Dominican International School

Math
COURSE SYLLABUS

GRADE LEVEL: Two
SCHOOL YEAR: 2023-2024

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COURSE DESCRIPTION:

The second-grade Math curriculum builds extensively on what was taught in first grade using the **McGraw-Hill Reveal Math Grade 2** textbook. The syllabus is planned and centered using the **Common Core State Standards** (CCSS).

The construction of Mathematical knowledge continues through the use of manipulative tools and problem-solving discoveries. Students acquire knowledge and skills, and develop an understanding of Mathematics from their own experience. This means that students will be provided with a wide range of meaningful experiences through applying Math in real life contexts and situations, where children will become actively involved in learning. In this way, students will be gradually aided in gaining understanding of the abstract and concrete.

The second grade Math curriculum is divided into seven areas: **Understanding What Math Is; Number and Numeration; Operations and Computation; Data and Chance; Measurement and Reference Frames; Geometry; Patterns, Functions and Algebra.**

Understanding What Math Is: (1) Use different representations to conceptualize problems and relate a number to the quantity it represents. (2) Ask appropriate questions of classmates about their solution strategies. (3) Model real-world situations in different ways. (4) Consider available tools when solving a problem. (5) Look for patterns in operations.

Number and Numeration: (1) Understand the Meanings, Uses, and Representations of Numbers through rote counting, place value and notation, meanings and uses of fractions and number theory. (2) Understand Equivalent Names for Numbers through the use of tally marks, arrays and numerical expressions; learn equivalent names for fractions, decimals and percentages (3) Understand Common Numerical Relations by comparing and ordering numbers

Operations and Computation: Learn to compute accurately through addition and subtraction facts and procedures. Make reasonable estimates through computational estimation. Understand meaning of operations through operational modeling.

Data and Chance: Select and create appropriate graphical representations of collected or given data; analyze or interpret data; understand and apply basic concepts of probability through qualitative probability practice.

Measurement and Reference Frame: Understand the systems and processes of measurement; Use appropriate techniques, tools, units, and formulas in making measurements. These understandings will be derived through the study of the following concepts: length, weight and angles; area, perimeter, volume and capacity; units and systems of measurement; money. We will also use and work to understand reference frames through the examination of temperature and time.

Geometry: Investigate characteristics and properties of two- and three-dimensional geometric shapes via the careful inspection of lines, angles, planes and solid figures. Apply transformations and symmetry in geometric situations.

Patterns, Functions and Algebra: Understand patterns and functions; use algebraic notation to represent and analyze situations and structures. Study arithmetic operations by familiarizing ourselves with the commutative and associative properties of addition.

COURSE OBJECTIVES:

Quarter 1

- Tell my math story
- Recognize the ways in which we are all doers of math
- Make sense of a problem and explore solution pathways
- Think about numbers in different ways
- Represent a real-world situation using math
- Explain how to use tools to solve a problem
- Explain my thinking
- Listen to the ideas of my classmates
- Describe and extend a pattern
- Use patterns to solve problems
- Explain how to work well on my own and in a group
- Describe the steps I can take to solve math problems
- Count and represent whole numbers as lengths from 0 on a number line.
- Practice partnership principles while solving addition and subtraction number stories.
- Count tallies and calculate the value of coin combinations.
- Use patterns to solve an open response problem.
- Explore even and odd numbers using concrete and visual models.
- Skip count on calculators and number grids.
- Look for place-value patterns.
- Explore place-value concepts with money.
- Write and solve addition number stories.
- Explore doubles and combinations of 10 to build fact fluency.
- Generate equivalent names for numbers.
- Solve an open-response problem using personal fact strategies.
- Write subtraction number stories.

- Generate addition and subtraction facts.

