

DesCartes (Combined)

Subject: Mathematics
Goal: Algebraic Concepts

Subject: Mathematics
 Goal Strand: Algebraic Concepts
 RIT Score Range: Below 171

Skills and Concepts to Develop Below 171	Skills and Concepts to Introduce 171 - 180
Patterns, Relations, Functions	Patterns, Relations, Functions
<ul style="list-style-type: none"> • Extends repeating patterns - geometric shapes • Completes a growing arithmetic pattern by naming missing members 	<ul style="list-style-type: none"> • Extends repeating patterns - geometric shapes • Extends a growing arithmetic pattern, defined by numbers • Completes a growing arithmetic pattern by naming missing members
Numbers, Symbols, Words, Tables, Graphs	Numbers, Symbols, Words, Tables, Graphs
<ul style="list-style-type: none"> • Identifies the missing operation symbol - 1-step number sentence • Solves basic-facts open sentences - addition and subtraction 	<ul style="list-style-type: none"> • Identifies the missing operation symbol - 1-step number sentence • Solves basic-facts open sentences - addition and subtraction • Solves linear equations with basic facts - 1-step addition using a letter for the variable*
Analyze Change in Various Contexts	Analyze Change in Various Contexts
<i>New Vocabulary:</i> addend	<i>New Vocabulary:</i> whole number
<i>New Signs and Symbols:</i> + addition, ÷ division, > greater than, = is equal to, < less than, × multiplication, – subtraction, □ variable	<i>New Signs and Symbols:</i> none

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 171 - 180

Skills and Concepts to Enhance Below 171	Skills and Concepts to Develop 171 - 180	Skills and Concepts to Introduce 181 - 190
Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends repeating patterns - geometric shapes • Completes a growing arithmetic pattern by naming missing members 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends repeating patterns - geometric shapes • Extends a growing arithmetic pattern, defined by numbers • Completes a growing arithmetic pattern by naming missing members 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by numbers • Completes a growing arithmetic pattern using models by identifying the missing members* • Completes arithmetic growth patterns in number tables by identifying the missing elements • Extends a decreasing arithmetic patterns* • Applies the rule to determine which set of letters is not like the other sets - other patterns*
Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Identifies the missing operation symbol - 1-step number sentence • Solves basic-facts open sentences - addition and subtraction 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Identifies the missing operation symbol - 1-step number sentence • Solves basic-facts open sentences - addition and subtraction • Solves linear equations with basic facts - 1-step addition using a letter for the variable* 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)* • Solves linear equations with basic facts - 1-step addition using a letter for the variable* • Solves 1-step open sentences with missing addends (numbers 100 and under)
Analyze Change in Various Contexts	Analyze Change in Various Contexts	Analyze Change in Various Contexts
<i>New Vocabulary:</i> addend	<i>New Vocabulary:</i> whole number	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> + addition, ÷ division, > greater than, = is equal to, < less than, × multiplication, – subtraction, □ variable	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> none

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 181 - 190

Skills and Concepts to Enhance 171 - 180	Skills and Concepts to Develop 181 - 190	Skills and Concepts to Introduce 191 - 200
Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends repeating patterns - geometric shapes • Extends a growing arithmetic pattern, defined by numbers • Completes a growing arithmetic pattern by naming missing members 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by numbers • Completes a growing arithmetic pattern using models by identifying the missing members* • Completes arithmetic growth patterns in number tables by identifying the missing elements • Extends a decreasing arithmetic patterns* • Applies the rule to determine which set of letters is not like the other sets - other patterns* 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams* • Completes a growing arithmetic pattern using models by identifying the missing members* • Extends a decreasing arithmetic patterns* • Extends patterns formed by letters*
Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Identifies the missing operation symbol - 1-step number sentence • Solves basic-facts open sentences - addition and subtraction • Solves linear equations with basic facts - 1-step addition using a letter for the variable* 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)* • Solves linear equations with basic facts - 1-step addition using a letter for the variable* • Solves 1-step open sentences with missing addends (numbers 100 and under) 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)* • Solves complex open linear sentences using diagrams and models (e.g., using balances)* • Solves 1-step open sentences with missing addends (numbers 100 and under) • Solves 1-step open sentences with missing addends (numbers over 100) • Solves simple open sentences with missing factors (numbers 100 and under)*
Analyze Change in Various Contexts	Analyze Change in Various Contexts	Analyze Change in Various Contexts
		<ul style="list-style-type: none"> • Solves simple problems involving miles/kilometers per hour
<i>New Vocabulary:</i> whole number	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> miles per hour, speed
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> mph miles per hour

