simple bar graph - numbers (e.g., how many)	Reads and interprets data from a pictograph Solves simple problems based on data from pictographs	
 Solves simple problems based on data from bar graphs 		
• Compares data from simple graphs (e.g., largest, smallest, most often, least often)		
New Vocabulary: fewer, morning, taller	New Vocabulary: changed, clock, estimation, half past, how much time,	New Vocabulary: decade, deposit, longer, miles per hour
New Signs and Symbols: a.m., ¢ cent sign, cm centimeter/centimetre, \$ dollar sign, p.m.	left over, lowest, millimeter, noon, o'clock, pennies, quarter past, quarter to, what time	New Signs and Symbols: °F degrees Fahrenheit, ft feet, g gram, " inches
	New Signs and Symbols: in. inch, : used with time, : used with time	b pound, m meter/metre, min minute, yd yard

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
 Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping 	 Selects and uses the appropriate type and size of unit in customary system (length) Measures length with non-standard units 	Converts between cups and pints Computes the value of multiple bills and coins (addition/subtraction only)
Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money) Finds equivalent combinations of coins with the same value	Computes basic operations with units of weight/massConverts between cups and pintsConverts between cups, pints, and quarts	Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) Computes addition and subtraction on multiple-step real-world problems involving money
 Combines a collection of coins and identifies the correct notation Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00 Selects and uses the appropriate type and size of unit in customary system (length) Measures length with non-standard units Measures length with customary measures to the half-inch mark Uses a variety of non-standard units to measure the same length Determines more capacity or less capacity Identifies the correct time, given the words, and vice versa Determines elapsed clock time Determines elapsed time under 1 hour or to the hour Determines elapsed time involving whole hours, whole days, whole years Tells time to the nearest 5 minutes Computes simple conversions among units of time (days, weeks) 	 Identifies the correct time, given the words, and vice versa Determines elapsed clock time Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money) Finds equivalent combinations of coins with the same value Makes change to \$1.00 by "counting on" or subtracting Solves real-world problems involving decimals (not money) using addition and subtraction Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only) Computes half price (multiplication/division) Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) Tells time to the nearest quarter hour Determines elapsed time involving whole hours, whole days, whole years 	Computes money problems with multiple operations (addition/ subtraction only) Computes addition, subtraction, multiplication, and division on multiple step, real-world problems involving money Uses the appropriate unit of measure for length Knows the approximate size of a yard Measures length to the nearest centimeter Converts between inches and feet Knows the approximate size of a pound Knows the approximate size of a gram Converts between cups, pints, and quarts Computes simple conversions among units of time (hours, days) Computes more difficult conversions among units of time Applies dimensional analysis to simple real-world problems (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
	Tells time to the nearest 1 minute Computes simple conversions among units of time (minutes, hours) Solves simple problems involving elapsed time, with the conversion of hours Solves simple problems involving miles/kilometers per hour	
Geometric Measurement	Geometric Measurement	Geometric Measurement
Determines the perimeter of a figure where all sides are labeled Determines the area of irregular shapes by counting square units	 Determines the perimeter of a figure where all sides are labeled Solves simple problems involving the perimeter of squares, rectangles, or triangles Estimates the area of rectangles using square units Determines the perimeter of a figure where some sides are labeled 	Determines the area of irregular shapes with partial square units Identifies situations where it is appropriate to calculate area Estimates the area of rectangles using square units Determines the perimeter of a figure where some sides are labeled

Explanatory Note:



Mathematics

Goal: Measurement and Data

RIT Score Range:

191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Geometric Measurement	Geometric Measurement	Geometric Measurement
		Uses basic indirect methods to estimate measurements (grids for area of irregular figures) Estimates and finds values of a figure using subjective.
		Estimates and finds volume of a figure using cubic units
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Solves simple problems based on data from bar graphs	Reads and interprets data from a bar graph	Organizes data to create simple bar graphs
• Reads a simple bar graph - numbers (e.g., how many)	Interprets a simple bar graph - calculation required	Solves problems using dual bar graphs
• Interprets a simple bar graph - calculation required	Reads and interprets dual bar graphs	Draws conclusions from data - bar graphs
• Reads a simple bar graph - comparisons (e.g., largest, smallest, most	Draws conclusions from data - tally charts or frequency tables	Solves problems using pictographs
often, least often)	Reads and interprets data from a pictograph	Solves problems using bar graphs
Reads and interprets data from a bar graph	Interprets a pictograph - calculation required	
Interprets simple graphs or tables		
Reads and interprets data from a pictograph		
Solves simple problems based on data from pictographs		
New Vocabulary: changed, clock, estimation, half past, how much time,	New Vocabulary: decade, deposit, longer, miles per hour	New Vocabulary: bar graph, cubic centimeter, cubic unit, larger
left over, lowest, millimeter, noon, o'clock, pennies, quarter past, quarter to, what time	New Signs and Symbols: °F degrees Fahrenheit, ft feet, g gram, " inches,	New Signs and Symbols: variable
New Signs and Symbols: in. inch, : used with time, : used with time	lb pound, m meter/metre, min minute, yd yard	

