Dominican International School

SUBJECT: GRADE 5 MATHEMATICS

GRADE LEVEL: 5   **SCHOOL YEAR: 2023-24**

TEACHERS: Mr. Zachary Tannoia   **EMAIL: ztannoia@dishs.tp.edu.tw**

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CLASS CODES:

　　　　Mr. Tannoia's Math Class code: lqh3foh

　　　　Mr. Black's Math Class code: mhcsndd

Please note that students only need to join their homeroom teacher's Google Classroom for Math.

COURSE DESCRIPTION:

This course will help create a foundation for clear mathematics in each student. The course is designed to allow students to master the Common Core State Standards (CCSS) for this grade level. The CCSS aim to provide a consistent, clear understanding in a way that promotes mathematical connections throughout the different units to help emphasize the natural relationships between mathematical concepts. The core textbook, *enVision Mathematics,* embraces time-proven research principles for teaching mathematics with understanding. We know that one understands an idea in mathematics when one can connect that idea to previously learned ideas, so this will help students realize that math is not disconnected tiny granular-sized pieces, but a continuum. Infusing cross-cluster connections within topics achieves coherence by helping students see content connections throughout the grade level. Balanced instructions will be used to guide students within the realms of making connections, generalizations, and using knowledge effectively. Problem Solving and Mathematical Practice skills are integrated into every unit, prompting students to make sense of problems and persevere in solving them. Mathematical Practices are the habits of mind, processes, and dispositions that enable a learner to understand mathematics and to do or use mathematics with understanding. Students will have opportunities to explain their thinking, justify a solution, express regularity in repeated reasoning, and share their strategies for arriving at results or identify alternative or more efficient strategies.

COURSE OBJECTIVES:

Quarter 1: Topics 1, 2, & 3

In Quarter 1, students will understand concepts based around place value. Students will have knowledge on how to write numbers using exponents. Students will be able to express their understanding by rounding decimals, and using problem-solving skills to add and subtract decimals to the hundredths. Students will be able to show fluency in multiplying multi- digit whole numbers by using mental math to multiply whole numbers by the power of ten. Students will have opportunities to show their understanding by solving word problems involving multiplication.

Quarter 2: Topics 4, 5, 11, & 12

In Quarter 2, students will be able to apply a variety of different models and strategies to multiply decimals. Students will have gained knowledge on different strategies, including estimation to divide whole numbers. Students will be able to show understanding of core concepts related to volume, and be able to solve word problems using this knowledge. Students will have an understanding of how to convert commonly used metric units of length, capacity and mass.

Quarter 3: Topics 7, 8 & 9

In Quarter 3, students will have a greater understanding of operations with fractions. They will have the opportunity to showcase their understanding by being able use equivalent fractions to add and subtract fractions. They will be able to determine common denominators, and use models to add mixed numbers. Students will be able to multiply and divide fractions by whole numbers, as well as fractions.

Quarter 4: Topics 10, 13, 14, 15, & 16

In Quarter 4, students will be able to interpret and represent line data. They will be able to solve word problems using measurement data. Students will be able to show understanding of the order of operations and using reasoning to evaluate expressions. Students will have gained knowledge within graphing points on a coordinate plane, and be able to analyze patterns and relationships. They will also be able to classify two-dimensional figures using geometric measurement.

PRIMARY TEXTBOOK & OTHER RESOURCES:

enVisionMath 2.0 *Pearson*: 2024

ASSESSMENT:

Assessment should require students to demonstrate the kind of thinking called for in the curriculum. It should also prepare students for major assessments outside the program that may have a variety of selected response, constructed response, and technology-enhanced items. Assessments are therefore hallmarked by the formative assessment integrated into each lesson's core instruction, including high-cognitive level, question-driven classroom conversations. Many assessments include types of items that prepare students for major tests. Students will have the opportunity to work individually, in small groups, and in whole class settings to demonstrate the kind of thinking that can be applied during more formal assessments. During class time, mini whiteboards will be frequently employed to ensure the teacher can get immediate feedback that can be used to ensure understanding, or to allow the teacher to modify future lessons or teaching strategies for either the whole class or individuals. Students will be assessed formatively through their in-class work and homework. There will be final unit and quarterly exams for summative assessment throughout the year.

Essential questions that G5 students are expected to be able to answer by the end of the year include, but are not limited to;

Why is mathematics useful and necessary in real life?