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 191 - 200

Skills and Concepts to Enhance 181 - 190	Skills and Concepts to Develop 191 - 200	Skills and Concepts to Introduce 201 - 210
<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by numbers • Completes a growing arithmetic pattern using models by identifying the missing members* • Completes arithmetic growth patterns in number tables by identifying the missing elements • Extends a decreasing arithmetic patterns* • Applies the rule to determine which set of letters is not like the other sets - other patterns* 	<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams* • Completes a growing arithmetic pattern using models by identifying the missing members* • Extends a decreasing arithmetic patterns* • Extends patterns formed by letters* 	<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams* • Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...) • Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)* • Extends a pattern formed by rotating a geometric figure
<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)* • Solves linear equations with basic facts - 1-step addition using a letter for the variable* • Solves 1-step open sentences with missing addends (numbers 100 and under) 	<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)* • Solves complex open linear sentences using diagrams and models (e.g., using balances)* • Solves 1-step open sentences with missing addends (numbers 100 and under) • Solves 1-step open sentences with missing addends (numbers over 100) • Solves simple open sentences with missing factors (numbers 100 and under)* 	<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Identifies the missing symbol to compare 2 expressions (e.g., < or >) • Uses simple linear equations to represent problem situations • Describes a realistic situation using information given in a linear equation* • Solves complex open linear sentences using diagrams and models (e.g., using balances)* • Solves 1-step open sentences with missing addends (numbers over 100) • Solves simple open sentences with missing factors (numbers 100 and under)*
<p>Analyze Change in Various Contexts</p>	<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles/kilometers per hour 	<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles per gallon • Solves simple problems involving miles/kilometers per hour
<p><i>New Vocabulary:</i> none</p>	<p><i>New Vocabulary:</i> miles per hour, speed</p>	<p><i>New Vocabulary:</i> miles per gallon, minimum</p>
<p><i>New Signs and Symbols:</i> none</p>	<p><i>New Signs and Symbols:</i> mph miles per hour</p>	<p><i>New Signs and Symbols:</i> () order of operations, □ missing operation, mpg miles per gallon, ∅ null or empty set</p>

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 201 - 210

Skills and Concepts to Enhance 191 - 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams* • Completes a growing arithmetic pattern using models by identifying the missing members* • Extends a decreasing arithmetic patterns* • Extends patterns formed by letters* 	<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams* • Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...) • Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)* • Extends a pattern formed by rotating a geometric figure 	<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a repeating pattern of geometric shapes in a grid* • Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...) • Extends, or completes, growing patterns defined by equations or number facts • Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)* • Identifies rules and applies them to new patterns • Determines the rule and completes a simple function machine output*
<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)* • Solves complex open linear sentences using diagrams and models (e.g., using balances)* • Solves 1-step open sentences with missing addends (numbers 100 and under) • Solves 1-step open sentences with missing addends (numbers over 100) • Solves simple open sentences with missing factors (numbers 100 and under)* 	<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Identifies the missing symbol to compare 2 expressions (e.g., < or >) • Uses simple linear equations to represent problem situations • Describes a realistic situation using information given in a linear equation* • Solves complex open linear sentences using diagrams and models (e.g., using balances)* • Solves 1-step open sentences with missing addends (numbers over 100) • Solves simple open sentences with missing factors (numbers 100 and under)* 	<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Uses simple linear equations to represent problem situations • Solves simple open sentences with missing factors (numbers over 100)
<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles/kilometers per hour 	<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles per gallon • Solves simple problems involving miles/kilometers per hour 	<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles per gallon
<p><i>New Vocabulary:</i> miles per hour, speed</p>	<p><i>New Vocabulary:</i> miles per gallon, minimum</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> mph miles per hour</p>	<p><i>New Signs and Symbols:</i> () order of operations, □ missing operation, mpg miles per gallon, ∅ null or empty set</p>	<p><i>New Signs and Symbols:</i> ? next in sequence</p>

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 211 - 220

Skills and Concepts to Enhance 201 - 210	Skills and Concepts to Develop 211 - 220	Skills and Concepts to Introduce 221 - 230
<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing arithmetic pattern, defined by objects or diagrams* • Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...) • Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)* • Extends a pattern formed by rotating a geometric figure 	<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a repeating pattern of geometric shapes in a grid* • Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...) • Extends, or completes, growing patterns defined by equations or number facts • Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)* • Identifies rules and applies them to new patterns • Determines the rule and completes a simple function machine output* 	<p>Patterns, Relations, Functions</p> <ul style="list-style-type: none"> • Extends a growing pattern of triangular numbers, defined by objects or diagrams • Completes a function table according to a rule*
<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Identifies the missing symbol to compare 2 expressions (e.g., < or >) • Uses simple linear equations to represent problem situations • Describes a realistic situation using information given in a linear equation* • Solves complex open linear sentences using diagrams and models (e.g., using balances)* • Solves 1-step open sentences with missing addends (numbers over 100) • Solves simple open sentences with missing factors (numbers 100 and under)* 	<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Uses simple linear equations to represent problem situations • Solves simple open sentences with missing factors (numbers over 100) 	<p>Numbers, Symbols, Words, Tables, Graphs</p> <ul style="list-style-type: none"> • Expresses a simple linear equation from a contextual situation
<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles per gallon • Solves simple problems involving miles/kilometers per hour 	<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves simple problems involving miles per gallon 	<p>Analyze Change in Various Contexts</p> <ul style="list-style-type: none"> • Solves complex problems involving miles per gallon • Solves complex problems involving miles/kilometers per hour*
<p><i>New Vocabulary:</i> miles per gallon, minimum</p>	<p><i>New Vocabulary:</i> none</p>	<p><i>New Vocabulary:</i> algebraic equation</p>
<p><i>New Signs and Symbols:</i> () order of operations, □ missing operation, mpg miles per gallon, ∅ null or empty set</p>	<p><i>New Signs and Symbols:</i> ? next in sequence</p>	<p><i>New Signs and Symbols:</i> () parenthesis around an integer, ¢ cent sign, \$ dollar sign, – negative number</p>