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

201 - 210

 Solve Problems Involving Measurement & Conversion Selects and uses the appropriate type and size of unit in customary system (length) Measures length with non-standard units Computes basic operations with units of weight/mass Converts between cups and pints Converts between cups and pints Converts between cups and pints Converts between cups, pints, and quarts Identifies the correct time, given the words, and vice versa Determines elapsed clock time Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by Solve Problems Involving Measurement & Conversion Converts between cups and pints Computes with dollars and cents up to and including \$converts to decimals (multiplication/division) Computes addition and subtraction on multiple-step reproblems involving money Computes money problems with multiple operations (as subtraction only) Computes addition, subtraction, multiplication, and divistep, real-world problems involving money Uses the appropriate unit of measure for length Knows the approximate size of a yard 	Relates years, decades, centuries, and millenniums Applies dimensional analysis to simple real-world problems (time) Solves difficult problems involving elapsed time, with the conversion of hours Solves simple problems involving miles per gallon Computes more difficult conversions among units of time
 System (length) Measures length with non-standard units Computes basic operations with units of weight/mass Converts between cups and pints Converts between cups, pints, and quarts Identifies the correct time, given the words, and vice versa Determines elapsed clock time Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by Computes the value of multiple bills and coins (addition only) Computes with dollars and cents up to and including \$converts to decimals (multiplication/division) Computes addition and subtraction on multiple-step reproblems involving money Computes money problems with multiple operations (a subtraction only) Computes addition, subtraction, multiplication, and divisep, real-world problems involving money Uses the appropriate unit of measure for length Knows the approximate size of a vard 	Apply dimensional analysis to simple real-world problems (capacity) Relates years, decades, centuries, and millenniums Applies dimensional analysis to simple real-world problems (time) Solves difficult problems involving elapsed time, with the conversion of hours Solves simple problems involving miles per gallon Computes more difficult conversions among units of time Computes the value of multiple bills and coins (addition/subtraction only) 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) Computes with dollars and cents over \$5.00 and converts to decimals
"counting on" (without picture of money) • Finds equivalent combinations of coins with the same value • Makes change to \$1.00 by "counting on" or subtracting • Solves real-world problems involving decimals (not money) using addition and subtraction • Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) • Computes 1 operation on real-world problems involving money over \$5.00 (addition/division) • Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Tells time to the nearest quarter hour • Determines elapsed time involving whole hours, whole years • Tells time to the nearest 1 minute • Computes simple problems involving elapsed time, with the conversion of hours • Solves simple problems involving miles/kilometers per hour	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 Uses the appropriate unit of measure for length Knows the approximate size of a millimeter Converts between inches and feet Converts between inches, feet, and yards Selects and uses the appropriate type and size of unit in metric system (mass) Solves simple problems involving measurement of weight
Geometric Measurement Geometric Measurement	Geometric Measurement
 Determines the perimeter of a figure where all sides are labeled Solves simple problems involving the perimeter of squares, rectangles, or triangles Estimates the area of rectangles using square units Determines the perimeter of a figure where some sides are labeled Determines the area of irregular shapes with partial so Identifies situations where it is appropriate to calculate Estimates the area of rectangles using square units Determines the perimeter of a figure where some side Determines the perimeter of a figure where some side 	Determines the perimeter of a figure using non-standard units Solves problems involving the perimeter of squares, rectangles, or

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

201 - 210

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Geometric Measurement	Geometric Measurement	Geometric Measurement
	Uses basic indirect methods to estimate measurements (grids for area of irregular figures)	Describes the change in perimeter when dimensions of an object are altered
	Estimates and finds volume of a figure using cubic units	Determines the area of irregular shapes with partial square units
		Estimates and finds volume of a figure using cubic units
		Identifies properties of angles
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Reads and interprets data from a bar graph	Organizes data to create simple bar graphs	Solves problems using pictographs
• Interprets a simple bar graph - calculation required	Solves problems using dual bar graphs	Solves problems using bar graphs
Reads and interprets dual bar graphs	Draws conclusions from data - bar graphs	Reads and interprets data in line plots
• Draws conclusions from data - tally charts or frequency tables	Solves problems using pictographs	
Reads and interprets data from a pictograph	Solves problems using bar graphs	
Interprets a pictograph - calculation required		
New Vocabulary: decade, deposit, longer, miles per hour	New Vocabulary: bar graph, cubic centimeter, cubic unit, larger	New Vocabulary: century, coin, how long, line plot, union
New Signs and Symbols: °F degrees Fahrenheit, ft feet, g gram, " inches, lb pound, m meter/metre, min minute, yd yard	New Signs and Symbols: variable	New Signs and Symbols: \$ dollar sign, hr hour, ↓ measurement span down, ← measurement span left, → measurement span right, ↑ measurement span up

