REDBIRD MATHEMATICS
Mc Graw Hill Education

Course Outline 2018-2019

Grade K

* Numbers to 10 (Beginning)
- Count 1–4
- Count 1–5
- Count 1–7
- Count 1–9
- Count 1–10
- Count 0–10
- Represent 0–2
- Represent 0–5
- Represent 0–8
- Represent 0–10

Numbers to 20
- Count and Represent 0–13
- Count and Represent 0–16
- Count and Represent 0–19
- Count and Represent 0–20

Compare Numbers to 10
- Match to Find More
- More, Fewer, and Same Amounts
- Count to Find the Greater Number
- Compare Two Numbers
- Compare within 5
- Compare within 10

* Understand Addition within 10 (Middle)
- Represent Addition within 5
- Put Together Groups within 5
- Explore Number Pairs for 0–5
- Explore Number Pairs for 6–9
- Explore Number Pairs for 10
- Find Numbers that Make 10
- Represent Addition within 10
- Put Together Groups within 10

Understand Subtraction within 10
- Decompose Numbers within 5
- Represent Subtraction within 5
- Solve Subtraction Equations within 5
- Decompose Numbers 6–9
- Represent Subtraction within 9
- Solve Subtraction Equations within 9
- Decompose 10
- Solve Subtraction Problems within 10

Place Value with Teen Numbers
- Show 11–14 as 10 Ones and Some More
- Show 15–19 as 10 Ones and Some More
- Teen Numbers with Drawings and Equations
- Compose and Decompose Teen Numbers

Number Patterns
- One Less/One More
- Count to 100 by Ones
- Count to 100 by Tens
- Count Forward

Grade 1

* Problem Solving: Addition (Beginning)
- Model Joining Stories (to 5)
- Ways to Make 6 and 7
- Ways to Make 8 and 9
- Model Joining Stories (to 9)
- Commutative Property and Add Zero Property
- Ways to Make 10
- Model Equations to Represent Addition Stories
- Write Equations to Represent Addition Stories

Problem Solving: Subtraction
- Addition and Subtraction Fact Families
- Model Take From Stories
- Find Missing Parts of 7 and 8
- Model Equations to Represent Subtraction Stories
- Find Missing Parts of 9 and 10
- Model Take–Apart/Separating Stories
- Write Equations to Represent Subtraction Stories
- Compare Stories
- Relate Addition and Subtraction

Addition and Subtraction Strategies
- Count On
- Use a Known Fact to Add
- Related Subtraction Facts through 12
- Use 10 to Subtract
- Related Subtraction Facts through 20
- Find Unknowns on Addition Table

More Work with Addition
- Numbers Related to 10
- Make 10 to Add 7 and 8
- Make 10 to Add 9
- Use Strategies to Add
- Add Three Addends
- Addition and Subtraction Equations

* Understand Place Value (Middle)
- Count Forward to 120
- Teen Numbers
- Tens and Ones
- Make Numbers with Tens and Extras
- Compare Numbers through Hundreds
- Read and Write Numbers

Use Place Value and Properties of Operations to Add and Subtract
- Add Two Multiples of 10
- Add a Multiple of 10 to a 2–Digit Number on a Hundred Chart
- Add a Multiple of 10 to a 2–Digit Number
- Add 2–Digit Numbers
- Subtract Multiples of 10 from Multiples of 10

Number Strategies and Measurement
- Skip-Counting
- Add or Subtract 1 and 10 on a Number Chart
- Compare and Order Lengths
- Measure Length with Same–Size Units

Course Outline 2018-2019

Grade 2

* Use Models to Add and Subtract (Beginning)
- Use the Addition Table to Add
- Use the Addition Table to Add and Subtract
- Find Missing Addends with the Hundred Chart
- Add and Subtract with the Hundred Chart
- Add and Subtract within 20 Using Base Ten Blocks
- Add and Subtract within 20 Using the Number Line
- Add and Subtract within 100 Using Base Ten Blocks
- Add and Subtract within 100 Using the Number Line
- Use Tape Diagrams to Add
- Use Tape Diagrams to Add and Subtract

Use Strategies to Add and Subtract
- Make a Ten to Add Make
- a Ten to Subtract Two-
- step Problems
- Make a Simpler Problem to Add Make
- a Simpler Problem to Subtract
- Problem Solving with Sums to 100
- Problem Solving with Sums and Differences to 100

Numbers to 1000 and Place Value
- Numbers through 100
- Numbers through 1000
- Represent Numbers on a Number Line Compare
- Numbers Using Place Value

* Addition with Multi-Digit Numbers (Middle)
- Add Tens to 2-Digit Numbers
- Find Sums of 2-Digit Numbers
- Use Strategies to Add 3-Digit Numbers
- Add Tens to 3-Digit Numbers
- Find Sums of 3-Digit Numbers Find
- Sums of Multi-Digit Numbers
- Find Sums of More than Two Numbers Problem
- Solving with Addition