Quarter 2

- Discuss and use counting-up and counting-back strategies for subtraction.
- Explore the – 0 and – 1 fact strategies.
- Use doubles to solve subtraction facts.
- Use the going-back-through -10 strategy for subtraction.
- Use the going-up-through -10 strategy for subtraction.
- Explore rectangles, fact wheels and coins.
- Tell time to the nearest hour, half hour and five minutes using a.m. and p.m.
- Discuss place value and represent 3-digit numbers using base-10 blocks and expanded form.
- Make sense of a 3-digit number represented by base-10 blocks
- Analyze explanations and drawings.
- Use base-10 blocks to model addition and subtraction.
- Match subtraction facts with arrays.
- Develop math-fact power by using mental strategies to add two 1-digit numbers.
- Use money for counting, making equivalencies and buying.
- Make arrays and match clock faces to digital notation.

Quarter 3

- Measure objects with a foot-long ruler.
- Use the inch and centimeter to measure.
- Develop strategies for mentally adding and subtracting 10 and 100.
- Use an open-number line as a tool for solving number stories.
- Solve change-to-more number stories.
- Solve parts-and-total number stories.
- Solve change number stories involving temperature.
- Complete and open response problem by solving an addition problem.
- Draw picture and bar graphs to represent data sets.
- Solve comparison number stories.
- Choose diagrams to use for solving number stories.
- Solve two-step number stories.
- Make ballpark estimates.
- Invent and record personal strategies for solving addition problems.
- Use base-10 blocks to find partial sums.
- Build readiness for partial-sum addition.
- Subtract with base-10 blocks.
- Explore arrays, lengths and shapes.
- Find differences between 2-digit numbers and multiples of 10.
- Work on addition of four or more addends, and openly discuss solutions.
- Explore U.S. customary length units and measures to the nearest yard.
- Find personal references for metric units of measure.
- Choose appropriate units and tools to estimate and measure lengths.
- Measure lengths to nearest centimeter and inch.
- Discuss the shortest and longest standing jumps, and create plot lines with data.

Quarter 4

- Use arm spans to make a frequency table and make a line plot for a set of data.
- Sort shapes, draw a picture graph and measure body parts.

- Describe the attributes of 2-dimensional shapes.
- Identify shapes.
- Build and compare various polygons.
- Draw and reason about quadrilaterals.
- Sort and compare 3-D shapes.
- Partition rectangles into same-size squares.
- Solve number stories about equal groups and arrays.
- Build equal groups and arrays and write models for them.
- Describe attributes of shapes and build polygons with trapezoids.
- Work with fractions on a geoboard.
- Divide shapes and use fraction vocabulary.
- Explore equal shares of different shapes and use pattern blocks to divide shapes.
- Measure lengths to nearest half-inch.
- Write multi-digit numbers in expanded form and compare them.
- Use base-10 blocks to solve subtraction problems.
- Use expand-and-trade subtraction.
- Practice finding coin and bill combinations with equivalent values.
- Estimate costs.
- Solve number stories about two equal groups.
- Skip count and add to solve problems involving multiples of 10 and 5.

ASSESSMENT:

Students will be assessed with class participation, observation, homework, class work, objective quizzes/tests, oral responses, and quarterly exams. The student's final grade will be computed mainly based on three parts: performance tasks (homework and class work), quizzes and quarterly exams. Each part is weighted at one third of the total course grade.
Quizzes will relate to current and previous topics. A quiz may be given at any time during any class period—immediately after a lecture, at the beginning or end of a class, etc. Students absent from class for a test or a quiz must make arrangements to take the quiz or test some other time.

It is very important that you complete the assigned worksheets/Homework sections. Worksheets/Homework Sections and test papers will be checked for completeness and returned. The scores will be given.

Academic Dishonesty means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at DIS. Academic dishonesty includes but is not limited to, the following:

1. Purposely incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's own work; and
1. Representing another's intellectual work such as photographs, paintings, drawings, sculpture, or research or the like as one's own, including failure to attribute content to an AI.
2. Employing a tutor, making use of Artificial Intelligence without acknowledgement, getting a parent to write a paper or do an assignment, paying for an essay to be written by someone else and presented as the student's own work.
3. Committing any act that a reasonable person would conclude, when informed of the evidence, to be a dishonest means of obtaining or attempting to obtain credit for academic work.