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

211 - 220

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
Converts between cups and pints	 Converts between cups, pints, quarts, and gallons 	Apply dimensional analysis to simple real-world problems (capacity)
Computes the value of multiple bills and coins (addition/subtraction	Apply dimensional analysis to simple real-world problems (capacity)	Solves real-world problems involving rate of pay
only) Computes with dollars and cents up to and including \$5.00 and	 Relates years, decades, centuries, and millenniums Applies dimensional analysis to simple real-world problems (time) 	Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)
converts to decimals (multiplication/division)	Solves difficult problems involving elapsed time, with the conversion of	Computes the value of multiple bills and coins (multiplication/division)
Computes addition and subtraction on multiple-step real-world problems involving money	hours	Measures length to the nearest millimeter
Computes money problems with multiple operations (addition/	Solves simple problems involving miles per gallon	Converts between inches, feet, and yards
subtraction only)	Computes more difficult conversions among units of time	Converts between millimeters, centimeters, meters, and kilometers
 Computes addition, subtraction, multiplication, and division on multiple- step, real-world problems involving money 	 Computes the value of multiple bills and coins (addition/subtraction only) 	Solves problems involving length in the customary system and converts to larger or smaller units
Uses the appropriate unit of measure for length	Analyzes and computes 1 operation on real-world problems involving	Converts between ounces and pounds
Knows the approximate size of a yard	money over \$5.00 (addition/subtraction only)	Converts between cups, pints, quarts, and gallons
Measures length to the nearest centimeter	 Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) 	Converts within the metric system
Converts between inches and feet	Computes with dollars and cents over \$5.00 and converts to decimals	Relates years, decades, centuries, and millenniums
Knows the approximate size of a pound	(multiplication/division)	Computes 2-step conversions between units of time
Knows the approximate size of a gram	Computes addition and subtraction on multiple-step real-world	Applies dimensional analysis to simple real-world problems (time)
Converts between cups, pints, and quarts	problems involving money	Solves difficult problems involving elapsed time, with the conversion of
Computes simple conversions among units of time (hours, days)	 Computes addition, subtraction, multiplication, and division on multiple- step, real-world problems involving money 	Nours Solves complex problems involving miles/kilometers per hour
Computes more difficult conversions among units of time	Uses the appropriate unit of measure for length	Solves complex problems involving miles/kilometers per hour
Applies dimensional analysis to simple real-world problems (time)	Knows the approximate size of a millimeter	
Solves simple problems involving elapsed time, with the conversion of	Converts between inches and feet	
hours	Converts between inches, feet, and yards	
• Solves simple problems involving miles per gallon	Selects and uses the appropriate type and size of unit in metric system	
Solves simple problems involving miles/kilometers per hour	(mass)	
	Solves simple problems involving measurement of weight	
Geometric Measurement	Geometric Measurement	Geometric Measurement
Determines the area of irregular shapes with partial square units	Measures angles using a protractor	Calculates the volume of rectangular solids
Identifies situations where it is appropriate to calculate area	Determines the perimeter of a figure using non-standard units	Determines the perimeter of a figure using non-standard units
 Estimates the area of rectangles using square units Determines the perimeter of a figure where some sides are labeled 	 Solves problems involving the perimeter of squares, rectangles, or triangles 	Solves problems involving the perimeter of squares, rectangles, or triangles
Uses basic indirect methods to estimate measurements (grids for area)	Finds the perimeter of a polygon using a formula	Solves problems involving the perimeter of irregular or complex shapes
of irregular figures)	Describes the change in perimeter when dimensions of an object are altered	Describes the change in perimeter when dimensions of an object are altered
Estimates and finds volume of a figure using cubic units	Determines the area of irregular shapes with partial square units	Calculates the area of a rectangle, given labeled sides (customary units)
	Estimates and finds volume of a figure using cubic units	Determines the length or width of a rectangle, given the area (metric
	 Identifies properties of angles 	units)

appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.



Mathematics

Goal: Measurement and Data

RIT Score Range:

211 - 220

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Geometric Measurement	Geometric Measurement	Geometric Measurement
		Calculates area and perimeter of a rectangle (customary units)
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Organizes data to create simple bar graphs	Solves problems using pictographs	Determines appropriate intervals and/or scale for a bar graph
Solves problems using dual bar graphs	Solves problems using bar graphs	
Draws conclusions from data - bar graphs	Reads and interprets data in line plots	
Solves problems using pictographs		
Solves problems using bar graphs		
New Vocabulary: bar graph, cubic centimeter, cubic unit, larger	New Vocabulary: century, coin, how long, line plot, union	New Vocabulary: cubic meter, cubic millimeter
New Signs and Symbols: variable	New Signs and Symbols: \$ dollar sign, hr hour, ↓ measurement span	New Signs and Symbols: h height, I length, ↔ line symbol, mL milliliter/
	down, ← measurement span left, → measurement span right, ↑	millilitre, mm millimeter/millimetre, segment overbar, V volume, w width
	measurement span up	

