

DesCartes: A Continuum of Learning®

Mathematics

Goal: Operations and Algebraic Thinking

RIT Score Range: < 161
Statements Last Updated: Aug 7, 2012

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
<ul style="list-style-type: none"> • Uses models to construct whole number addition facts with addends through 10 	<ul style="list-style-type: none"> • 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
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> + addition, = is equal to, - 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.

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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Uses models to construct whole number addition facts with addends through 10 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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) 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Determines the operation needed from a simple problem • Solves problems using tally charts • 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
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> fact family
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> + addition, = is equal to, - subtraction, variable	<i>New Signs and Symbols:</i> () order of operations, × multiplication, tally mark

Explanatory Notes

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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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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) 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Determines the operation needed from a simple problem Solves problems using tally charts 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 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Solves real-world whole number addition problems with sums to 100 (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 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 problems using the inverse relationship between addition and subtraction Solves real-world whole number problems involving addition and subtraction 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
<p>Multiply & Divide: Represent and Solve Problems</p>	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Counts by 2's to 100 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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 10×10 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)
<p>Solve Problems & Analyze Patterns & Relationships</p>	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Extends a growing arithmetic pattern, defined by numbers Writes a number sentence for a simple problem solving situation 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Analyzes a growing, arithmetic pattern with numbers to determine the rule

Explanatory Notes

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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
	<ul style="list-style-type: none"> Adds 1-digit numbers with sums to 18 (with parentheses) Analyzes a growing, arithmetic pattern with numbers to determine the rule 	<ul style="list-style-type: none"> 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
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> fact family	<i>New Vocabulary:</i> gave, left, row, unifix cubes
<i>New Signs and Symbols:</i> + addition, = is equal to, - subtraction, variable	<i>New Signs and Symbols:</i> () order of operations, × multiplication, tally mark	<i>New Signs and Symbols:</i> ÷ division, \$ dollar sign

Explanatory Notes

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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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Determines the operation needed from a simple problem Solves problems using tally charts 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 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Solves real-world whole number addition problems with sums to 100 (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 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 problems using the inverse relationship between addition and subtraction Solves real-world whole number problems involving addition and subtraction 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 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Determines the operation needed from a simple problem 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 real-world whole number problems involving subtraction with numbers 100 and under Solves problems using the inverse relationship between addition and subtraction Uses algebraic reasoning to solve problems involving equality relationships Solves 1-step open sentences with missing addends (numbers 100 and under) Solves 2-step open sentences with missing addends Solves problems using tally charts
<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Counts by 2's to 100 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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 10×10 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) 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Solves word problems with whole number division facts with dividend and divisors less than 11 Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) Solves word problems involving basic whole number multiplication facts to 10×10 Solves word problems involving whole number multiplication with numbers greater than 10×10 Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) Uses manipulatives to divide a small set of objects into groups of equal size 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
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Extends a growing arithmetic pattern, defined by numbers 	<p>Solve Problems & Analyze Patterns & Relationships</p>	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Extends a growing arithmetic pattern, defined by objects or diagrams

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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
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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
<p><i>New Vocabulary:</i> fact family</p>	<p><i>New Vocabulary:</i> gave, left, row, unifix cubes</p>	<p><i>New Vocabulary:</i> composite number, each, prime number</p>
<p><i>New Signs and Symbols:</i> () order of operations, × multiplication, tally mark</p>	<p><i>New Signs and Symbols:</i> ÷ division, \$ dollar sign</p>	<p><i>New Signs and Symbols:</i> °F degrees Fahrenheit, lb pound</p>

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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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Solves real-world whole number addition problems with sums to 100 (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 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 problems using the inverse relationship between addition and subtraction Solves real-world whole number problems involving addition and subtraction 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 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Determines the operation needed from a simple problem 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 real-world whole number problems involving subtraction with numbers 100 and under Solves problems using the inverse relationship between addition and subtraction Uses algebraic reasoning to solve problems involving equality relationships Solves 1-step open sentences with missing addends (numbers 100 and under) Solves 2-step open sentences with missing addends Solves problems using tally charts 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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., $8 + 2 = \square + 2$)
<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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 10×10 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) 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Solves word problems with whole number division facts with dividend and divisors less than 11 Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) Solves word problems involving basic whole number multiplication facts to 10×10 Solves word problems involving whole number multiplication with numbers greater than 10×10 Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) Uses manipulatives to divide a small set of objects into groups of equal size 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 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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 10×10 Solves word problems involving whole number multiplication with numbers greater than 10×10 Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)
<p>Solve Problems & Analyze Patterns & Relationships</p>	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Extends a growing arithmetic pattern, defined by objects or diagrams 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Predicts from simple charts and tables

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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
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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., $x + 2$) Determines the rule and completes a simple function machine output 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
<p><i>New Vocabulary:</i> gave, left, row, unifix cubes</p>	<p><i>New Vocabulary:</i> composite number, each, prime number</p>	<p><i>New Vocabulary:</i> minimum, plus</p>
<p><i>New Signs and Symbols:</i> ÷ division, \$ dollar sign</p>	<p><i>New Signs and Symbols:</i> °F degrees Fahrenheit, lb pound</p>	<p><i>New Signs and Symbols:</i> ¢ cent sign, = is equal to, + positive number</p>