Any act of academic dishonesty will result in an automatic zero on the entire assignment

PRIMARY TEXTBOOK & OTHER RESOURCES

Reveal Math 2, McGraw-Hill Education, 2022.

ADDITIONAL INFORMATION – Please see Google Classroom for more information.

Schedule of Instruction

1st QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic
Week 1 **Aug 10th to 11th** **2 Days of Class** *10~ First Day / Orientation Day*	**Unit 1: Math Is…** L1: Math Is Mine
Week 2 **Aug 14th to 18th** *Opening Mass*	L2: Math Is Exploring and Thinking L3: Math Is In My World L4: Math Is Explaining and Sharing L5: Math Is Finding Patterns L6: Math Is Ours
Week 3 **Aug 21 to 25th**	**Unit 2: Place Value to 1,000** L1: Understand Hundreds L2: Understand 3-Digit Numbers L3: Read and Write Numbers to 1,000
Week 4 **Aug 28th to Sep 1**	L4: Decompose 3-Digit Numbers L5: Compare 3-Digit Numbers
Week 5 **Sep 4th to 8th**	**Unit 3: Patterns Within Numbers** L1: Counting Patterns L2: Patterns When Skip-Counting by 5s L3: Patterns When Skip-Counting by 10s and 100s
Week 6 **Sep 11th to 15th** FYI – Pre-Exam Days	L3: Patterns When Skip-Counting by 10s and 100s L4: Understand Even and Odd Numbers L5: Addition Patterns
Week 7 **Sep 18th to 22**	L6: Patterns With Arrays L7: Use Arrays to Add
Week 8 **Sep 25th to 29** *Teacher's Conference/Moon Festival*	No Classes
Week 9 **Oct 2rd to 6th**	Review/Quarter Exams

2nd QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic
Week 1 (10) **Oct 9th to 13th** **3 Days of Class** *9-10 – Double 10 Holidays*	**Unit 4: Meanings of Addition and Subtraction** L1: Represent and Solve /Add to Problems L2: Represent and Solve /Take From Problems L3: Solve Two-Step Add To and Take From Problems
Week 2 (11) **Oct 16th to 20**	L3: Solve Two-Step Add To and Take From Problems L4: Represent and Solve Put Together Problems L5: Represent and Solve Take Apart Problems L6: Solve Two-Step Put Together and Take Apart Problems
Week 3 (12) **Oct 23 to 27th**	L7: Represent and Solve Compare Problems L8: Represent and Solve More Compare Problems L9: Solve Two-Step Problems With Comparison L10: Solve Two-Step Problems Using Addition and Subtraction
Week 4 (13) **Oct 30 to Nov 3** *1-All Saint's Day Mass*	**Unit 5: Strategies to Fluently Add Within 100** L1: Strategies to Add Fluently Within 20 L2: More Strategies to Add Fluently Within 20 L3: Represent Addition with 2-Digit Numbers L4: Use Properties to Add
Week 5 (14) **Nov 6th to 10th**	L5: Decompose Two Addends to Add L6: Use a Number Line to Add L7: Decompose One Addend to Add
Week 6 (15) **Nov 13th to 17th**	L8: Adjust Addends to Add L9: Add More Than Two Numbers L10: Solve One- and Two-Step Problems Using Addition
Week 7 (16) **Nov 20 to 24th**	**Unit 6: Strategies to Fluently Subtraction Within 100** L1: Strategies to Subtract Fluently Within 100 L2: More Strategies to Subtract Fluently Within 100 L3: Represent Subtraction with 2-Digit Numbers L4: Represent 2-Digit Subtraction with Regrouping
Week 8 (17) **Nov 27th to Dec 1**	L5: Use a Number Line to Subtract L6: Decompose Numbers to Subtract L7: Adjust Numbers to Subtract
Week 9 (18) **Dec 4th to 8th**	L8: Relate Addition to Subtract L9: Solve One-Step Problems Using Subtraction L10: Solve Two-Step Problems Using Subtraction
Week 10 (19) **Dec 11th to 15th** **3 Days of Class**	**Quarter Two Exams**