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
 Converts between cups, pints, quarts, and gallons 	Apply dimensional analysis to simple real-world problems (capacity)	Apply dimensional analysis to simple real-world problems (capacity)
 Apply dimensional analysis to simple real-world problems (capacity) 	Solves real-world problems involving rate of pay	Solves real-world problems involving rate of pay
 Relates years, decades, centuries, and millenniums 	Computes with dollars and cents over \$5.00 and converts to decimals	Measures length to the nearest millimeter
 Applies dimensional analysis to simple real-world problems (time) 	(multiplication/division)	• Converts between millimeters, centimeters, meters, and kilometers
• Solves difficult problems involving elapsed time, with the conversion of	Computes the value of multiple bills and coins (multiplication/division)	Apply dimensional analysis to simple real-world problems (length)
hours	Measures length to the nearest millimeter	Solves problems involving length in the customary system and
 Solves simple problems involving miles per gallon 	Converts between inches, feet, and yards	converts to larger or smaller units
 Computes more difficult conversions among units of time 	Converts between millimeters, centimeters, meters, and kilometers	Converts between grams and kilograms
 Computes the value of multiple bills and coins (addition/subtraction only) 	Solves problems involving length in the customary system and converts to larger or smaller units	 Converts within the metric system Solves problems involving capacity in the metric system and converts
Analyzes and computes 1 operation on real-world problems involving	Converts between ounces and pounds	to larger or smaller units
money over \$5.00 (addition/subtraction only)	Converts between cups, pints, quarts, and gallons	
 Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) 	Converts within the metric system	
Computes with dollars and cents over \$5.00 and converts to decimals	Relates years, decades, centuries, and millenniums	
(multiplication/division)	Computes 2-step conversions between units of time	
 Computes addition and subtraction on multiple-step real-world problems involving money 	Applies dimensional analysis to simple real-world problems (time) Solves difficult problems involving elapsed time, with the conversion of	
 Computes addition, subtraction, multiplication, and division on multiple- step, real-world problems involving money 	hours • Solves complex problems involving miles/kilometers per hour	
Uses the appropriate unit of measure for length		
Knows the approximate size of a millimeter		
 Converts between inches and feet 		
 Converts between inches, feet, and yards 		
 Selects and uses the appropriate type and size of unit in metric system (mass) 		
 Solves simple problems involving measurement of weight 		
Geometric Measurement	Geometric Measurement	Geometric Measurement
Measures angles using a protractor	Calculates the volume of rectangular solids	Calculates the area of a rectangle, given labeled sides (customary)
Determines the perimeter of a figure using non-standard units	Determines the perimeter of a figure using non-standard units	units)
 Solves problems involving the perimeter of squares, rectangles, or triangles 	Solves problems involving the perimeter of squares, rectangles, or triangles	 Solves problems involving the perimeter of irregular or complex shapes Describes the change in perimeter when dimensions of an object are
Finds the perimeter of a polygon using a formula	Solves problems involving the perimeter of irregular or complex shapes	altered
Describes the change in perimeter when dimensions of an object are	Describes the change in perimeter when dimensions of an object are	Determines the area of a triangle drawn on a grid
altered	altered	Determines the length or width of a rectangle, given the area (metric units)
Determines the area of irregular shapes with partial square units	Calculates the area of a rectangle, given labeled sides (customary units)	units) • Determines the area of irregular shapes (customary units)
Estimates and finds volume of a figure using cubic units	Determines the length or width of a rectangle, given the area (metric	Calculates the volume of rectangular solids
Identifies properties of angles	units)	Calculates the volume of rectangular solids Calculates the length, width, or height of a rectangular prism, given the
	Determines the area of irregular shapes (customary units)	area (customary units)
Explanatory Notes		

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Geometric Measurement	Geometric Measurement	Geometric Measurement
	Calculates area and perimeter of a rectangle (customary units)	Identifies the formula for perimeter with a variable
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Solves problems using pictographsSolves problems using bar graphsReads and interprets data in line plots	Determines appropriate intervals and/or scale for a bar graph	Determines appropriate intervals and/or scale for a bar graph Interprets data given in horizontal and vertical bar graphs to solve problems
New Vocabulary: century, coin, how long, line plot, union	New Vocabulary: cubic meter, cubic millimeter	New Vocabulary: None
New Signs and Symbols: \$ dollar sign, hr hour, ↓ measurement span down, ← measurement span left, → measurement span right, ↑ measurement span up	New Signs and Symbols: h height, I length, ↔ line symbol, mL milliliter/millilitre, mm millimeter/millimetre, segment overbar, V volume, w width	New Signs and Symbols: () order of operations, + addition, kg kilogram, P perimeter