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 221 - 230

Skills and Concepts to Enhance 211 - 220	Skills and Concepts to Develop 221 - 230	Skills and Concepts to Introduce 231 - 240
Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends a repeating pattern of geometric shapes in a grid* • Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...) • Extends, or completes, growing patterns defined by equations or number facts • Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)* • Identifies rules and applies them to new patterns • Determines the rule and completes a simple function machine output* 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends a growing pattern of triangular numbers, defined by objects or diagrams • Completes a function table according to a rule* 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Uses tables to determine function equations • Completes a function table according to a rule*
Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Uses simple linear equations to represent problem situations • Solves simple open sentences with missing factors (numbers over 100) 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Expresses a simple linear equation from a contextual situation 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Expresses a simple linear equation from a contextual situation • Expresses a simple linear inequality from a contextual situation
Analyze Change in Various Contexts <ul style="list-style-type: none"> • Solves simple problems involving miles per gallon 	Analyze Change in Various Contexts <ul style="list-style-type: none"> • Solves complex problems involving miles per gallon • Solves complex problems involving miles/kilometers per hour* 	Analyze Change in Various Contexts <ul style="list-style-type: none"> • Solves complex problems involving miles per gallon
<i>New Vocabulary: none</i>	<i>New Vocabulary: algebraic equation</i>	<i>New Vocabulary: algebraic sentence, mathematical sentence</i>
<i>New Signs and Symbols: ? next in sequence</i>	<i>New Signs and Symbols: () parenthesis around an integer, ¢ cent sign, \$ dollar sign, – negative number</i>	<i>New Signs and Symbols: •, f(x) the value of the function f at x, ≥ greater than or equal to, ≤ less than or equal to, +, – subtraction, < less than, = is equal to</i>

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: 231 - 240

Skills and Concepts to Enhance 221 - 230	Skills and Concepts to Develop 231 - 240	Skills and Concepts to Introduce Above 240
Patterns, Relations, Functions <ul style="list-style-type: none"> • Extends a growing pattern of triangular numbers, defined by objects or diagrams • Completes a function table according to a rule* 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Uses tables to determine function equations • Completes a function table according to a rule* 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Represents growing arithmetic patterns using algebraic expressions or equations* • Uses an algebraic expression to represent a triangular number pattern* • Uses tables to determine function equations
Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Expresses a simple linear equation from a contextual situation 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Expresses a simple linear equation from a contextual situation • Expresses a simple linear inequality from a contextual situation 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Uses linear equations to represent situations involving variable quantities
Analyze Change in Various Contexts <ul style="list-style-type: none"> • Solves complex problems involving miles per gallon • Solves complex problems involving miles/kilometers per hour* 	Analyze Change in Various Contexts <ul style="list-style-type: none"> • Solves complex problems involving miles per gallon 	Analyze Change in Various Contexts
<i>New Vocabulary:</i> algebraic equation	<i>New Vocabulary:</i> algebraic sentence, mathematical sentence	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> () parenthesis around an integer, ¢ cent sign, \$ dollar sign, – negative number	<i>New Signs and Symbols:</i> •, $f(x)$ the value of the function f at x , \geq greater than or equal to, \leq less than or equal to, +, – subtraction, < less than, = is equal to	<i>New Signs and Symbols:</i> • multiplication symbol

Subject: Mathematics
Goal Strand: Algebraic Concepts
RIT Score Range: Above 240

Skills and Concepts to Enhance 231 - 240	Skills and Concepts to Develop Above 240
Patterns, Relations, Functions <ul style="list-style-type: none"> • Uses tables to determine function equations • Completes a function table according to a rule* 	Patterns, Relations, Functions <ul style="list-style-type: none"> • Represents growing arithmetic patterns using algebraic expressions or equations* • Uses an algebraic expression to represent a triangular number pattern* • Uses tables to determine function equations
Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Expresses a simple linear equation from a contextual situation • Expresses a simple linear inequality from a contextual situation 	Numbers, Symbols, Words, Tables, Graphs <ul style="list-style-type: none"> • Uses linear equations to represent situations involving variable quantities
Analyze Change in Various Contexts	Analyze Change in Various Contexts
<ul style="list-style-type: none"> • Solves complex problems involving miles per gallon 	
<i>New Vocabulary:</i> algebraic sentence, mathematical sentence	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> •, $f(x)$ the value of the function f at x , \geq greater than or equal to, \leq less than or equal to, +, – subtraction, < less than, = is equal to	<i>New Signs and Symbols:</i> • multiplication symbol