14-15 ~Q2 Exams	
Dec 18th to Jan 2	**Christmas Break**

3rd QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic
Week 1 (20) **Jan 3 to 5th** **3 Days of Class**	**Unit 7: Measure and Compare Lengths** L1: Measure Length with Inches L2: Measure Length with Feet and Yards L3: Compare Length Using Customary Units
Week 2 (21) **Jan 8th to 12th**	L4: Relate Inches, Feet and Yards L5: Estimate Length Using Customary Units L6: Measure Length with Centimeters and Meters L7: Compare Lengths Using Metric Units L8: Relate Centimeters and Meters
Week 3 (22) **Jan 15th to 19th**	L9: Estimate Length Using Metric Unit L10: Solve Problems Involving Length L11: Solve More Problems Involving Length
Week 4 **Jan 22-26**	**Unit 8: Measurement: Money and Time** **L1:** Understand the value of coins **L2:** Solve Money Problems Involving Coins **L3:** Solve Money Problems Involving Dollar Bills and Coins **L4:** Tell Time to the Nearest Five Minutes
Week 5 **Jan 29-Feb 2**	**L5:** Be Precise When Telling Time **Unit 9: Strategies to Add 3-Digit Numbers** L1: Use Mental Math to Add 10 to 100 L2: Represent Addition with 3-Digit Numbers
Week 5 (24) **Feb 5th to 9th** **3 Days of Class**	L3: Represent Addition with 3-Digit Numbers with Regrouping L4: Decompose Addends to Add 3-Digit Numbers
Week 6 (25) **Feb 12th to 16th**	No Classes for CNY
Week 7 (26) **Feb 19th to 23**	L5: Decompose One Addend to Add 3-Digit Numbers L6: Adjust Addends to Add 3-Digit Numbers L7: Explain Addition Strategies

Week 8 (27) **Feb 26th to March1** **4 Days of Class** 228 Memorial Day Holiday	**Unit 10: Strategies to Subtract 3-Digit Numbers** L1: Use Mental Math to Subtract 10 to 100 L2: Represent Subtraction with 3-Digit Numbers
Week 9 (28) **March 4th to 8th** **4 Days of Class** *Friday is Q3Exam Day*	L3: Decompose One 3-Digit Number to Count Back L4: Count On to Subtract 3-Digit Numbers

4th QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)

Week / Date	Topic
Week 1 (29) **March 11th to 15th** **4 Days of Class** *Monday is Q3Exam Day*	L5: Regroup Tens L6: Regroup Tens and Hundreds
Week 2 (30) **March 18th to 22**	L7: Adjust Numbers to Subtract 3-Digit Numbers L8: Explain Subtraction Strategies L9: Solve Problems Involving Addition and Subtraction
Mar 25-Apr 5th	**Easter/Spring Break**
Week 3 (31) **Apr 8th to 12**	**Unit 11: Data Analysis** L1: Understand Picture Graphs L2: Understand Bar Graphs L3: Solve Problems Using Bar Graphs
Week 4 (32) **Apr 15th to 19th**	L4: Collect Measurement Data L5: Understand Line Plots L6: Show Data on a Line Plot
Week 5 (33) **Apr 22 to 26**	**Unit 12: Geometric Shapes and Equal Shares** L1: Recognize 2-Dimensional Shapes by Their Attributes L2: Draw 2-Dimensional Shapes form Their Attributes
Week 6 (34) **Apr 29th to May 3**	L3: Recognize 3-Dimensional Shapes by Their Attributes L4: Understand Equal Shares
Week 7 (35) **May 6-10**	L5: Relate Equal Shares L6: Partition a Rectangle into Rows and Columns
Week 9 (37) **May 13-17**	Q4 Exams
Week 10 (38) **May 20-24**	End-of-the-Year Activities
Week 11 (39) **May 27-31**	End-of-the-Year Activities