Explanatory Notes

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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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Determines the operation needed from a simple problem • 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 real-world whole number problems involving subtraction with numbers 100 and under • Solves problems using the inverse relationship between addition and subtraction • Uses algebraic reasoning to solve problems involving equality relationships • Solves 1-step open sentences with missing addends (numbers 100 and under) • Solves 2-step open sentences with missing addends • Solves problems using tally charts 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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., $8 + 2 = \square + 2$) 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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., $8 + 2 = \square + 2$)
<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Solves word problems with whole number division facts with dividend and divisors less than 11 • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Solves word problems involving basic whole number multiplication facts to 10×10 • Solves word problems involving whole number multiplication with numbers greater than 10×10 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor) • Uses manipulatives to divide a small set of objects into groups of equal size • 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 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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 10×10 • Solves word problems involving whole number multiplication with numbers greater than 10×10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) • Solves problems involving rates • Solves simple open sentences with missing factors (numbers over 100) • 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 10×10
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams • 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) 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> • 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., $x + 2$) • Determines the rule and completes a simple function machine output 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> • Determines factors of whole numbers • 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)

Explanatory Notes

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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
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 Identifies numbers as prime
<p><i>New Vocabulary:</i> composite number, each, prime number</p>	<p><i>New Vocabulary:</i> minimum, plus</p>	<p><i>New Vocabulary:</i> None</p>
<p><i>New Signs and Symbols:</i> °F degrees Fahrenheit, lb pound</p>	<p><i>New Signs and Symbols:</i> ¢ cent sign, = is equal to, + positive number</p>	<p><i>New Signs and Symbols:</i> () parenthesis around an integer, { } set notation</p>

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.

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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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., $8 + 2 = \square + 2$) 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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., $8 + 2 = \square + 2$) 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Solves open sentences with calculations on both sides of the sentence
<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> • 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 10×10 • Solves word problems involving whole number multiplication with numbers greater than 10×10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) • Solves problems involving rates • Solves simple open sentences with missing factors (numbers over 100) • 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 10×10 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> • Models algorithms using place value concepts (multiplication and division with whole numbers) • Demonstrates an understanding of multiple properties • Solves problems involving rates
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> • 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., $x + 2$) • Determines the rule and completes a simple function machine output • 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) 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> • Determines factors of whole numbers • 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) • 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> • 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

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.

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
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 Identifies numbers as prime 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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
<p><i>New Vocabulary:</i> minimum, plus</p>	<p><i>New Vocabulary:</i> None</p>	<p><i>New Vocabulary:</i> None</p>
<p><i>New Signs and Symbols:</i> ¢ cent sign, = is equal to, + positive number</p>	<p><i>New Signs and Symbols:</i> () parenthesis around an integer, { } set notation</p>	<p><i>New Signs and Symbols:</i> None</p>

Explanatory Notes

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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
<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> 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., $8 + 2 = \square + 2$) 	<p>Add & Subtract: Represent and Solve Problems</p> <ul style="list-style-type: none"> Solves open sentences with calculations on both sides of the sentence 	<p>Add & Subtract: Represent and Solve Problems</p>
<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) Solves problems involving rates Solves simple open sentences with missing factors (numbers over 100) 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 10×10 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Models algorithms using place value concepts (multiplication and division with whole numbers) Demonstrates an understanding of multiple properties Solves problems involving rates 	<p>Multiply & Divide: Represent and Solve Problems</p> <ul style="list-style-type: none"> Models algorithms using place value concepts (multiplication and division with whole numbers) Solves problems involving rates
<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> Determines factors of whole numbers 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) 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 Identifies numbers as prime 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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 	<p>Solve Problems & Analyze Patterns & Relationships</p> <ul style="list-style-type: none"> 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

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.

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
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> () parenthesis around an integer, { } set notation	<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None

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.

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 <ul style="list-style-type: none"> Models algorithms using place value concepts (multiplication and division with whole numbers) Demonstrates an understanding of multiple properties Solves problems involving rates 	Multiply & Divide: Represent and Solve Problems <ul style="list-style-type: none"> Models algorithms using place value concepts (multiplication and division with whole numbers) Solves problems involving rates 	Multiply & Divide: Represent and Solve Problems
Solve Problems & Analyze Patterns & Relationships <ul style="list-style-type: none"> 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 	Solve Problems & Analyze Patterns & Relationships <ul style="list-style-type: none"> 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 	Solve Problems & Analyze Patterns & Relationships <ul style="list-style-type: none"> Evaluates numerical expressions using the order of operations (using integers) Uses reasoning strategies to solve problems Applies algebraic methods to solve real-world problems
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None

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.

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 <ul style="list-style-type: none"> Models algorithms using place value concepts (multiplication and division with whole numbers) Solves problems involving rates 	Multiply & Divide: Represent and Solve Problems	Multiply & Divide: Represent and Solve Problems
Solve Problems & Analyze Patterns & Relationships <ul style="list-style-type: none"> 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 	Solve Problems & Analyze Patterns & Relationships <ul style="list-style-type: none"> Evaluates numerical expressions using the order of operations (using integers) Uses reasoning strategies to solve problems Applies algebraic methods to solve real-world problems 	Solve Problems & Analyze Patterns & Relationships <ul style="list-style-type: none"> Uses reasoning strategies to solve problems
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None

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.

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
<ul style="list-style-type: none"> Evaluates numerical expressions using the order of operations (using integers) Uses reasoning strategies to solve problems Applies algebraic methods to solve real-world problems 	<ul style="list-style-type: none"> Uses reasoning strategies to solve problems
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None

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.