Topic 1	How are whole numbers and decimals written, compared, and ordered?
Topic 2	How can sums and differences in decimals be estimated?
	What are the standard procedures for adding and subtracting whole numbers and decimals?
	How can sums and differences be found mentally?
Topic 3	What are the standard procedures for estimating and finding products of multi-digit numbers?
Topic 4	What are the standard procedures for estimating and finding products involving decimals?
Topic 5	What is the standard procedure for division and why does it work?
Topic 7	How can sums and differences of fractions and mixed numbers be estimated?
	What are standard procedures for adding and subtracting fractions and mixed numbers?
Topic 8	What does it mean to multiply whole numbers and fractions?
	How can multiplication with whole numbers and fractions be shown using models and symbols?
Topic 9	How are fractions related to division?
	How can you divide with whole numbers and unit fractions?
Topic 10	How can line plots be used to represent data and answer questions?
Topic 11	What is the meaning of volume of a solid? How can the volume of a rectangular prism be found?
Topic 12	What are metric measurement units and how are they related?
Topic 13	How is the value of a numerical expression found?
Topic 14	How are points plotted? How are relationships shown on a graph?
Topic 15	How can number patterns be analyzed and graphed?
	How can number patterns and graphs be used to solve problems?

Topic 16   How can triangles and quadrilaterals be described, classified, and named?

ADDITIONAL INFORMATION: - See Google Classroom for more information

Google Classroom <u>must</u> be checked regularly. **All** assignment details are posted there. Please note that **all** set assignments are expected to be completed on time (unless an extension has been agreed in advance with the teacher) to the best of one's ability. Students who cannot meet these expected standards, or do not routinely bring the required materials to class, may struggle to pass the course. Completing work on time allows students to reflect on and take pride on their own work when given positive feedback, as well as to use the guidance given by the teacher to work on their own areas for development. Students who have not turned the work in on time will not be able to benefit from such advice. As students always have at least 3 days to complete basic homework or class work tasks, and at least two weeks to prepare and work on bigger projects, failure to turn work in on time without reasonable reason means the assessment grade will be capped at a maximum of 70%.

<u>Academic Dishonesty</u> 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:

- Purposely incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's own work; and
- 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.
- 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.
- 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

1st QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
(NB: Depending on time and interest, the teacher may delete and/or add other selections, or modify the pace of instruction. Formal test dates will be communicated directly to students in advance in class and on Google Classroom.)	
Week 1 **Aug 10th to 11th** *10~ First Day / Orientation Day*	Getting to Know You Activities and Introduction to Course Expectations
Week 2 **Aug 14th to 18th** *Opening Mass on Tues 15th*	**Topic 1: Understand Place Value** Lesson 1.1 Patterns with Exponents and Powers of 10 p5-8 Lesson 1.2 Understand Whole-Number Place Value p9-12 Lesson 1.3 Decimals to Thousandths p13-16
Week 3 **Aug 21st to 25th**	Lesson 1.4 Understand Decimal Place Value p17-20 Lesson 1.5 Compare Decimals p21-24 Lesson 1.6 Round Decimals p25-28
Week 4 **Aug 28th to Sep 1st**	**Topic 1 Test** **Topic 2: Use Models and Strategies to Add and Subtract Decimals** Lesson 2.1 Mental Math p45-48 Lesson 2.2 Estimate Sums and Differences p49-52 Lesson 2.3 Use Models to Add and Subtract Decimals p53-56
Week 5 **Sep 4th to 8th** **4 Days of Class** *8~ Mass & Birthday Mother Mary*	Lesson 2.4 Use Strategies to Add Decimals p57-60 Lesson 2.5 Use Strategies to Subtract Decimals p61-64 Lesson 2.6 Problem Solving: Model with Math p65-68 **Topic 2 Test**
Week 6 **Sep 11th to 15th** *Pre-Exam Days 12-14*	**Topic 3: Fluently Multiply Multi-Digit Whole Numbers** Lesson 3.1 Multiply Greater Numbers by Powers of 10 p81-84 Lesson 3.2 Estimate Products p85-88 Lesson 3.3 Multiply by 1-Digit Numbers p89-92
Week 7 **Sep 18th to 22nd**	Lesson 3.4 Multiply 2-Digit by 2-Digit Numbers p93-96 Lesson 3.5 Multiply 3-Digit by 2-Digit Numbers p97-100 Lesson 3.6 Multiply Whole Numbers with Zeros p101-104 Lesson 3.7 Practice Multiplying Multi-Digit Numbers p105-108 **Topic 3 Test**
Week 8 **NO CLASSES** *Mon to Thur 25-28 Teacher's Conference* *Fri 29 ~ Moon Festival*	**NO CLASSES FOR STUDENTS**
Week 9 **Oct 3rd to 7th** **3 Days of Class** *5-6 ~Q1 Exams*	**Quarter Review & QUARTER EXAM**