Subtraction with Multi-Digit Numbers
- Decompose to Subtract 2-Digit Numbers
- Find Differences of 2-Digit Numbers
- Problem Solving with 2-Digit Numbers
- Use Strategies to Subtract 3-Digit Numbers
- Subtract Tens from 3-Digit Numbers Subtract
- 3-Digit Numbers
- Subtract Multi-Digit Numbers

Measure Length
- Measurement Tools
- Lengths in Inches and Feet
- Lengths in Centimeters and Meters
- Compare Lengths

Add and Subtract Lengths
- Find the Sums of Lengths
- Find the Differences of Lengths
- Problem Solving with Lengths
- Compare Problems with Lengths

Grade 3

* Understand Multiplication (Beginning)
- Equal Groups: Repeated Addition
- Equal Groups in Multiplication: Unknown Items Per Group
- Equal Groups in Multiplication: Unknown Number of Groups
- Equal Groups: Rows
- Equal Groups: The Array Model
- Commutative Property of Multiplication
- Multiplicative Identity Property and Zero Property of Multiplication
- Multiplication in 1-Step Problem Solving

Concept of Area
- Compare Areas of
- Rectangles Tile Rectangles to
- Find Area Area Formula
- Decompose a Rectangle to Find Area
- Area with Customary Units
- Area with Metric Units
- Decompose Figures to Find Area

Patterns in Multiplication
- Multiply by 2
- Multiply by 3 and 5
- Introduction to Multiplication Tables
- Use Multiplication Tables
- Basic Multiplication Facts
- Patterns in the Multiplication Table
- Learn Multiplication Facts

* Understand Division (Middle)
- Equal Groups in Division: Unknown Items Per Group
- Equal Groups in Division: Unknown Number of Groups
- Equal Groups: Tape Diagrams
- Equal Groups: Arrays
- Problem Solving with Related Facts

Use Mixed Operations to Solve Problems
- Order of Operations with Parentheses
- Order of Operations without Parentheses
- Associative and Commutative Properties
- Multiples of Ten
- Use Tape Diagrams to Solve Multiplication and Div. Problems
- Problem Solving with Mixed Operations

Measurement: Time, Volume, and Mass
- Tell Time
- Problem Solving with Elapsed Time
- Liquid Volume
- Mass

Fraction Concepts
- Model Equal Parts
- Use Fraction Bars to Name Fractions
- Use Fraction Rectangles and Circles to Name Fractions
- Find Equivalent Fractions
- Compare Fractions
- Find Fractions on a Number Line
- Compare Fractions on a Number Line

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Grade 4

* Foundations in Base Ten (Beginning)
Read and Write Multi-Digit Numbers
Place Value Relationships
Compare Numbers
Round Numbers
Addition
Subtraction
Problem Solving with Addition and Subtraction

Multiplication and Division
Multiplication as Comparison
Tape Diagrams and Multiplicative Comparison
Find Missing Factors
Factors and Multiples*
Investigate Remainders

Extend Multiplication Concepts
Multiply by 10, 100, and 1000
Estimate Products
Use Area Diagram to Multiply by 1-Digit Number
Use Distributive Property to Multiply by 1-Digit Number
Use Area Diagram to Multiply by 2-Digit Number
Use Distributive Property to Multiply by 2-Digit Number
Multiplication in Problem Solving

Extend Division Concepts
Divide 10s, 100s, and 1000s
Estimate Quotients
Area Diagrams in Division Distributive
Property in Division Zeros in Division
Problem Solving with 1-Digit Divisors
Problem Solving with Division and Other Operations

* Equivalent Fractions (Middle)
Fractions: Compare Whole Numbers to Make New Numbers
Compare Fractions with Models Compare and Order Fractions
Multiply to Create Equivalent Fractions
Divide to Create Equivalent Fractions

Operations with Fractions
Add Unit Fractions Add
Fractions Subtract
Fractions Mixed
Numbers Improper
Fractions
Problem Solving with Fractions with Like Denominators
Multiples of Unit Fractions
Multiply a Fraction by a Whole Number
Problem Solving with Fractions and Mixed Operations

Decimal Fraction Concepts
Decimal Fractions
Add Decimal Fractions
Write Fractions in Decimal Notation Compare
Decimals in Tenths and Hundredths

Grade 5

* Whole Numbers: Place Value & Multiplication (Beginning)
Place Value and Exponents
Multiply by 1-Digit Factors
Multiply by 2-Digit Factors
Use Algorithms with 1-Digit Factors
Use Algorithms with 2-Digit Factors

Whole Numbers: Division
Use Multiplication to Estimate Quotients
Use Rounding to Estimate Quotients
Use Repeated Subtraction and Multiples of 10
Use Models with 2-Digit Divisors
Methods for Division
Problem Solving with Division

* Decimals: Place Value and Operations (Middle)
Decimal Place Value
Round Decimals
Compare Decimals
Add and Subtract Decimals
Multiply and Divide Tenths and Hundredths
Multiply Decimals
Divide Decimals
Problem Solving with Decimal Operations