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

231 - 240

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
 Apply dimensional analysis to simple real-world problems (capacity) 	Apply dimensional analysis to simple real-world problems (capacity)	Apply dimensional analysis to simple real-world problems (length)
 Solves real-world problems involving rate of pay 	Solves real-world problems involving rate of pay	Solves problems involving capacity in the metric system and converts
 Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) 	Measures length to the nearest millimeter Converts between millimeters, centimeters, meters, and kilometers	to larger or smaller units Solves problems involving area of a rectangle and converts to larger or
 Computes the value of multiple bills and coins (multiplication/division) 	Apply dimensional analysis to simple real-world problems (length)	smaller units (customary)
 Measures length to the nearest millimeter 	Solves problems involving length in the customary system and	
 Converts between inches, feet, and yards 	converts to larger or smaller units	
 Converts between millimeters, centimeters, meters, and kilometers 	Converts between grams and kilograms	
 Solves problems involving length in the customary system and converts to larger or smaller units 	Converts within the metric system Solves problems involving capacity in the metric system and converts	
Converts between ounces and pounds	to larger or smaller units	
 Converts between cups, pints, quarts, and gallons 		
Converts within the metric system		
 Relates years, decades, centuries, and millenniums 		
 Computes 2-step conversions between units of time 		
 Applies dimensional analysis to simple real-world problems (time) 		
 Solves difficult problems involving elapsed time, with the conversion of hours 		
 Solves complex problems involving miles/kilometers per hour 		
Geometric Measurement	Geometric Measurement	Geometric Measurement
 Calculates the volume of rectangular solids 	Calculates the area of a rectangle, given labeled sides (customary)	Determines the area of irregular shapes (customary units)
 Determines the perimeter of a figure using non-standard units 	units)	Calculates the area of irregular shapes (metric units)
 Solves problems involving the perimeter of squares, rectangles, or triangles 	Solves problems involving the perimeter of irregular or complex shapes Describes the change in perimeter when dimensions of an object are	Solves complex problems involving inscribed figures
Solves problems involving the perimeter of irregular or complex shapes	altered	
Describes the change in perimeter when dimensions of an object are altered	Determines the area of a triangle drawn on a grid Determines the length or width of a rectangle, given the area (metric	
Calculates the area of a rectangle, given labeled sides (customary)	units)	
units) • Determines the length or width of a rectangle, given the area (metric	Determines the area of irregular shapes (customary units) Calculates the volume of rectangular solids	
Determines the length or width of a rectangle, given the area (metric units)	Calculates the length, width, or height of a rectangular prism, given the	
Determines the area of irregular shapes (customary units)	area (customary units)	
Calculates area and perimeter of a rectangle (customary units)	Identifies the formula for perimeter with a variable	
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
Determines appropriate intervals and/or scale for a bar graph	Determines appropriate intervals and/or scale for a bar graph	·
	Interprets data given in horizontal and vertical bar graphs to solve problems	

Explanatory Notes



Mathematics RIT Score Range: 231 - 240

Goal: Measurement and Data

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
New Vocabulary: cubic meter, cubic millimeter	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: h height, I length, ↔ line symbol, mL milliliter/millilitre, mm millimeter/millimetre, segment overbar, V volume, w width	New Signs and Symbols: () order of operations, + addition, kg kilogram, P perimeter	New Signs and Symbols: x multiplication

Explanatory Notes



Mathematics

Goal: Measurement and Data

RIT Score Range:

241 - 250

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) > 250
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
Apply dimensional analysis to simple real-world problems (capacity) Solves real-world problems involving rate of pay Measures length to the nearest millimeter Converts between millimeters, centimeters, meters, and kilometers Apply dimensional analysis to simple real-world problems (length) Solves problems involving length in the customary system and converts to larger or smaller units Converts between grams and kilograms	Apply dimensional analysis to simple real-world problems (length) Solves problems involving capacity in the metric system and converts to larger or smaller units Solves problems involving area of a rectangle and converts to larger or smaller units (customary)	
Converts within the metric system		
• Solves problems involving capacity in the metric system and converts to larger or smaller units		
Geometric Measurement	Geometric Measurement	Geometric Measurement
 Calculates the area of a rectangle, given labeled sides (customary units) Solves problems involving the perimeter of irregular or complex shapes Describes the change in perimeter when dimensions of an object are altered Determines the area of a triangle drawn on a grid Determines the length or width of a rectangle, given the area (metric units) Determines the area of irregular shapes (customary units) Calculates the volume of rectangular solids Calculates the length, width, or height of a rectangular prism, given the area (customary units) Identifies the formula for perimeter with a variable 	Determines the area of irregular shapes (customary units) Calculates the area of irregular shapes (metric units) Solves complex problems involving inscribed figures	Calculates the length of one side of a cube, given the volume (customary units) Solves complex problems involving inscribed figures Solves problems comparing area to perimeter (analysis)
Represent and Interpret Data	Represent and Interpret Data	Represent and Interpret Data
 Determines appropriate intervals and/or scale for a bar graph Interprets data given in horizontal and vertical bar graphs to solve problems 		
New Vocabulary: None	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: () order of operations, + addition, kg kilogram, P perimeter	New Signs and Symbols: x multiplication	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: > 250