2nd QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week 1 (10) **Oct 11th to 13th** **3 Days of Class** *Mon Tue 9-10 – Double 10 Holiday*	**Topic 4: Use Models and Strategies to Multiply Decimals** Lesson 4.1 Multiply Decimals by Powers of 10 p129-132 Lesson 4.2 Estimate the Product of a Decimal and a Whole Number p133-136

	Lesson 4.3 Use Models to Multiply a Decimal and a Whole Number p137-140
Week 2 (11) **Oct 16th to 20th**	Lesson 4.4 Multiply a Decimal and a Whole Number p141-144 Lesson 4.5 Use Models to Multiply a Decimal and a Decimal p145-148 Lesson 4.7 Use Properties to Multiply Decimals p153-156
Week 3 (12) **Oct 23rd to 27th** *27 – Book Fair & Masquerade Night*	Lesson 4.8 Use Number Sense to Multiply Decimals p157-160 Lesson 4.9 Problem Solving: Model with Math p161-164 ==Topic 4 Test==
Week 4 (13) **Oct 30th to Nov 3rd** *1-All Saint's Day Mass*	**Topic 5: Use Models and Strategies to Divide Whole Numbers** Lesson 5.1 Use Patterns and Mental Math to Divide p181-184 Lesson 5.2 Estimate Quotients with 2-Digit Divisors p185-188 Lesson 5.3 Use Models and Properties to Divide with 2-Digit Divisors p189-192
Week 5 (14) **Nov 6th to 10th**	Lesson 5.5 Use Sharing to Divide: Two-Digit Divisors p197-200 Lesson 5.6 Use Sharing to Divide: Greater Dividends p201-204 Lesson 5.7 Choose a Strategy to Divide p205-208 ==Topic 5 Test==
Week 6 (15) **Nov 13th to 17th**	**Topic 11: Understand Volume Concepts** Lesson 11.1 Model Volume p457-460 Lesson 11.2 Develop a Volume Formula p461-464 Lesson 11.3 CombineVolumes of Prisms p465-468
Week 7 (16) **Nov 20th to 24th** *24 - YSC Contest*	Lesson 11.4 Solve Word Problems Using Volume p469-472 Lesson 11.5 Problem Solving: Use Appropriate Tools p473-476 ==Topic 11 Test==
Week 8 (17) **Nov 27th to Dec 1st** *Pre-Exam Days 28-30*	**Topic 12: Convert Measurements** Lesson 12.4 Convert Metric Units of Length p501-504 Lesson 12.5 Convert Metric Units of Capacity p505-508 Lesson 12.6 Convert Metric Units of Mass p509-512 Lesson 12.7 Convert Units of Time p513-516
Week 9 (18) **Dec 4th to 8th** *8 - Foundation Day Celebrations*	==Topic 12 Test== Quarter Review
Week 10 (19) **Dec 11th to 15th** **3 Days of Class** *14-15 ~Q2 Exams*	**Quarter Review & ==QUARTER EXAM==** and Christmas Activities
Dec 18th to Jan 1st	**Christmas Break**

3rd QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week / Date	Topic / Projects / Assessments
Week 1 (20) **Jan 3rd to 5th** **3 Days of Class** *Wed 4 New Year Mass*	**Topic 7: Use Equivalent Fractions to Add and Subtract Fractions** Lesson 7.1 Estimate Sums and Differences of Fractions p269-272
Week 2 (21) **Jan 8th to 12th**	Lesson 7.2 Find Common Denominators p273-276 Lesson 7.3 Add Fractions with Unlike Denominators p277-280 Lesson 7.4 Subtract Fractions with Unlike Denominators p281-284