Fractions: Addition and Subtraction
Equivalent Forms
Find Common Denominators Using Models
Find Common Denominators
Add and Subtract Fractions and Mixed Numbers Using Models
Add and Subtract Fractions and Mixed Numbers
Estimate Sums and Differences
Problem Solving with Addition and Subtraction of Fractions

Fractions: Multiplication and Division
Inverse Operations
Multiply Fractions Using Bar Models
Multiply Fractions Using a Number Line
Multiply Fractions Using an Area Diagram
Scale
Divide Whole Numbers by Unit Fractions
Divide Unit Fractions by Whole Numbers
Problem Solving with Multiplication and Division of Fractions

Volume: Right Rectangular Prisms
Unit Cubes
Determine Volume Using Cubes
Examine Layers, Rows, and Columns
Explore Nets
Volume Formulas
Problem Solving with Volume

Coordinate Graphs
Coordinate Plane
Ordered Pairs
Connect Points in the Plane
Use the Coordinate Plane

Course Outline 2018-2019

Grade 6

* Rational Numbers and Absolute Value (Beginning)
- Explore Integers
- Rational Numbers
- Compare and Order Rational Numbers
- Understand Absolute Value
- Problem Solving with Absolute Value

Rational Numbers in the Coordinate Plane
- Graphs on the Coordinate Plane
- Distance in the Coordinate Plane
- Reflections on the Coordinate Plane
- Problem Solving with the Coordinate Plane

* Division of Fractions (Middle)
- Model Division with Unit Fractions
- Model Fraction Division
- Write Fraction Division Equations
- Fraction Division with Equations
- Create, Model, and Solve Problems with Fraction Division
- Problem Solving with Fractions and Mixed Numbers

Ratios and Rates
- Visualize and Represent Ratios
- Compare Ratios
- Unit Rates
- Graph Rates and Other Ratios
- Convert Measurement Units
- Problem Solving with Unit Rates

Proportions and Proportional Reasoning
- Write Proportions
- Strategies to Solve Proportions
- Percents
- Solve Percent Problems
- Problem Solving with Proportions

Algebraic Reasoning: Write and Evaluate Expressions
- Introduction to Exponents
- Order of Operations
- Numerical Expressions
- Transition to Algebraic Expressions
- Read and Write Algebraic Expressions Part 1
- Read and Write Algebraic Expressions Part 2
- Equivalent Expressions
- Use Equivalent Expressions to Simplify
- Problem Solving with Algebraic Expressions

Equations and Inequalities
- Check for Solutions to Equations
- Write 1–Variable Equations
- Solve 1–Variable Equations
- Problem Solving with One–Variable Equations
- Represent 2–Variable Relationships
- Analyze Relationships Using Tables and Graphs
- Relate Tables and Graphs to Equations
- Write Inequalities
- Solutions of Inequalities

Grade 7

* Operations with Integers (Beginning)
- Add and Subtract Integers on the Number Line
- Add and Subtract Integers
- Multiply Integers on the Number Line
- Multiply Integers
- Multiply and Divide Integers
- Problem Solving with Integers

Operations with Rational Numbers
- Add, Subtract, and Multiply Rational Numbers
- Operations with Rational Numbers
- Multiply and Divide Rational Numbers
- Fractions as Division
- Numerical Expressions with Rational Numbers
- Decimals and Fractions
- Problem Solving with Rational Numbers

Unit Rates and Proportional Reasoning
- Find and Compare Unit Rates
- Identify Proportional Relationships from Tables and Graphs
- Proportional Relationships in Tables and Graphs
- Tables, Graphs, and Equations of Proportional Relationships
- Scale Drawings
- Represent Proportional Relationships
- Problem Solving with Unit Rates and Constant of Proportionality

Proportional Reasoning and Percents
- Represent and Solve Proportions
- Proportional Relationships and Percents
- Proportional Relationships and Percent Change
- Problem Solving with Percent Change
- Problem Solving with Proportional Relationships

* Algebraic Expressions (Middle)
- Add and Subtract Linear Expressions
- Expand Linear Expressions
- Expand and Factor Linear Expressions
- Analyze Equivalent Expressions
- Simplify Multi–Step Expressions

Write and Solve Equations and Inequalities for Problems
- One–Step Equations with Rational Numbers
- Write Multi–Step Equations to Model Problems
- Solve Multi–Step Equations
- Problem Solving with Equations
- Write Inequalities to Model Problems
- Write and Solve Inequalities Part 1
- Write and Solve Inequalities Part 2
- Problem Solving with Inequalities

Equations in Measurement and Geometry
- Circumference of a Circle
- Area and Circumference of a Circle
- Problem Solving with Circles
- Area and Surface Area of 2– and 3–Dimensional Objects
- Surface Area and Volume of 3–Dimensional Objects
- Problem Solving with 2– and 3–Dimensional Objects