Goal: Measurement and Data

Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) > 250
Solve Problems Involving Measurement & Conversion	Solve Problems Involving Measurement & Conversion
 Apply dimensional analysis to simple real-world problems (length) 	
 Solves problems involving capacity in the metric system and converts to larger or smaller units 	
• Solves problems involving area of a rectangle and converts to larger or smaller units (customary)	
Geometric Measurement	Geometric Measurement
 Determines the area of irregular shapes (customary units) 	Calculates the length of one side of a cube, given the volume
 Calculates the area of irregular shapes (metric units) 	(customary units)
 Solves complex problems involving inscribed figures 	Solves complex problems involving inscribed figures
	Solves problems comparing area to perimeter (analysis)
Represent and Interpret Data	Represent and Interpret Data
New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: x multiplication	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: < 161
Goal: Geometry

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
Identifies and names a circle	Identifies and names a cone
Identifies spatial sense concepts (e.g., outside, inside, between, over,	Compares open and closed figures
under, above, below, behind, in front, middle)	Sorts solid figures and objects according to attributes
	Identifies position of shapes (e.g., inside, outside, between)
	Identifies and names a triangle
	Identifies and names a square
	Identifies and names a rectangle
	Identifies sides and vertices of polygons
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
New Vocabulary: None	New Vocabulary: corner, flat
New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

RIT Score Range:

161 - 170

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
Identifies and names a circle	Identifies and names a cone	Identifies and names a triangle
• Identifies spatial sense concepts (e.g., outside, inside, between, over,	Compares open and closed figures	Identifies and names a square
under, above, below, behind, in front, middle)	Sorts solid figures and objects according to attributes	Identifies and names a cube
	Identifies position of shapes (e.g., inside, outside, between)	Recognizes geometric shapes in real-world objects
	Identifies and names a triangle	
	Identifies and names a square	
	Identifies and names a rectangle	
	Identifies sides and vertices of polygons	
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
New Vocabulary: None	New Vocabulary: corner, flat	New Vocabulary: ray
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

171 - 180

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
• Identifies and names a cone	Identifies and names a triangle	Classifies polygons by sides and vertices
Compares open and closed figures	Identifies and names a square	Identifies and names a cube
 Sorts solid figures and objects according to attributes 	Identifies and names a cube	Identifies and names a sphere
• Identifies position of shapes (e.g., inside, outside, between)	Recognizes geometric shapes in real-world objects	
Identifies and names a triangle		
• Identifies and names a square		
Identifies and names a rectangle		
 Identifies sides and vertices of polygons 		
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
		Identifies plane figures with line symmetry
		Reads data in a line graph - no calculations
New Vocabulary: corner, flat	New Vocabulary: ray	New Vocabulary: fourths, symmetry
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

RIT Score Range:

181 - 190

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
Identifies and names a triangle	Classifies polygons by sides and vertices	Identifies corners (vertices) of cubes
Identifies and names a square	Identifies and names a cube	Identifies the number of faces on rectangular prisms
 Identifies and names a cube 	Identifies and names a sphere	Identifies and names a cylinder
 Recognizes geometric shapes in real-world objects 		Identifies and names a sphere
		Sorts 2-D shapes and objects according to their attributes
		Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
	Identifies plane figures with line symmetry Reads data in a line graph - no calculations	Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)
	reduce data in a into graph. The calculations	Identifies lines
		Identifies parallel lines
		Uses models to compare angles relative to right angles
		Identifies right angles
		Identifies plane figures with line symmetry
		Identifies the number of lines of symmetry in plane figures
		Reads data in a line graph - no calculations
New Vocabulary: ray	New Vocabulary: fourths, symmetry	New Vocabulary: face, grid, intersect, kite, large, parallel, vertical line
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: () ordered pair, • point

Explanatory Notes



Mathematics

RIT Score Range:

191 - 200

Goal: Geometry

es and Their Attributes (vertices) of cubes there of faces on rectangular prisms these a cylinder these a sphere and objects according to their attributes there is appeared by combining different shapes, or identifies the tat were used to make the original shape (gles and Graph Points there is a quadrant on a labeled gricular (e.g., map or graph)	Reason with Shapes and Their Attributes Identifies and names a parallelogram Identifies and names a trapezoid Classifies polygons by number of sides Classifies polygons by sides and angles Identifies corners (vertices) of cubes Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) Identifies and names a cylinder Identify Lines & Angles and Graph Points Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)
aber of faces on rectangular prisms mes a cylinder mes a sphere and objects according to their attributes mape by combining different shapes, or identifies the at were used to make the original shape gles and Graph Points mames locations in the first quadrant on a labeled gric	Identifies and names a trapezoid Classifies polygons by number of sides Classifies polygons by sides and angles Identifies corners (vertices) of cubes Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) Identifies and names a cylinder Identify Lines & Angles and Graph Points Determines and names locations in the first quadrant on a labeled grid
nes a cylinder nes a sphere and objects according to their attributes hape by combining different shapes, or identifies the at were used to make the original shape gles and Graph Points hames locations in the first quadrant on a labeled gric	Classifies polygons by number of sides Classifies polygons by sides and angles Identifies corners (vertices) of cubes Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) Identifies and names a cylinder Identify Lines & Angles and Graph Points Determines and names locations in the first quadrant on a labeled grid
nes a sphere and objects according to their attributes hape by combining different shapes, or identifies the at were used to make the original shape gles and Graph Points hames locations in the first quadrant on a labeled gric	Classifies polygons by sides and angles Identifies corners (vertices) of cubes Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners Identifies and names a cylinder Identify Lines & Angles and Graph Points Determines and names locations in the first quadrant on a labeled grid
and objects according to their attributes hape by combining different shapes, or identifies the at were used to make the original shape gles and Graph Points names locations in the first quadrant on a labeled gric	Identifies corners (vertices) of cubes Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) Identifies and names a cylinder Identify Lines & Angles and Graph Points Determines and names locations in the first quadrant on a labeled grid
hape by combining different shapes, or identifies the at were used to make the original shape gles and Graph Points hames locations in the first quadrant on a labeled gric	Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) Identifies and names a cylinder Identify Lines & Angles and Graph Points Determines and names locations in the first quadrant on a labeled grid
at were used to make the original shape gles and Graph Points names locations in the first quadrant on a labeled gric	faces with equal areas and congruent shapes, right angle corners) • Identifies and names a cylinder Identify Lines & Angles and Graph Points • Determines and names locations in the first quadrant on a labeled grid
names locations in the first quadrant on a labeled gric	Identify Lines & Angles and Graph Points • Determines and names locations in the first quadrant on a labeled grid
names locations in the first quadrant on a labeled gric	Determines and names locations in the first quadrant on a labeled grid
	Graphs ordered pairs in the first quadrant
lines ompare angles relative to right angles	Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system
gles	Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks)
gures with line symmetry	Locates the origin on a coordinate grid
nber of lines of symmetry in plane figures ne graph - no calculations	Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents
	Identifies parallel lines
	Uses models to compare angles relative to right angles
	Classifies plane figures by the number of lines of symmetry
	+
ce, grid, intersect, kite, large, parallel, vertical line	New Vocabulary: coordinate point, edge, origin, parallel line, regular polygon, trapezoid

Explanatory Notes



Mathematics

RIT Score Range:

201 - 210

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
 Identifies corners (vertices) of cubes 	Identifies and names a parallelogram	Identifies and names a trapezoid
 Identifies the number of faces on rectangular prisms 	Identifies and names a trapezoid	Identifies and names a rhombus
Identifies and names a cylinder	Classifies polygons by number of sides	Identifies and names a quadrilateral
 Identifies and names a sphere 	Classifies polygons by sides and angles	Identifies corners (vertices) of cubes
 Sorts 2-D shapes and objects according to their attributes 	Identifies corners (vertices) of cubes	Identifies the number of edges on rectangular prisms
• Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape	Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners)	Predicts and verifies the effects of combining or subdividing basic shapes
	Identifies and names a cylinder	
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
 Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph) 	Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)	Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system
• Identifies lines	Graphs ordered pairs in the first quadrant	Locates the origin on a coordinate grid
Identifies parallel linesUses models to compare angles relative to right angles	Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system	Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents
Identifies right angles	Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks)	Identifies rays Identifies perpendicular lines
Identifies plane figures with line symmetry	Locates the origin on a coordinate grid	Identifies acute angles
Identifies the number of lines of symmetry in plane figuresReads data in a line graph - no calculations	Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents	Identifies obtuse angles
	Identifies parallel lines	Classifies polygons by type of angle
	Uses models to compare angles relative to right angles	
	Classifies plane figures by the number of lines of symmetry	
New Vocabulary: face, grid, intersect, kite, large, parallel, vertical line	New Vocabulary: coordinate point, edge, origin, parallel line, regular polygon, trapezoid	New Vocabulary: acute angle, congruent angle, obtuse angle, straight angle
New Signs and Symbols: () ordered pair, • point	New Signs and Symbols: ° degrees	New Signs and Symbols: ∠ angle, angle marker (arc)