Week 3 (22) **Jan 15th to 19th**	Lesson 7.5 Add and Subtract Fractions p285-288 Topic 7.1-7.5 Test Lesson 7.6 Estimate Sums and Differences of Mixed Numbers p289-292
Week 4 (23) **Jan 22nd to 26th**	Lesson 7.8 Add Mixed Numbers p297-300 Lesson 7.10 Subtract Mixed Numbers p305-308 Lesson 7.11 Add and Subtract Mixed Numbers p309-312 Topic 7.6 - 7.11 Test
Week 5 (24) **Jan 29th to Feb 2nd**	**Topic 8: Apply Understanding of Multiplication to Multiply Fractions** Lesson 8.1 Multiply a Fraction by a Whole Number p333-336 Lesson 8.2 Multiply a Whole Number by a Fraction p337-340 Lesson 8.3 Multiply Fractions and Whole Numbers p341-344 Lesson 8.4 Use Models to Multiply Two Fractions p345-348
Week 6 (25) **Feb 5th to 7th** **3 Days of Class** *Thurs & Fri 8-9 CNY*	Lesson 8.5 Multiply Two Fractions p349-342 Lesson 8.7 Multiply Mixed Numbers p357-360 Topic 8 Test
Feb 12th to 16th	**CHINESE NEW YEAR**
Week 7 (26) **Feb 19th to 23rd** *19 ~ Lenten Mass* *20-22 ~ Pre-Exam Days*	**Topic 9: Apply Understanding of Multiplication to Divide Fractions** Lesson 9.1 Fractions and Division p385-388 Lesson 9.2 Fractions and Mixed Numbers as Quotients p389-392 Lesson 9.3 Use Multiplication to Divide p393-396
Week 8 (27) **Feb 26th to March 1st** **4 Days of Class** *Wed 28 ~ 228 Memorial Day* *26-29 ~IOWA*	Lesson 9.4 Divide Whole Numbers by Unit Fractions p397-400 Lesson 9.5 Divide Unit Fractions by Non-Zero Whole Numbers p401-404 Lesson 9.6 Divide Whole Numbers and Unit Fractions p405-408
Week 9 (28) **March 4th to 8th** **4 Days of Class** *8 – Q3 Exams*	Topic 9 Test **Quarter Review &** **QUARTER EXAM**

4th QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week 1 (29) **March 11th to 15th** **4 Days of Class** *11 – Q3 Exams*	**Topic 10: Represent and Interpret Data** Lesson 10.1 Analyze Line Plots p429-432 Lesson 10.2 Make Line Plots p433-436 Lesson 10.3 Solve Word Problems Using Measurement Data p437-440
Week 2 (30) **March 18th to 22nd** *18-21 ~ Fire Drill*	Lesson 10.4 Critique Reasoning p441-444 Topic 10 Test **Topic 13: Write and Interpret Numerical Expressions** Lesson 13.1 Evaluate Expressions p537-540
March 25th to April 5th	**Easter Break**
Week 3 (31) **Apr 8th to 12th** *Wed 10 – Easter Mass*	Lesson 13.2 Write Numerical Expressions p541-544 Topic 13 Test

	Topic 14: Graph Points on the Coordinate Plance Lesson 14.1 The Co-ordinate System p565-568 Lesson 14.2 Graph Data Using Ordered Pairs p569-572
Week 4 (32) **Apr 15th to 19th**	Lesson 14.3 Solve Problems Using Ordered Pairs p573-576 <mark>**Topic 14 Test**</mark> **Topic 15: Algebra: Analyze Patterns and Relationships** Lesson 15.1 Numerical Patterns p593-596 Lesson 15.2 More Numerical Patterns p597-600
Week 5 (33) **Apr 22nd to 26th** *24-28 ~ AP Mock Exams*	Lesson 15.3 Analyze and Graph Relationships p601-604 <mark>**Topic 15 Test**</mark> **Topic 16: Geometric Measurement: Classify Two-Dimensional Figures** Lesson 16.1 Classify Triangles p621-624
Week 6 (34) **Apr 29th to 3rd** *1-2 ~ Pre-Exam* *1-5~ Final Exams (K, 5, 8, 12 only)*	Lesson 16.2 Classify Quadrilaterals p625-628 Lesson 16.3 Continue to Classify Quadrilaterals p629-632 <mark>**Topic 16 Test**</mark>
Week 7 (35) **May 6th to 10th** *8-12~ Final Exams (K, 5, 8, 12 only)* *1-5 ~ AP Exams*	**Quarter Review**
Week 8 (36) **May 13th to 17th** **2 Days of Class** *15-16~ Q4 Exams half day kids* *17 – record day*	<mark>**QUARTER EXAM**</mark>
Week 9 (37) **May 20th to 24th**	Graduating & Promoting Classes - no lessons
Week 10 (38) **May 27th to May 31st** **4 Days of Class** *30 ~ Students Last Day* *31~ Teachers/Staff Meeting*	Graduating & Promoting Classes - no lessons