Explanatory Notes



Mathematics

RIT Score Range: 211 - 220

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
 Identifies and names a parallelogram 	Identifies and names a trapezoid	Identifies and names a rhombus
 Identifies and names a trapezoid 	Identifies and names a rhombus	Identifies and names a quadrilateral
 Classifies polygons by number of sides 	Identifies and names a quadrilateral	Compares polygons by properties
 Classifies polygons by sides and angles 	Identifies corners (vertices) of cubes	Identifies properties of quadrilaterals
 Identifies corners (vertices) of cubes 	Identifies the number of edges on rectangular prisms	Identifies the number of edges on rectangular prisms
 Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) 	Predicts and verifies the effects of combining or subdividing basic shapes	
Identifies and names a cylinder		
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)	Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system	Determines coordinates of geometric figures in the first quadrant Identifies rays
Graphs ordered pairs in the first quadrant	Locates the origin on a coordinate grid	Determines which lines are perpendicular (analysis)
 Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system 	Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents	Identifies acute angles Classifies equilateral triangles
• Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks)	Identifies rays Identifies perpendicular lines	Classifies equitateral triangles Classifies polygons by type of angle
Locates the origin on a coordinate grid	Identifies acute angles	
• Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents	Identifies obtuse angles	
Identifies parallel lines	Classifies polygons by type of angle	
 Uses models to compare angles relative to right angles 		
Classifies plane figures by the number of lines of symmetry		
New Vocabulary: coordinate point, edge, origin, parallel line, regular polygon, trapezoid	New Vocabulary: acute angle, congruent angle, obtuse angle, straight angle	New Vocabulary: None New Signs and Symbols: in. inch
New Signs and Symbols: ° degrees	New Signs and Symbols: ∠ angle, angle marker (arc)	Then digital and dynasia. III. III.

Explanatory Notes



Mathematics
Goal: Geometry

RIT Score Range:

221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
Identifies and names a trapezoid	Identifies and names a rhombus	Classifies scalene triangles
• Identifies and names a rhombus	Identifies and names a quadrilateral	Identifies properties of circles
Identifies and names a quadrilateral	Compares polygons by properties	Compares polygons by properties
• Identifies corners (vertices) of cubes	Identifies properties of quadrilaterals	Identifies properties of quadrilaterals
• Identifies the number of edges on rectangular prisms	Identifies the number of edges on rectangular prisms	
• Predicts and verifies the effects of combining or subdividing basic shapes		
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system	Determines coordinates of geometric figures in the first quadrant Identifies rays	Determines which lines are perpendicular (analysis) Classifies isosceles triangles
• Locates the origin on a coordinate grid	Determines which lines are perpendicular (analysis)	Ciacomica isosocias triangles
• Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents	Identifies acute angles	
Identifies rays	Classifies equilateral triangles	
Identifies perpendicular lines	Classifies polygons by type of angle	
Identifies acute angles		
Identifies obtuse angles		
Classifies polygons by type of angle		
New Vocabulary: acute angle, congruent angle, obtuse angle, straight	New Vocabulary: None	New Vocabulary: None
angle	New Signs and Symbols: in. inch	New Signs and Symbols: congruent segment symbol
New Signs and Symbols: ∠ angle, angle marker (arc)		

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range: 231 - 240

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
 Identifies and names a rhombus 	Classifies scalene triangles	
Identifies and names a quadrilateral	Identifies properties of circles	
Compares polygons by properties	Compares polygons by properties	
Identifies properties of quadrilaterals	Identifies properties of quadrilaterals	
 Identifies the number of edges on rectangular prisms 		
dentify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
Determines coordinates of geometric figures in the first quadrant	Determines which lines are perpendicular (analysis)	Determines the figure when plotting ordered pairs
Identifies rays	Classifies isosceles triangles	
Determines which lines are perpendicular (analysis)		
Identifies acute angles		
Classifies equilateral triangles		
Classifies polygons by type of angle		
New Vocabulary: None	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: in. inch	New Signs and Symbols: congruent segment symbol	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: 241 - 250

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) > 250
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
Classifies scalene triangles		Classifies polygons by properties
Identifies properties of circles		
Compares polygons by properties		
• Identifies properties of quadrilaterals		
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
Determines which lines are perpendicular (analysis)Classifies isosceles triangles	Determines the figure when plotting ordered pairs	Uses picture representations to identify symmetry of plane figures with respect to a point or line
New Vocabulary: None	New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: congruent segment symbol	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

RIT Score Range:

> 250

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) > 250
Reason with Shapes and Their Attributes	Reason with Shapes and Their Attributes
	Classifies polygons by properties
Identify Lines & Angles and Graph Points	Identify Lines & Angles and Graph Points
Determines the figure when plotting ordered pairs	Uses picture representations to identify symmetry of plane figures with respect to a point or line
New Vocabulary: None	New Vocabulary: None
New Signs and Symbols: None	New Signs and Symbols: None